Archie: Archive Server Listing Service

Advanced Network & Services, Inc (USA)
Deakin File Server (Australia)
Finnish University and Research Network Server (Finland)
Hebrew University of Jerusalem (Israel)
Imperial College, London (England)
McGill School of Computer Science Server (Canada)
Melbourne (Australia)
National Central University, Chung-li, Taiwan
Rutgers University Archive Server (USA)
SURAnet Server (USA)
University of Nebraska, Lincoln (USA)
Victoria University, Wellington (New Zealand)

Archie: The McGill School of Computer Science Archive Server

Telnet QUICHE.CS.MCGILL.CA or 132.206.2.3
login: archie

Given the number of hosts being used as archive sites nowadays, there can be great difficulty in finding needed software in a distributed environment. You may know that the software that you need is out there, but it can sometimes be difficult to find. The School of Computer Science at McGill University has one solution to the problem - "archie".

Archie is a pair of software tools: the first maintains a list of about 600 Internet ftp archive sites. Each night software executes an anonymous ftp to a subset of these sites and fetches a recursive directory listing of each, which it stores in a database. We hit about 1/30th of the list each time, so each site gets updated about once a month, hopefully balancing timely updates against unnecessary network load. The "raw" listings are stored in compressed form on quiche.cs.mcgill.ca (132.206.2.3), where they are made available via anonymous ftp in the directory ~ftp/archie/listings.

The second tool is the interesting one as far as the users are concerned. It consists of a program running on a dummy user code that allows outsiders to log onto the archive server host to query the database. This is in fact the program we call Archie.

Users can ask archie to search for specific name strings. For example, "prog kcl" would find all occurences of the string "kcl" and tell you which hosts have entries with this string, the size of the program, its last modification date and where it can be found on the host along with some other useful information. In this example, you could thus find those archive sites that are storing Kyoto Common Lisp. With one central database for all the archive sites we know about, archie greatly speeds the task of finding a specific program on the net.

Complete anonymous ftp listings of the various sites that we keep in the database may be obtained via the 'site' command and for a list of the sites which we keep track of, see the 'list' command.

Archie also maintains a 'Software Description Database' which consists of the names and descriptions of various software packages, documents and datasets that are kept on anonymous ftp archive sites all around the Internet. The 'whatis' command allows you to search this database.

Send comments, bug reports etc to

archie-l@cs.mcgill.ca

If you have a favourite anonymous ftp site that archie doesn't seem to maintain, or if you have additions or corrections to the Software Description database, send mail to

archie-admin@cs.mcgill.ca

Archie was written and is maintained by Alan Emtage (bajan@cs.mcgill.ca) and Bill Heelan (wheelan@cs.mcgill.ca). Peter Deutsch

(peterd@cc.mcgill.ca) provided (and continues to provide) ideas and inspiration.

Archie: Finnish University and Research Network Server

```
TELNET NIC.FUNET.FI or 128.214.6.100
login: archie

Type 'help' for more information about Archie.

archie> help

 Help gives you information about various topics, including all the
 commands that are available and how to use them.  Telling archie about
 your terminal type and size (via the "term" variable) and to use the
 pager (via the "pager" variable) is not necessary to use help, but
 provides a somewhat nicer interface.

 Currently, the available help topics are:

    about   - a blurb about archie
    bugs    - known bugs and undesirable features
    bye     - same as "quit"
    email   - how to contact the archie email interface
    exit    - same as "quit"
    help    - this message
    list    - list the sites in the archie database
    mail    - mail output to a user
    nopager - *** use 'unset pager' instead
    pager   - *** use 'set pager' instead
    prog    - search the database for a file
    quit    - exit archie
    set     - set a variable
    show    - display the value of a variable
    site    - list the files at an archive site
    term    - *** use 'set term ...' instead
    unset   - unset a variable
    whatis  - search for keyword in the software description database

 For information on one of these topics type:

   help [topic]

 A '?' at the help prompt will list the available sub-topics.

Help topics available:
        about   bugs    bye     email
        list    mail    nopager pager
        prog    regex   set     show
        site    term    unset   whatis
```

Archie: Deakin (Australia) File Server

```
TELNET RANA.CC.DEAKIN.OZ.AU or 128.184.1.4
login: archie

This is an experimental Australian version of archie. This uses exactly
the same code as at McGill, and all the hard work for this project is
directly attributed to the Archie people at McGill.

NOTE: This service is intended for Australian and New Zealand users.

Please report any problems to postmaster@deakin.OZ.AU
```

Archie: Server at SURAnet

```
TELNET ARCHIE.SURA.NET or 128.167.254.179
login: archie

Please report any problem to archie-admin@sura.net.  We encourage
people to use client software to connect rather than actually logging in.
Client software is available on ftp.sura.net in the /pub/archie/client.
If you need futher instructions type help at the archie> prompt.
```

Advanced Network & Services, Inc

```
TELNET ARCHIE.ANS.NET or 147.225.1.31
login: archie

'help' for help
Problems, comments etc. to archie-admin@ans.net

Client software is available on ftp.ans.net:/pub/archie/clients, and
documentation can be found in /pub/archie/doc on the same machine.
```


```
Advanced Network & Services, Inc.    E-Mail: shiao@ans.net
100 Clearbrook Road                  Office: (914) 789-5340
Elmsford, NY 10523
```

Archie: Imperial College, London, England

```
TELNET ARCHIE.DOC.IC.AC.UK or 146.169.11.3
login: archie

This server is really meant for use by UK/European sites.  If you are
not in this area please try and find a nearer archie server.

There are a lot of commands.  Here is a barebones intro:
  help            gives lots of help. Eg 'help about'
  set pager       turns on output paging.
  set term TYPE   set terminal type.  Eg 'set term vt100'.
  prog PATTERN    searches for matches.  Eg 'prog bios'.
  mail name       mails 'prog' results back. Eg 'mail lmjm@doc.ic.ac.uk'.

If you have any problems/queries please email ukuug-soft@doc.ic.ac.uk
```

Archie: University of Nebraska, Lincoln

```
TELNET ARCHIE.UNL.EDU or 129.93.1.14
login: archie
Password: archie1

Please report problems to archie-admin@unl.edu.  We encourage people to
use client software to connect rather than actually logging in. Client
software is available on ftp.unl.edu in the /pub/archie directory.

If you need futher instructions type help at the unl-archie> prompt.
```

Archie: Hebrew University of Jerusalem

```
TELNET CS.HUJI.AC.IL or 132.65.6.5
login: archie

A list of archie servers is available in the file
~ftp/pub/archie-sites.txt on ftp.huji.ac.il

The archie database can be accessed through Prospero and mail
interfaces. Users are encouraged to install the clients (available from
~ftp/pub/archie-clients on ftp.huji.ac.il)

To get help about using archie through mail send a message with the word
"help" to "archie@cs.huji.ac.il"

** 'help' for help
** send corrections/additions/comments to archie-admin@cs.huji.ac.il
```

Archie: Victoria University, Wellington

```
TELNET ARCHIE.VUW.AC.NZ or 130.195.9.10
Login: archie

To exit, type quit at the archie> prompt.
```

Melbourne (Australia)

```
TELNET ARCHIE.AU or 139.130.4.6
login: archie

If you have any problems with archie, send mail to ccw@archie.au

ANNOUNCING ARCHIE.AU - The AARNet Archie Server

Archie.au is The AARNet Archie Working Group's archie server. It runs
"archie", a tool to help users locate information located on anonymous
FTP sites around the world. To get started with archie, telnet to
archie.au and login with userid archie.

Archie.AU also maintains copies (shadows) of many of the most popular
anonymous ftp sites from around the world, making it unnecessary for
users within Australia to access the remotely located system, improving
response time and reducing overall network traffic.

This system, which has been funded by AARNet, will not only run the
archie database, but will also support:

        +  Prospero (a remote file system)
        +  Ftp[-]Mail Gateway
        +  Sydney Uni's Finger Daemon
        +  MHSnet access (as archie.oz)
        +  WAIS

and is shadowing the following archives:

        +  Simtel-20 PC archives                From oak.oakland.edu
        +  Garbo's PC archives                  From garbo.uwasa.fi
        +  MIT's X11 Distribution               From export.lcs.mit.edu
        +  Terminator's Mac Archive
        +  RFC's                                From venera.isi.edu
        +  The latest GNU software              From prep.ai.mit.edu
        +  Kermit Distribution                  From watsun.cc.columbia.edu
        +  Graphics including GIFs              From wuarchive.wustl.edu
        +  Amiga                                From ab20.larc.nasa.gov
        +  The latest WAIS sources              From think.com
        +  comp.sources.unix                    From gatekeeper.dec.com
        +  comp.sources.games                   From ftp.uu.net
        +  comp.sources.reviewed                From ftp.uu.net
        +  comp.sources.x                       From ftp.uu.net
        +  comp.sources.misc                    From ftp.uu.net

Archie.AU is a dedicated machine with more than 5 Gbytes of disk space
located on the AARNet backbone in Melbourne.  Response from archie will
be better than from any site located outside Australia and better than
many within Australia. Users can retrive files using FTP, MHSnet or the
FTP[-]Gateway. Those using MHSnet to access this machine should use a
certain amount of sense when requesting lots of files. Don't flood your
downstream sites.

If you think it would be beneficial to the Australian Academic and
Research Community to have something else shadowed, or you have comments
```

related to the archie server, send mail to

archive-wg@itd.adelaide.edu.au

Rutgers University Archive Server

```
TELNET ARCHIE.RUTGERS.EDU or 128.6.18.15
login: archie

Due to a bug, percentages given on the status line may become negative
values. This does not affect the search in any way however.

Using 'less' as a pager was creating core dumps.  It is now changed to a
more.  If there are any problems send mail to
archie-admin@archie.rutgers.edu.

Additional Archie Servers:
North American users: archie.unl.edu
                      archie.ans.net
                      archie.sura.net
Canadian       users: archie.mcgill.ca (original archie server)
Australian     users: archie.au
European       users: archie.funet.fi
United Kingdom users: archie.doc.ic.ac.uk
Middle East    users: cs.huji.ac.il

=> 'help' for help
=> corrections/additions to archie-admin@archie.rutgers.edu
=> bug reports, comments etc. to archie-l@archie.rutgers.edu
```

Archie: National Central University, Chung-li, Taiwan

```
TELNET ARCHIE.NCU.EDU.TW or 140.115.1.32
login: archie

`help' for help
`quit' to exit

    corrections/additions to archie-admin@sparc5.src.ncu.edu.tw
    bug reports, comments etc. to archie-l@archie.mcgill.ca

     If you want to be with Help messages in Chinese ,
        1. please type
                archie> set term chinese
        2. or, login with terminal type
                chinese, cxterm, vt102-ch, vt100-ch
```

ARCHIE USER COMMANDS

NAME

archie - query the Archie anonymous FTP databases using Prospero

SYNOPSIS

archie [-cers] [-a] [-l] [-t] [-m hits] [-N level] [-h hostname]
[-o filename] [-L] [-fB-V] string

DESCRIPTION

archie queries an archie anonymous FTP database looking for the specified string using the Prospero protocol. This client is based on Prospero version Beta.4.2 and is provided to encourage non-interactive use of the Archie servers (and subsequently better performance on both sides). This man page describes version 1.3 of the client.

The general method of use is of the form

```
% archie string
```

This will go to the archie server and ask it to look for all known systems that have a file named `string' in their FTP area. archie will wait, and print out any matches.

For example,

```
% archie emacs
```

will find all anonymous FTP sites in the archie database that have files named emacs somewhere in their FTP area. (This particular query would probably return a lot of directories.) If you want a list of every filename that contains emacs anywhere in it, you'd use

```
% archie -c emacs
```

Regular expressions, such as

```
% archie -r '[xX][lL]isp'
```

may also be used for searches. (See the manual of a reasonably good editor, like GNU Emacs or vi, for more information on using regular expressions.)

OPTIONS

The options currently available to this archie client are:

-c	Search substrings paying attention to upper & lower case.
-e	Exact string match. (This is the default.)
-r	Search using a regular expression.

-s	Search substrings ignoring the case of the letters.
-ofilename	If specified, place the results of the search in filename.
-a	Output results as Alex filenames.
-l	Output results in a form suitable for parsing by programs.
-t	Sort the results inverted by date.
-mhits	Specifies the maximum number of hits (matches) to return (default of 95).
-Nlevel	Sets the niceness of a query; by default, it's set to 0. Without an argument, ``-N'' defaults to 35765. If you use -N with an argument between 0 and 35765, it'll adjust itself accordingly. (Note: VMS users will have to put quotes around this argument, and -L, like "-N45"; VMS will otherwise convert it to lowercase.)
-h hostname	Tells the client to query the Archie server hostname.
-L	Lists the Archie servers known to the program when it was compiled, as well as the name of the default Archie server. For an up-to-date list, write to ``archie@archie.mcgill.ca'' (or any Archie server) with the single command of servers.
-V	With the verbose option, archie will make some comments along the way if a search is going to take some time, to pacify the user.

The three search-modifying arguments (``-c'', ``-r'', and ``-s'') are all mutually exclusive; only the last one counts. If you specify -e with any of ``-c'', ``-r'', or ``-s'', the server will first check for an exact match, then fall back to the case-sensitive, case-insensitive, or regular expression search. This is so if there are matches that are particularly obvious, it will take a minimal amount of time to satisfy your request.

If you list a single `-' by itself, any further arguments will be taken as part of the search string. This is intended to enable searching for strings that begin with a `-'; for example:

```
% archie -s - -old
```

will search for all filenames that contain the string `-old' in them.

RESPONSE

Archie servers are set up to respond to a number of requests in a queued fashion. That is, smaller requests get served much more quickly than do large requests. As a result, the

more often you query the Archie server, or the larger your requests, the longer the queue will become, resulting in a longer waiting period for everyone's requests. Please be frugal when possible, for your benefit as well as for the other users.

QUERY PRIORITY

Please use the ``-N'' option whenever you don't demand immediacy, or when you're requesting things that could generate large responses. Even when using the nice option, you should still try to avoid big jobs during busy periods. Here is a list of what we consider to be nice values that accurately reflect the priority of a job to the server.

Normal	0
Nice	500
Nicer	1000
Very Nice	5000
Extremely Nice	10000
Nicest	32765

The last priority, Nicest, would be used when a job should wait until the queue is essentially empty before running. You should pick one of these values to use, possibly modifying it slightly depending on where you think your priority should land. For example, 32760 would mean wait until the queue is empty, but jump ahead of other jobs that have selected Nicest.

There are certain types of things that we suggest using Nicest for, irregardless. In particular, any searches for which you would have a hard time justifying the use of anything but extra resources. (We all know what those searches would be for.)

ENVIRONMENT

ARCHIE_HOST

This will change the host archie will consult when making queries. (The default value is what's been compiled in.) The ``-h'' option will override this. If you're running VMS, create a symbol called ARCHIE_HOST.

SEE ALSO

For more information on regular expressions, see the manual pages on:

regex(3), ed(1)

Also read the file archie/doc/whatis.archie on archie.mcgill.ca for a detailed paper on Archie as a whole.

Read the file README.ALEX distributed with this client for more information on what Alex is and how you can take advantage of it.

AUTHORS

The archie service was conceived and implemented by Alan Emtage (bajan@cs.mcgill.ca), Peter Deutsch (peterd@cs.mcgill.ca), and Bill Heelan (wheelan@cs.mcgill.ca). The entire Internet is in their debt.

The Prospero system was created by Clifford Neuman (bcn@isi.edu); write to info-prospero@isi.edu for more information on the protocol and its use.

This stripped client was put together by Brendan Kehoe (brendan@cygnus.com), with modifications by Clifford Neuman and George Ferguson (ferguson@cs.rochester.edu).

BUGS

There are none; only a few unexpected features.

Australia

Australian Bibliographic Network
Australian Defense Force Academy
Australian National University
Charles Sturt University
Curtin University of Technology
Deakin University
Edith Cowan University
Griffith University
James Cook University Library
La Trobe University Library
LIBLINK: Access to New South Wales Libraries
Macquarie University
Monash University Library
Murdoch University
National Library of Australia
Northern Territory University
Royal Melbourne Institute of Technology
State Library of South Australia
Swinburne University of Technology
University of Adelaide
University of Canberra
University of Melbourne
University of Newcastle
University of New England
University of New South Wales
University of Queensland
University of South Australia
University of Sydney
University of Tasmania
University of Technology
University of Western Australia
University of Wollongong

Australian Defence Force Academy

TELNET LIBRARY.ADFA.OZ.AU or 131.236.1.13
When prompted for a destination, enter LIBRARY
When asked to login, type E

To exit: pick the X option from the main menu

Contact: library@acadfa.cc.adfa.oz.au

Australian National University

TELNET LIBRARY.ANU.EDU.AU or 130.56.108.3
Login: LIBRARY

OPAC = URICA

To exit, use the TELNET escape key.

E-mail helpdesk@library.anu.edu.au

Deakin University

TELNET MIPS1.LIB.DEAKIN.OZ.AU or 128.184.60.3
login: library

OPAC = INNOPAC

This is the combined library catalogue of
Deakin University -- and -- Gordon Technical College

To exit, type Q

Griffith University

TELNET LIBRARY.GU.EDU.AU or 132.234.1.218

To exit, use the TELNET escape key.

Contact:

Kerry Blinko
libblinc@griffin.itc.gu.edu.au

Macquarie University

TELNET MARS.MQCC.MQ.OZ.AU or 137.111.161.100

To exit, use the TELNET escape key.

Contact:

Fides Lawton
flawton@mars.mqcc.mq.oz.au

Royal Melbourne Institute of Technology

TELNET CCANNEX02.XX.RMIT.OZ.AU or 131.170.8.14
Press RETURN.
When menu appears, select either VICNET96 or VICNET24.
At the "Which System?" prompt, enter MATLAS.

Alternate access method:

TELNET VICNET.XX.RMIT.OZ.AU or 131.170.8.10
At the "Which System?" prompt, enter MATLAS

OPAC = GEAC

To logoff: type END.

Contact:
rylwhb@minyos.xx.rmit.oz.au
ryltd@minyos.xx.rmit.oz.au

University of Melbourne

TELNET LIBRARY.UNIMELB.EDU.AU or 128.250.1.129

To exit: Press ESC

University of Newcastle

TELNET BLISS.NEWCASTLE EDU.AU or 134.148.192.2
login: library

OPAC=INNOPAC

To exit, type D

University of New England

TELNET OPAC.UNE.OZ.AU or 129.180.1.57
When connected, type PAC

OPAC = VTLS

To exit, use the TELNET escape key

University of New South Wales

TELNET LIBPRIME.LIBSYS.UNSW.OZ.AU or 149.171.40.2
Login: libcat

To exit, use the TELNET escape key

Contact: nunlib@libprime.libsys.unsw.oz.au

University of Queensland

TELNET LIBSYS.CAMPUS.UQ.OZ.AU or 130.102.42.17
Enter BE when prompted to

OPAC = PALS

To exit: END or BYE

Contact: umlparis@uqvax.cc.uq.oz.au

Curtin University of Technology

```
TELNET CC.CURTIN.EDU.AU or 134.7.70.1
Username: GUEST
Enter A for VT100 emulation
Select A for General Collection

To exit, enter E
```

University of Adelaide

TELNET LIBRARY.ADELAIDE.EDU.AU or 129.127.48.1
Login: bslnet

OPAC = DYNIX

To exit, type 16

University of Western Australia

TELNET LIBRARY.UWA.OZ.AU or 130.95.128.2
Username: library
When prompted if you have a VT100 terminal, enter Y

OPAC = URICA

To exit, hit CTRL-D

Murdoch University

```
TELNET LIBRARY.MURDOCH.EDU.AU or 134.115.4.113
Press RETURN to display the Search Menu

To exit, hit the Telnet escape key
```

James Cook University Library

TELNET JCULIB.JCU.EDU.AU or 137.219.16.23
Login: opac

OPAC = DYNIX

To exit, select 11 from the main menu

University of Canberra Library

TELNET LIBRARY.CANBERRA.EDU.AU or 137.92.1.6
Login: uclid

Exit=From the UCLID Main Menu, type [.] (i.e., a full stop). Then from the UCLID screen, type [OFF]

OPAC = URICA

Contact:

Iain Brown
Internet : igb@libserver.canberra.edu.au

University of South Australia

TELNET LIBRARY.UNISA.EDU.AU OR 130.220.18.50
Login: opac
Select 3 for vt100
Select REMOTE

OPAC = DYNIX

To exit, type 10 on main menu

University of Wollongong Library

TELNET WOLFEN.CC.UOW.EDU.AU or 130.130.68.4
Login: pals
You will then be connected to the unicorn machine
At the TELNET: Enter PALS to connect to the library message type pals

OPAC = PALS

To exit, use the Telnet escape key

La Trobe University Library

```
TELNET LIBRARY.LATROBE.EDU.AU or 131.172.2.2
Login: catalogue
At enter \ to start, sign off characters are ^D or ^E enter \ followed
        by a return

To exit, hit the Telnet escape key
```

Monash University Library

TELNET LIBRARY.MONASH.EDU.AU or 130.194.1.151

OPAC = PALS

To exit, type Backspace $$soff or Delete $$soff.

University of Tasmania Library

```
TELNET LIBRARY.UTAS.EDU.AU or 131.217.16.3
At the "Library Terminal Server : Type HELP to get command list" prompt
        hit the enter key

You may need to type OPAC to wake up the system

To exit, type OFF on the main menu screen
```

Australian Bibliographic Network

```
TELNET ABN.NLA.GOV.AU or 192.102.239.2
Login: nla.
Enter 19 as terminal type for VT100
At the On-line Services screen, type 1
Type ALL for daily news or just hit RETURN otherwise
Enter a valid ABN account name (requires account)

To exit, hit the TELNET escape key
```

Charles Sturt University

TELNET OPAC.CLANN.EDU.AU or 192.70.216.128
Hit RETURN

At the CLANN ID prompt, type CSUMITRIVREG for Bathurst or CSU-W L122 for Wagga

OPAC = GEAC

To exit, type END

Edith Cowan University

TELNET LIBRARY.UWA.OZ.AU or 130.95.128.2
USERNAME: COWANLIB
When asked if you are on a VT100 terminal, type YES
At the Welcome screen, press RETURN
On the next screen, type the number for the search mode you want

To exit, hit Control-D

Northern Territory University

TELNET LIB2.NTU.EDU.AU or 138.80.128.6
Login: libnet

OPAC = DYNIX

To exit, choose option 15 off the main menu

University of Sydney

```
TELNET LIB2.FISHER.SU.OZ.AU or 129.78.72.2
At the OK prompt, type login
At the userid prompt, enter library2
At the password prompt, press RETURN
At the Welcome screen press RETURN

To exit, type /lo
```

University of Technology

Telnet OPAC.CLANN.EDU.AU or 192.70.216.128
Press RETURN
At the userid prompt, type UTS L119 (this is uppcase with 3 spaces between UTS and L119)

OPAC = GEAC

To exit, type END

National Library of Australia

TELNET JANUS.NLA.GOV.AU or 192.102.239.30

OPAC = DYNIX

To exit, type 10 on the main menu

LIBLINK: Access to New South Wales Libraries

```
TELNET UNILINC.EDU.AU or 192.70.216.10
Login: liblink

                        WELCOME TO LIBLINK

 This system links the online catalogues of the universities in New South
 Wales, giving you access to a vast range of materials.  This is a project
 of the New South Wales ViceChancellors' Conference/UNISON and is managed
                          by UNILINC Ltd.

        Libraries
         1    * Charles Sturt University  Mitchell
         2    * Charles Sturt University  Murray
         3    * Charles Sturt University  Riverina
         4      Macquarie University
         5    * University of New England  Northern Rivers
         6    * University of New England  Orange Agricultural Coll
         7      University of New South Wales
         8    * University of New South Wales  College of Fine Arts
         9    * University of Sydney  Conservatorium of Music
         10   * University of Sydney  Sydney College of the Arts
         11   * University of Technology, Sydney
         12   * University of Western Sydney  Hawkesbury
         13   * University of Western Sydney  Macarthur
         14   * University of Western Sydney  Nepean
         15     University of Wollongong
         16     UNILINC Shared System (libraries marked *)
```

Gordon Technical College

TELNET MIPS1.LIB.DEAKIN.OZ.AU or 128.184.60.3
login: library

OPAC = INNOPAC

This is the combined library catalogue of
Deakin University -- and -- Gordon Technical College

To exit, type Q

Victoria University of Technology

TELNET ZEBRA.VUT.EDU.AU or 140.159.1.46
login: library

OPAC = INNOPAC

To exit, type D

State Library of South Australia

TELNET FERRARI.SLSA.SA.GOV.AU or 143.216.21.4
login: library

OPAC = INNOPAC

To exit, type D on main menu

Swinburne University of Technology

TELNET OLLIE.XX.SWIN.OZ.AU or 136.186.1.10
login: pacnet
At Password: hit RETURN

OPAC = DYNIX

To exit, type 11 on main menu

Austria

TU-Graz

TU-Graz

```
TELNET FTUB.TU-GRAZ.AC.AT or 129.27.2.13
Username: TUB
Select 1 on main menu

To exit, hit 4 on main menu

                  B I B L I O T H E K S D I E N S T
               der Universitaetsbibliothek der TU-Graz

       1          Suche im Bestand der Univ.Bibliothek der T U - Graz
       2          Oeffnungszeiten  der Univ.Bibliothek der T U - Graz
       3          Zugang zur Univ.Bibliothek der U N I - Graz
       4          Ende
```

General Bulletin Boards

Advanced Technology Information Network (Calif Ag Tech Institute)
AfterFive BBS
Bergen By Byte A/S - Bergen - Norway
Bulletin Board for Libraries (BUBL) (Glasgow University)
Cosy at Victoria, British Columbia, Canada
Delft University Bulletin Board System (Netherlands)
Edinburgh University Computing Service - EUCS
Florida Atlantic University
Hewlett-Packard Calculator Bulletin Board
Humanities Communication Bulletin Board Project (HUMBUL)
Mississippi State University (Dawg)
M-Net, America's *FIRST* Public Access UNIX System
National Education BBS
National Information on Software & Services NISS Bulletin Board
NEWTON: Educational Electronic Bulletin Board System
North Dakota Student Government BBS
NYX, The Spirit of the Night
O.U. BBS (University of Oklahoma, Norman)
Rutgers University (Quartz)
Scientific Database Bulletin Board
SkynetBBS
Softwords: CoSy Conferencing System (British Columbia, Canada)
SpaceMet Internet
SUPERNET INTERNATIONAL
TC FORUM: Teachers College, University of Nebraska
Twente University Unix BBS
University of Glasgow CTI Centre for History & Computing
University of Iowa, Student Computer Association BBS
University of North Carolina BBS
University of Oulu, Finland

Advanced Technology Information Network

(California Agricultural Technology Institute)

Telnet CATICSUF.CATI.CSUFRESNO.EDU or 129.8.100.15
Login: public

** WELCOME TO THE ATI-NET **

You have reached the Advanced Technology Information Network. The ATI-Net is a full service information source designed to assist several markets within California. Individual systems provide information for the agricultural market, international exporting (ATLS system), and the educational community (CSUPER-Net).

ADVANCED TECHNOLOGY INFORMATION NETWORK (ATI-Net)
---
[a] Agricultural Information (including ATIS)
[b] CSUPER-Net
[c] Automated Trade Library Service (ATLS)
[d] ATI-Net Access Information
[0] Quit and log off
[8] search, [9] help:

WELCOME TO
C S U P E R - N E T
California
State University Profiles of Educational Resources
A Public Information Service of
THE CALIFORNIA STATE UNIVERSITY

CSUPER-NET Main Menu

[a] University Admissions
[b] Degree Programs
[c] Educational Costs
[d] Financial Aid Information
[e] Student Programs and Services
[f] Campus Calendars
[g] Campus Profiles
[h] CSU Phone Directory
[i] CSU Lists of Published Resources
[j] CSU News Bulletins
[k] E-Mail to CSUPER-Net Managers
[l] CSUPER-Net System Information
[m] Individual Campus Components

[1] Return to the previous menu
[0] Quit and log off
[8] search, [9] help:

```
            AAAAA        TTTTTTTTTTTTTT   LLLL           SSSSSSSSSSSSS
           AAAAAAA      TTTTTTTTTTTTTT   LLLL           SSSSSSSSSSSSS
         AAAA   AAA         TTTT        LLLL             SSSS      S
        AAAAAAAAAAAA       TTTT        LLLL           S       SSSS
       AAAA      AAAA     TTTT        LLLLLLLLLLL   SSSSSSSSSSSSS
      AAAA      AAAAA    TTTT        LLLLLLLLLLL   SSSSSSSSSSSSS
```

Automated Trade Library Service
provided by
OFFICE OF EXPORT DEVELOPMENT
The California State World Trade Commission

and
CALIFORNIA AGRICULTURAL TECHNOLOGY INSTITUTE
California State University, Fresno

Automated Trade Library Service
---

[a] About ATLS
[b] Country/Industry Research
[c] Trade Lead Opportunities
[d] Government Export Assistance
[e] Exporter's Calendar
[f] Export Guides and Publications Index

[1] Return to the previous menu
[0] Quit and log off

[8] search, [9] help:

Bergen By Byte A/S - Bergen - Norway

```
Telnet OSCAR.BBB.NO or 129.177.222.13
Login  bbs

BBBBB    BBBBB    BBBBB      Bergen By Byte A/S - Bergen - Norway
BB   BB  BB   BB  BB   BB
BBBBB    BBBBB    BBBBB
BB   BB  BB   BB  BB   BB    If you're new on BBB, please log on as 'new'.
BBBBB    BBBBB    BBBBB      Er du ny bruker velg 'new' foerste gang.

Use '?' for commandlist, 'HELP [cmd]' for description.

Conference       Chairman         Description
---------------- ----------------
-----------------------------------------------
Ai               Sysop            Artificial intelligence
Animals          Sysop            Discussions on pets
Applications     Sysop            Applications software
Auto             Froru            Internal discussions on the Auto products
Bbx              Sysop            BIX Bulletin Board Exchange
Bgo_tekn_museum  Egilu            Bergen Tekniske Museum NAA!!!!
Byte             Sysop            BYTE listings
Cbchat           Sysop            CbChat utility
Cleopatra        Catzy            For Girls ONLY!
Communication    Sysop            Conference on communication
Computers        Sysop            Computer hardware
Conferencing     Sysop            Discussions on conferencing
Consumables      Sysop            Conferences on drinkable and eatable
things.
Cryptography     Rani             for discussions on cryptography
Cs_utilities     Sysop            Comments on TCHAT
Databases        Zappa            Databases and 4th gen languages
Dataparken       Veho             Dataparken, UiB's PC-butikk
Decus            Egilu            Digital Equipment Corp. User Group
Dhk              Odel             The hard core
Economics        Gefo             Personal & company economics
Edbskolen        Stha             EDB-skolens undervisningskonferanse
Electronics      Asea             Discussions on electronics
Environment      Sysop            Conference on environmental matters
Files            Leffen           Discussions on files on BBB
Gambling         Sysop            Sports & gambling
Games            Adder            Discussions on different computer games
Garbage          Rani             System garbage!
Ih               Ihadmin          Closed conf. for Informasjonshogskolen
International    Sysop            Conference for international users
Job_market       Zappa            Jobs and job applications
Jokes            Krienge          Jokes. You know, the funny stuff..
Kids             Opresno          KIDS project
Kreativ          Froru            Closed conf. for Datasekretariatet
Literature       Sysop            Books & magazines
Luni             Stein            The Luni club
Marketplace      Sysop            Selling/buying/swapping
Media            Sysop            Mass medias
Miljoeforum      Geira            Konferanse for Miljoeforum
Mips             Erni             MIPS A/S
```

Music	Zappa	This is where music is discussed
Nesna	Jotve	Closed conference for Nesna
Nets	Eigu	Privat konferanse for NETS
Ntnf	Ehaa	NTNF / MITS project conference
Oracle	Dadu	Oracle
Os	More	Operating system discussions
Owners	Egilu	Stockholders in BBB
Parapsychology	Asea	Conf. on ESP, UFO's & other
Politics	Egilu	Discussions on politics
Primus	More	Prime User Group
Programming	Tholo	Programming languages & tips
Raadet	Zappa	Internal discussions
Recreation	Sysop	Recreation conference
Roots	Jray	This is where we dig back to the 2nd century
Rvo	Kbraatane	Raadet for Videregaaende Opplaering
Rvofag	Jekeland	
Rvokurs	Vhammer	RVOkurs
Rvoskoler	Jcloumann	
Samliv	Janla	Forum for samlivsmuligheter
Schools	Froru	Conference on education
Science	Acorn	Conference for scientific information
Sigops	Sysop	Conference for conference chairmans
Simrad	Miked	Private conf. for Simrad Subsea A/S
Speakers	Olemann	Somewhere in Hyde Park? Isn't it?
Sport	Stilig	The sporty conference
Syh	Kbraatane	closed conference for SYH
Sysops	Sysop	A BBS SYSOP Center
System	Sysop	System conference for news & general messages
Tchat	Sysop	Tchat utility
Tele	Sysop	General tele-related discussions
Travels	Sysop	Discussions about travels
Under18	Krienge	For ungdom under 18 aar
Update	Sysop	BBB Update system
Users	Sysop	Users own conference
Vanda	Ahobaek	Miljoe og undervisning
Windows	Sysop	Discussions on Window Systems

Bulletin Board for Libraries (BUBL) at Glasgow University Library

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.glasgow.bubl
Terminal type: vt100
                        ---******MAIN MENU******---

       A--All about BUBL                    J--Glossary
       B--Reference Section                 K--Practical exercises
       C--New titles in LIS                 L--British Library R &D News
       D--Directories                      **N--Latest changes to BUBL
       E--Current Contents                  O--CONCISE(Pan-European
Inf.Serv.)
       F--Mailing lists                     S--Electronic Journals & Texts
       G--NISS                              V--Library Systems & Software
       H--Users' board                      Z--CTILIS
```

Cosy at Victoria, British Columbia, Canada

```
Telnet CUE.BC.CA or 134.87.11.200
login: cosy
Type 'new' at the second login prompt.

   * * *  T H E   C U E   N E T W O R K   N O D E  * * *

          L I S T   O F   A L L   C O S Y   C O N F E R E N C E S
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
                     T H E  C U E  P R O J E C T (10 confs)
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
o cuebc          A conference for the Computer Using Educators of BC (CUEBC)
c cuebc.admin    A forum to deal with administration issues
c prat           Pacific Regional Association for Telematics
c node.sub       A conference for the CUEBC node subcommittee
c cue.exec       CUE Executive Conference (Closed To Others)
c cue.table      A Conference for the Table Officers of CUEBC
c cue.futures    Project CUE internal discussions
c cue.plus       Open to all current members of CUE for discussion.
o vapourware     The vapourware electronic newsletter from Usenet.
o policy         A Discussion of Policy Matters Regarding the Cue Node
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
                 N E W  C O N F E R E N C E S (list updated occasionally)
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
o av_educ        Audio-visual learning aids in Education
c hacking        Private Discussion regarding Computer Crime
o buy            The second hand exchange conference
o spatials       Neat things about networking
o readnews       Tips on using USENET
o tech_line      Electronics talk line.
o consumer       consumer discussions
o atc            Advanced Technology Centre
o newtest        A conference to test cosy
c concepts       The New Art of Concept Engineering
o rough_draft    Rough_Draft: A Writer's Workshop
o ethnobotany    Plants in action w/ resident plant-doctor Dr.Brian Compton
o access         Discussions about the services offered by the Technical
                 Information Exchange
o pow            Students of Prince of Wales High School discuss
                 Creative Writing.
c 555b           For discussion of curriculum and things
o chitchat       The first chat conference on this cosy!
c dcosytest      Test distributed conference feature of dcosy
o bohemians      neon-the red glare of a rainy street
o gab            Gab, chat, and useless drivel...
o random.frequency CFUVs half hour Creative Writing show...
o classroom      Various types of Classroom Networks, uses, problems, etc
o ms_dos         ms_dos
c moderators     TIX moderators conference
o testconf       a conference to test dcosy
o international  Welcome to our visitors from the Internet
```

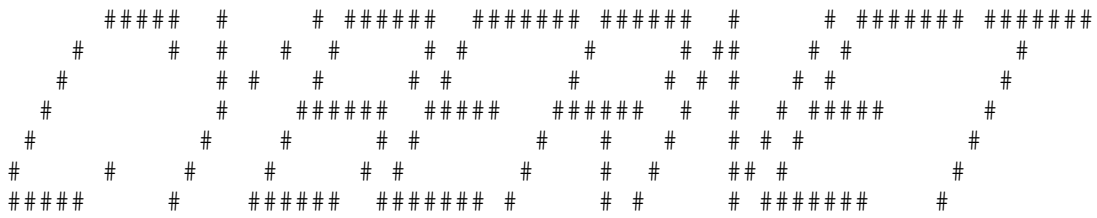
o	mac.tech.sup	Assistance and tips for Mac Hardware and Software
o	ip	Experiences in setting up an IP network in B.C.'s interior
o	global	world village
o	kahn	Kahn's Krnr..
o	dunno	anything goes
o	children	This is for discussion on Children's/Adolescent's Rights.
o	cosy	discussion of cosy
o	forestry	A conference about Forestry education.
o	dalounge	DaLounge - anything goes here
o	virus	Discussion of computer viral programs and related issues
c	iste	Jim Swanson's ISTE Conference
o	report	The National Update on America's Education Goals
o	sex	Sex On The Beach
o	rush	Discussion of Canada's finest --> RUSH

Delft University Bulletin Board System

```
Telnet TUDRWA.TUDELFT.NL or 130.161.180.68
Username: BBS
        ------------------------------------
        W E L K O M    O P    D  U  B  B  S
        ------------------------------------
        Delft University Bulletin Board System.
        DUBBS gebruikt een VAX-station 2000 en heeft 10 poorten naar DUneT.
        De SYSOP's zijn :  Guus van der Wal    telefoon (015)-(78)2753
                     en :  Aart Kooiman        telefoon (015)-(78)1050

        DUBBS herkent de volgende control-characters

        Control-o      Skips to end of section
        Control-q      Resumes output after a pause
        Control-r      Re-displays the line you are typing
        Control-s      Pauses output
        Control-u      Deletes to beginning of line (on entry)
        Control-x      Same as Control-u
        Backspace      Deletes last character typed
        Delete         Deletes last character typed

       M A I N   M E N U

       The following services are available

       (B)ulletins          (R)etrieve messages
       (E)nter message      (S)can messages
       (F)ile transfer      (U)serlog
       (G)oodbye            (W)elcome reprint
       (H)elp               (X)pert user toggle
       (M)odify userinfo
```

Florida Atlantic University

```
Telnet SHARK.CS.FAU.EDU or 131.91.80.13
login: bbs
Welcome to...
```



```
       A Bulletin Board serving FAU and the local community.
     Sponsored by the FAU Computer Science Department and ACM
   Your Sysops are:  Bruce Beadle, Kenneth Maier and Mahesh Neelakanta
                 Running:  Waffle Version 1.63

 Cybernet Commands

   ---- Mailing Options ----              ---- Other Commands ----
 NEW      - Check for new mail          USERS  - List current bbs users
 MAIL     - Read/Send Email             LIST   - List recent callers
 FEEDBACK - Send mail to Sysops

  ---- Environment Options ----          ---- Extended Options ----
 STATUS   - List your BBS profile       CONF   - List CONFERENCE options
 TIME     - Time remaining for today    CHAT   - Enter MAGPIE Chat
 TERM     - Set terminal type           WHO    - List who is on the BBS
 EXIT     - Exit the BBS
```

Hewlett-Packard Calculator Bulletin Board

```
TELNET HPCVBBS.CV.HP.COM or 15.255.72.16
login: new
               Welcome to HP Calculator Bulletin Board System.

      As a guest, you may read a selected set of conferences, but you
      will not be allowed to post.  In addition, when you sign off all
      record of your presence will be erased.

      To apply for a user id, you should type 'apply' at the main bbs
      prompt.  You will then be asked for some information.  Once you
      complete the form, you will be permitted bbs, file access.
                              **********

       The HP Calculator Bulletin Board is available to you FREE of
       CHARGE "AS IS".  Hewlett-Packard makes no warranty expressed
       or implied as to its performance.  HP specifically disclaims the
       implied warranties of merchantability and fitness for any
       particular purpose.  HP shall not be liable for any direct,
       indirect, special, incidental or consequential damage, whether
       based on contractual, tort, or any other legal theory.

       HP will not offer any special support concerning this material
       and grants no exclusivity to its use.  HP does not offer this as
       a product and does not commit to make this material available in
       the future as such.

       The HP Calculator Bulletin Board is a free service to allow for
       the exchange of software and information between HP calculator
       users, software developers and distributors.
```

Mississippi State University

Dawg House BBS

```
Telnet 130.18.80.10
login: dawg

    Welcome to The Dawg House BBS .....

B)ulletins          C)hange Setup      D)aily info        F)ile section
G)oodbye            H)umor             L)ogged on         M)essage section
Q)uestionnaire      R)ead files        T)wilight Zone     V)ersion
W)elcome message    Z)ip mail          ?) Help!
```

M-Net, America's *FIRST* Public Access UNIX System

```
Telnet HERMES.MERIT.EDU or 35.1.48.150
At Which Host?: enter   um-m-net
MichNet login: newuser
```

I'd like to invite you into a VERY nice Public Access UNIX/Conferencing System. It's called M-Net and has been around since 1982 (soon to be going on to our tenth year). M-Net is an Altos 68020 running Altos' port of UNIX Sys-III & is the HOME of PicoSpan Conferencing software.

We have over 200 Conferences to talk about anything from Travel to Sex, Cooking to Driving, Flying to Jumping out of a perfectly good airplane, in an almost real-time arena. There is SH, KSH, CSH, BBS & MENU shells for every type of user. We have write/talk/xtalk/chat for those private writes and PARTY for those who like to talk to everyone at once (much like IRC with 5 different channels). Trust me, theres something for everyone!

The NICE thing here is that this "Public Access UNIX System" puts the "Public Access" back onto YOUR terminal! After running the "newuser" program at the login: prompt, you will be given a 100% ACTIVE account right then (not in a day or two, when we can verify you).

National Education BBS

```
Telnet NEBBS.NERSC.GOV or 128.55.128.246
login: bbs
Enter userid, 'new' for new user.

HELP SCREEN
(I)nfo          Get Version and Copyright Information
(B)oards        List boards on system
(S)elect        Select current board
(R)ead          Enter multifunction Read Menu
(N)ew           Read all new messages
(V)isit         Make all messages current
(Z)ap           Zap boards from (N)ew search
(P)ost          Post a message on current board
(U)sers         List ALL users of this BBS
(T)alk          Enter Talk  Menu
(M)ail          Enter Mail Menu
(F)iles         Enter File Transfer Menu
(X)yz           Misc. utilities (Change passwd, and term type
(G)oodbye       Leave This BBS
(H)elp          Get this Help Screen

For information regarding the use of this system, contact: Jim Morton
(415) 423-2374
JAM@CCV.NERSC.GOV    morton@nes.nersc.gov
```

NEWTON: Educational Electronic Bulletin Board System

Argonne National Laboratory

Telnet NEWTON.DEP.ANL.GOV or 130.202.92.50
login cocotext

Welcome To
the
Argonne National Laboratory
Division of Educational Programs's

NEWTON
(An Educational Electronic Bulletin Board System)

[[Main Menu]]
Argonne National Laboratory BBS

The main areas of the board are as follows:

A) '1) System' '2) Directory of Users' - Lists all users of the BBS,
B) '1) System' '3) List Users' - Lists all users currently on line,
C) '2) Personal' '7) Mail' - Send/Receive mail to/from other users,
D) '3) Group' '1) File Exchange' - General upload/download file area,
E) '3) Group' '3) Disscussion' - This is the same as '4) Features' but with many more options. This is the major focus of the board.

THE ONLY WAY THIS BOARD WILL WORK IS FOR YOU TO LEAVE INFORMATION!!!! Upload files, LEAVE memos in the GROUP DISCUSSIONS, and SEND PERSONAL MAIL to other users! SHARE YOUR KNOWLEDGE WITH OTHERS, that is what this is about, it is not a one way street!

This bbs is dedicated for educational use. It is open to all teachers and students of any age. Foul or X-Rated material will not be tolerated. Any abuse of this will result in the violator(s) dismissal from this bbs.

UNDER NO CIRCUMSTANCE is copying or pirating commercial software permitted.
1) System 2) Personal 3) Group 4) TeachingTopics 5) SignOff > 5

North Dakota Student Government BBS

TELNET MILO.NDSU.NODAK.EDU or 134.129.111.210
login: new
Password: new

The NDSU-ACM BBS is an electronic bulletin board system brought to you as a service of NDSU ACM (Association for Computing Machinery), NDSU Student Government, and the North Dakota Higher Education Computer Network (HECN).

NYX, The Spirit of the Night

```
TELNET NYX.CS.DU.EDU or 130.253.192.68
login: new
                Welcome to Nyx -- The Spirit of the Night

        Sponsored by the Faculty, Students, and Friends of the
                        University of Denver
                Department of Math and Computer Science

Major features include:
        - 4+ Gb disk space, 16+ lines
        - An extensive file download section
        - The NetNews worldwide bulletin board
        - Access to the Unix system itself
        - "Internet FTP" access to 100s of Gb of downloads

                                Main menu
                                =========
f       Upload/Download file menu       i       Information...
s       Status/options/users menu       u       Unix file access menu
c       Communications menu -- bulletins, NetNews, mail, chat
t       TTCC Resources                  p       Programming menu
e       Education menu                  w       Word processing menu
g       Games menu                      gr      Graphics menu
faq     Frequently Asked Questions      o       Organization menus
in      Introduce yourself to other Nyx users
fund    Info on the "fund drive" to speed up ol' Nyx
hack    Info on recent hacker problems; updated 2/12/92
fb      Send feedback to sysop (comments, questions, etc.)
```

Rutgers University

```
Telnet QUARTZ.RUTGERS.EDU or 128.6.4.8
login: bbs
 -------------------------
        Quartz BBS
    very temperamental
 -------------------------
    Citadel/UX v3.01d

 New users simply enter a handle, or type "off" to disconnect.

Welcome to QuartzBBS!

 1. "Handles" (aliases) are certainly allowed.  That's what BBSes are for.
 2. Don't post anything of illegal content.  It will be promptly deleted.
    If further action is thought necessary it will be taken.
 3. You will be asked for REAL NAME and address. Please fill this out.
    You will have complete access on your first login, but bogus
    registration information will cause you to lose access.
```

Scientific Database Bulletin Board

Telnet SCID3B.EID.ANL.GOV or 146.137.176.51
login: cocotext
Password: WISDM

The Scientific Database Bulletin Board is operated by Argonne National Laboratory in Argonne Illinois. Its purpose is to foster communication between scientists in the natural and social sciences and researchers in information systems so as to encourage the rapid development of the field of scientific database research. To further this end, plans are also being made for the electronic publishing of a Journal of Scientific Database Research.

SpaceMet Internet

```
Telnet SPACEMET.PHAST.UMASS.EDU or 128.119.50.48

Welcome to SpaceMet Internet!        spacemet.phast.umass.edu
                                     128.119.50.48
Brought to you by
   Department of Physics and Astronomy,
      University of Massachusetts, Amherst
   Five Colleges, Inc.
   National Science Foundation

SYSOP (SYStem OPerator): Helen Sternheim  (413) 545-3697, 545-1908
We are running the Maximus bulletin board software.

Our system has three main sections.  You get to the sections by
making a selection from the main menu.

         MESSAGES     ... read/enter public/private messages
         FILES        ... get/receive software and other files
         CHANGE MENU  ... change your help-level etc

In the message section, you'll notice it's divided into several "areas".
You can think of a message area as a topic.

The file section is also divided into areas.  Think of the file section
as a big library of software grouped into several areas.

MAXIMUS provides GRAPHICS if your computer supports ANSI graphics.
(Apple II does NOT support ANSI graphics.)
  If you see a lot of garbage on screen,
  Enter C for C)hange-User in the Main Menu
  Then  V for V)ideo,  T for TTY,  Q for Quit

HINT:  If you get lost in the system, try pressing "?".  The question
       mark is your way of asking for help.  We should probably say "WHEN
       you get lost" because poking around in various corners of the system
       is half the fun.

MAXIMUS provides GRAPHICS if your computer supports ANSI graphics.
  If you see a lot of garbage on screen,
  Enter C for Change-User in the Main Menu, V for Video, T for TTY, Q for
Quit

Message area

1  Local conversation    For Kids & Schools             K12Net
2  Sysop comments        10 Belchertown schools         D1 K12_ELE_CHAT
                         11 SpaceMet chat               D2 K12_JR_CHAT
   National echomail     14 Pen Pals, K-6 (regional)    D3 K12_SR_CHAT
5  Space                 15 Pen Pals, Jr. Hi (regional) E1 K12_ART_ED
12 Kids                  16 Space Science Exchange      E2 K12_BUS_ED
                         17 Northampton HS              E3 K12_COMP_LIT
18 LATINO                19 Chatnet (Schools)           E4 K12_HLTH_PE
21 Astronomy             20 STORY-Line (add Paragraph)  E5 K12_LANG_ART
22 Enviro                                               E6 K12_LIF_SKIL
```

23 Environ	For teachers	E7 K12_MATH_ED
24 Physics	58 Teacher's Academy	E8 K12_MUSIC_ED
25 Science	59 Mass Math Initiative	E9 K12_NEWS
26 Educator	60 Eisenhower Directors	E0 K12_SCI_ED
27 Econet	61 Native American Experience	F1 K12_SOC_STUD
28 Library	62 Partners in Writing	F2 K12_SPEC_ED
30 Health Physics	63 Math	F3 K12_TECH_ED
31 Apple	64 Acid Rain/ChemCom	F4 K12_FRANCAIS
	65 MESTEP Program	F5 K12_SPAN_ENG
	66 MassCUE Members	F6 K12_GERM_ENG
35 Ecology	67 Telecomm. Practice Area	F7 K12_TAG
36 Home Schooling	68 CASEM Members	F8 K12_RUSSIAN
	69 Edu/Bio Research Groups	
45 Indian Affairs		H2 K12.PROJECTS
		H4 K12.TCH_CHAT

K12 Channels (Special Projects)

C0 K12.CH0 Project Coordination	
C1 K12.CH1 Channel 1 CO2 Challenge	C7 K12.CH7 Channel 7
C2 K12.CH2 Channel 2 TOP TEN	C8 K12.CH8 Channel 8
C3 K12.CH3 Channel 3 Brown Bag Sci.	C9 K12.CH9 Channel 9
C4 K12.CH4 Channel 4 Bill of Rights	CA K12.CH10 Channel 10
C5 K12.CH5 Channel 5 SCI. Challenge	CB K12.CH11 Channel 11 Global Village
C6 K12.CH6 Channel 6 8 Groups 5	CC K12.CH12 Channel 12 Weather

The FILES Section

==========

INTERNET CALLERS NOTE: Text files can by TYPED and captured.
Downloading files is only sometimes possible; uploading rarely works.
Try ZModem if your software has it; it seems to work best.

==========

Text files	Course Materials	Physics
1 SpaceMet info, bbs lists	31 AppleWorks files	51 Bibliographies
2 Conferences, events	32 Astronomy	52 News
3 Space exploration	33 Biology, Health, Medicine	53 Reviews, software lists
4 Space Science		
5 Project Information	34 Chemistry	54 Test Bank
11 Acid rain, water quality	35 Computer Science	55 Worksheets
12 Computers	36 Course Management	56 Demos, labs, tips
14 Energy, radon, arms	37 Earth Science, Meteorology	57 Software, IBM
15 U.S. Dept. of Ed.		58 Software, Apple
16 ERIC files	38 Foreign Languages	59 Software, Commodore
	39 General Science	
20 Uploaded Files	40 Math and Statistics	For Teachers
	41 Miscellaneous	
Software, general	42 English	61 PSInet Files
22 APPLE II	43 Social sciences	64 Harbor Project
24 IBM	44 Space Science Ed	65 MESTEP (Interns)
		66 MassCUE
		68 Project Shine

SUPERNET INTERNATIONAL

Telnet SUPERNET.ANS.NET or 147.225.1.51

Welcome to SUPERNET INTERNATIONAL!

About SUPERNET Intl.	User guide, help & info #
Daily News	Industry news updates +
Forums & Opinions	Openline conferences +
Internet Information	Catalogs, databases, guides & lists +
Job Bank	Help wanted & personnel +
Listings	Partnerships, funding, misc. +
Newsletters	Publications, commentaries +
Research Register	Key research projects #
Software	Programs, codes & libraries #
Supercomputing Review	Full text of industry magazine +
User Groups	Special interest groups +
Vision	Views on the future #

SUPERNET is made available at no charge by the following organizations:

IBM	Maximum Strategy Inc.
Convex	Network Systems
Advanced Networks & Services Inc.	Cray Research, Inc.
Storagetek	IMSL
nCUBE	AVALON
The Portland Group	Parasoft Corporation
Alliant	iOmega
Smaby Group	Scientific Computing Associates Inc.
Intel Corporation	DEC

Twente University Unix BBS

```
TELNET UTBBS.CIV.UTWENTE.NL or 130.89.1.219
login: bbs

+=========================================+
|               Welcome to :              |
|                                         |
| =+=  =+= +==+==+ =+===+  =+===+  +====+ |
|  |    |     |     |   |   |   |  |      |
|  |    |     |     |===++  +===++ +====+ |
|  |    |     |     |    |  |    |      | |
|  +====+    =+=   =+====+ =+====+ +====+ |
|                                         |
|         This is the Unix BBS of         |
|          CIC Twente University          |
|      Internet address : 130.89.1.219    |
|                                         |
|        300/1200/2400 (and 9600) bps.    |
+=========================================+

                                    +=============+
                                    |    Voice :  |
                                    | 053-892305  |
                                    |     Data :  |
                                    | 053-898005  |
                                    | 053-898004  |
                                    |    Sysops :  |
                                    |    Ben Helthuis |
                                    |   Erwin Verwoerd |
                                    +==================+

M(essage section), F(ile section),    V(ersion),         H(umor),
T(oggle page),     B(ulletins),       A(dditional),      N(ew user msg),
e(X)pert toggle,   W(elcome message), D(aily info),      P(assword change),
Q(uestionaire),    Z(ip mail),        c(O)nference,      in conferenc(E),
L(ogged on),       G(oodbye),         ? --- help.
```

University of Iowa

Student Computer Association BBS

Telnet ISCA.ISAEN.UIOWA.EDU or 128.255.19.175
login: iscabbs

DOC (Dave's Own version of Citadel) Version 0.9b
Welcome to the Iowa Student Computer Associaton BBS.

The system uses software called DOC - "Daves' Own Version of Citadel". This software is a complete rewrite of Citadel/UX and contains many new features as well. It was written locally by David Lacey and David Nelson.

In the file system, you can now use FTP as a download protocol, either to a PC in one of the Instructional Technology Centers at the University of Iowa or any account on the internet.

University of Iowa students please note that Zmodem is the only protocol that works through the annex terminal servers. We suggest using Telix 3.12 on MS-DOS systems and ZTerm 0.85 on Macintosh computers. Rlogin from the annex works better than telnet. Type "r isca"

If you made any mistakes in entering your user info, you can change this by typing [C]onfig at the main menu.

For those who have used Citadel in the past, you will find some minor differences in our version. Type ? at the "room>" prompt to find out what keys do what. There is a help file called "differences" that shows the major differences. Also note that you can read all your new mail by just pressing the space bar.

Make yourself interesting - go into [C]onfig and enter some info about yourself so that others will know more about you. You have 5 lines of space to write something creative.

If you have any questions, you can mail me (from your personal account) at iscacaen.uiowa.edu or [Y]ell at sysop from the main menu.

-Doc. Dave

Main menu: Messages Bulletins Files Subsystem Config Yell Help Logout> S

Subsystem menu: Telnet, Irc, Who, Main menu, Logout: M

Main menu: Messages Bulletins Files Subsystem Config Yell Help Logout> B

Iowa Student Computer Assn.
Bulletins

1) About this system
2) ISCA Events (Meetings, etc)
3) How to download software
4) This @#$# doesn't work. Who to talk to.
5) ICAEN - Who and Why.
6) ISCA's other BBS system

7) ISCA executive officers
8) Upgrading Access Level for Telnet and IRC
9) Good places to telnet to (MUDS/BBS/etc)
10) Important phone numbers of the world
11) Commonly asked Macintosh questions
12) Commonly asked Unix questions
13) Info about high speed modems
14) How to download using FTP

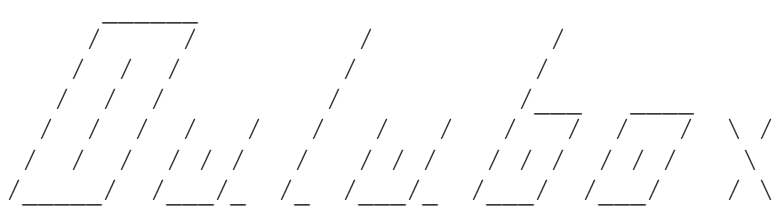
University of North Carolina BBS

```
TELNET BBS.OIT.UNC.EDU or 152.2.22.80
Login in with bbs
**********************************************************************
            The University of North Carolina at Chapel Hill
                   Office for Information Technology
                         Bulletin Board System
**********************************************************************
                     UNC-OIT Bulletin Board System

                1. Message System
                2. File Access
                3. Network News Access
                4. Simple WAIS Client
                5. UNC Campus INFO System
                6. User Options
                7. Bulletins and Additional Information
                8. Goodbye
                9. On-line Information Systems (LIBTEL)
                ?. Help
```

University of Oulu, Finland

Institute of Information Processing Science

```
Telnet TOLSUN.OULU.FI or 128.214.5.6
login: box
OuluBox  (v.21,v.22,Vadic = +358-81-352649, v.22bis = +358-81-352645)
```



```
Main menu Commands

  C - Administration menu
  B - Bulletins
  I - Show info about BBS
  F - File areas, downloading
  G - Goodbye
  M - Enter conference menu
  U - Userlist (long)
Write ? for full help
```

TC FORUM: Teachers College, University of Nebraska

TELNET TCFORUM.UNL.EDU or 129.93.80.233

Welcome to TC FORUM 's InterNet Node Connection

This board is designed to serve educational needs in the State of Nebraska. It is owned and operated by Teachers College, University of Nebraska, Lincoln. Your systems Operator (SYSOP) is Ed Nemeth, Department of Educational Psychology.

Please use your real name and answer the registration questionaire to gain full access to TC FORUM.

A purpose of this BBS is to encourage and promote the free exchange and discussion of educational information, ideas and opinions. We ask that you actively contribute to this discussion. Special discussion groups exist for those with special interests ... use [J] "Join Conferences" command.

TC FORUM offers no guarantees or warranties on any information obtained from this BBS or on any files downloaded from TC FORUM. Every user explicitly acknowledges that all information obtained is "as is." Use of this BBS and any files downloaded is solely the responsibility of the user. No claims are made as to the value of this BBS or its files.

Some Special Features on T C F O R U M

====>>> National and International Discussion Groups called NET MAIL CONFERENCES.....type MAIL at the Main Menu

====>>> Local Instructional and Support Forums with unique Newsletters, Bulletins, Files, and Moderators

====>>> Large Collection of Files and Programs that you can "download" to your personal computer

====>>> On-line Newletters and Bulletins to keep you abreast of activites at Teachers College, UNL, plus course listings, catalogue information, help files and much more.

====>>> Linkage between Nebraska's educational institutions, educators, community leaders, and YOU.

M A I N M E N U

B .....Bulletin\Newsletter Menu
F .....Files Menu
H .....HELP
W .....Who Else is On
MAIL ..... Network Mail
IC .... International Education Forum
U .....Utilities Menu
O .....Operator Page
X .....Expert On/Off
G .....GOODBYE and Log-Off
TUTOR .....On-line Tutorial

NOTE on International Conferences:
To join local, state, national or international electronic network mail conferences, type the four letter word MAIL and wait a few seconds. A list of conferences will be presented to you.

Local Message Command List:

R ..... Read Message
E ..... Enter Message
K ..... Kill Message
S ..... Scan Messages
P ..... Personal Mail
T ..... Topics

Softwords: CoSy Conferencing System (British Columbia, Canada)

```
TELNET SOFTWORDS.BC.CA or 134.87.11.1
login: cosy

                          Conference Listings

*                   Research News and Updates
*                  ****************************
o research         Research & Development
c progs            Programmers Notes
c qt               Use and improvements of Quatrain
o flics            animation and simulation/ multi media
*
*                CoSy  Information and Directions
*                ********************************
o learn            CoSy Tutorial
o questions        CoSy Questions answered here!
o bugs             Report Your CoSy Problems
c cosy_afternoon   General Internal Discussion at Softwords
c solinet          Solinet  - CoSy contract
c cosy50           CoSy 5.0 Development Group
c codev            A conference for Codev members only
c stockton         customer support
o cosy_stats       Statistics on CoSy usage
c cosy_stats2      Statistics on closed/confidential CoSy usage
o cplive           CoSyPlus user comments and suggestions
c cosymaint        CoSy site maintenance
*
*                Conferences en Francais
*                ***************************
o st.denis         Sunny afternoon French conversation on a sidewalk terrasse
*
*                Internal Conferences
*                ***********************
c admin            Softwords Administration Issues
c ec               EC Executive Committee
*
*                      General Information
*                   ******************************
o uman             Unix System Management
*
*                        Entertainment
*                  ******************************
o lounge           Welcome to external users
o improv           Home of the Guffaws!!
o reviews          CoSy Critiques the Arts!
o sports_screen    sports_screen
o restaurants      Review the best and worst of Vic's diners
o talk             Open line conversation conference - all subjects.
o recipes          share and exchange recipes
o twin_peaks       Concerning the show and state of mind known as TWIN PEAKS
//////////////////////////////////////////////////////////////////////
\\\\\\\\\\\\\\\\\\\\ SPECIAL FUNCTIONS ////////////////////////////////
----------------------------------------------------------------------
s calendar         Calendar of the present month
```

```
s joke           Humor
*************************************************************************
*                 New Conferences
*************************************************************************
o csit           Canadian Symposium on Instructional Technology
c 306b           Directed Study in Publishing - Jan-Apr 1992
o icde           organizing the bangkok conference
o cosytest       testing
o softypic       monthly informal gather of SRI personnel in the parking lot
o poker          Name says it all. Who gambles their life away?
o bangkok        The Bangkok Project: 1992. CMC and Distance Education.
c networks       Networks at SW
o eco            practical ecology in Victoria
o chat           talker
o world          REcession
o demo           Welcome    Welcome to the CoSyPlus demo
c gods           Gods and Others Guys
o books          new book releases by Beach Holme
c testing_conf   this is my test conference
c anita          general Discussion for Peter, Michael and Anita
o cosymac        A conference to discuss use of CoSy with Macintosh version
o xform          Xform: The TRANSFORM Conference for Trainers
o interzone      Technologies aiding inner-city survival
o train          OJT on Tools (Network, Word, Excel, Object VIsion, etc)
(o=open, c=closed)
```

O.U. BBS (University of Oklahoma, Norman)

```
TELNET OUBBS.TELECOM.UOKNOR.EDU or 129.15.3.15

                              THE O.U. BBS
                               MAIN MENU
          --------------------------------------------------

(M)ail Menu             (B)ulletins
(U)tilities Menu        (G)oodbye
(F)iles Menu            (X)pert
(C)onferences Menu      (Y)ell for Sysop
($) Fun Stuff ( There are 3 new games in here, try them out!!!!!)
(P)hone Directory
(L)eave Comment & Logoff
(S)TATS Program

This system runs TBBS 2.2
```

University of Glasgow

CTI Centre for History and Computing

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.gla.hist.new

                          **************************
                          * Welcome to HISTORY NEWS *
                          **************************

                           The Bulletin Board of the
                         CTI Centre for History and Computing
                                 University of Glasgow

                     HISTORY NEWS is a reference source on the use of
                     computers in historical teaching and research,
                     including Archaeology and Art History.

                                 MAIN MENU

     A   About CTICH and the bulletin board            (08 Feb 91)
     S   Software and datasets guide                   (02 Apr 90)
     E   Events, conferences, courses, seminars       *(06 Mar 91)*
     C   Contact names                                 (30 Nov 89)
     R   References -- information sources             (12 Mar 90)
     J   Job announcements (history)                  *(26 Feb 91)*
     P   Project reports                               (30 Nov 89)
     L   Letters                                       (05 Apr 90)
     T   Teaching -- history & computing courses       (12 Feb 91)
     N   News                                          (12 Feb 91)
     X   Archaeology                                  *(06 Mar 91)*
     Y   Art History                                  *(28 Feb 91)*

     QUIT  to leave History News at any time
     MAIL  to leave a message for the History News administrator
```

Humanities Communication Bulletin Board Project (HUMBUL)

Oxford University

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.humbul

           Welcome to HUMBUL at Oxford University Computing Services
                Humanities Communication Bulletin Board Project
                   HUMBUL, the online HUM-anities BUL-letin

                     M A I N   M E N U
      A  All about HUMBUL          ** B  News
   ** C  Diary & Conferences          D  Grant Awards
      E  British Library News         F  Institutions
      G  Associations                 H  Computer-based Groups
      I  Major Projects            ** J  Software & Networked Information
   ** K  Courses                   ** L  Notes, Queries, Comments
      M  This menu                    N  Completed Research
      P  Ongoing Research             Q  QUIT HUMBUL
      R  HUMBUL archive
      S: Stop Press                ** T: Contents-at-a-Glance

      ** = items input during this calendar month
       * = items input during the previous calendar month
```

National Information on Software and Services NISS

Bulletin Board

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.niss
Select A from the menu

    N I S S   B U L L E T I N   B O A R D :::::::  M A I N   M E N U

  A   INTRO. for New Users & Contributors          ACADEMIC DISCIPLINES
  B   NISS Public Access Collections(NISSPAC)  N   Accountancy to Engineer.
  C   Academic Computer Services               O   Geography to Literature
  D   Software/Information Services            P   Maths. to Physics
       (CHEST, CTISS, NPDSA etc.)              R   Statistics to Sociology
  E   Library Services
  F   Online Information Sources           M   MAIN MENU
  G   Job Vacancies                        S   Computer Supplier Information
  H   Computing Groups and Committees      T   Research Councils
  I   Subject INDEX                        W   Educational Services
  J   Special Interest Groups              X * Latest CHANGES *
  K   Training Courses, Workshops, etc.    Y   Public Pinboard
  L   Joint Academic NETwork (JANET)       Z   Table of CONTENTS
```

Edinburgh University Computing Service - EUCS

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.ed.castle
login: inform
Password: inform

  Information about the Edinburgh University Computing Service - EUCS

   1   Whom to contact for help advice
   2   Registering as a user
   3   Regulations for use of Edinburgh University computing facilities
   4   Training
   5   Publications (documentation, BITs, Forum)
   6   Software
   7   Hardware
   8   Data
   9   Network and communications
  10   Public computing facilities
  11   Purchasing equipment and software
  12   Micro centre and Graphics Workshop
  13   Charges
  14   Making a complaint
```

AfterFive BBS

```
TELNET 128.160.2.249 9999

To connect to your existing character, type   "connect [name] [password]"
To create a new character, type               "create [name] [password]"

Our hours are from 5 pm until 8 am CST weekdays, and 24 hours on weekends.


                        AfterFive BBS Help

READING COMMANDS                MISC COMMANDS
F     Read forward              Fortune  Your Fortune
L/P   Read last five/ten        C        Chat with other users (Bourbon St.)
N     Read new                  W        See who is logged on
O     Read old, backwards       QUIT     Terminate (Must be in all CAPS)
R     Read reverse              TIME     See the time and date
#     Read last X messages      @password old = new  Change your password
news  Read the news             @lastlog [name] When was name last logged on
help  This screen               config   Toggle message scrolling
info  Fetch information files   @whereis Locate a user in the DataBase

ROOM COMMANDS                       MAIL COMMANDS
S  Skips current room               @mail       Check your mail
U  Ungoto (returns to last room)    @read       Read your mail
D  Read room description            @delete     Delete your mail
Z  Zap (forget) room  Zapall        @renum      Renumber your mail
K  List of Known Rooms              @send       Send mail
E  Enter message                    @alias      Set a name/mail alias
G  Goto next room                   @unalias    Remove your alias
J  Jump ANY room                    @showalias  Shows player aliases
LZ List Zapped room list            page        page #help for more info
```

SkynetBBS

TELNET HPX5.AID.NO or 128.39.145.225
login: skynet

Currently there is only the message system with about 50 rooms and more being created all the time! We have lots of rooms looking for a roomaide so if you're feeling helpful why not drop us a line?

Belgium

Vrije Universiteit Brussel

Vrije Universiteit Brussel

```
TELNET RC1.VUB.AC.BE or 134.184.15.1
login: vubis
Select 1 for vt100 emulation
Select E for English

To exit, type X

 The VUBIS online system gives acces to several separate catalogues.
 Key the number preceding the desired catalogue.

 1  BOOKS AND SERIALS
    Collective catalogue of all books and serials in the "CENTRALE
    BIBLIOTHEEK", the "BIBLIOTHEEK GF" and in scientifif units of the VUB.

 2  ANTILOPE
    List of current periodicals in Belgian libraries.

 3  MEDIA CATALOGUE CAMPUS JETTE
    Catalogue of videotapes at the "BIBLIOTHEEK GF" (Campus Jette).
```

Canada

Acadia University
Athabasca University
Brandon University
Canada Centre for Mineral and Energy Technology
Carleton University
Concordia University
Dalhousie University
Lakehead University
Laval University
McGill University
McMaster University
Mount Allison University
Mount Saint Vincent University
Nova Scotia College of Art and Design
Ontario Institute for Studies in Education
Ottawa Public Library
Queen's University
Saint Mary's University
Simon Fraser University
St. Boniface General Hospital Library
Technical University of Nova Scotia
Trent University
Universite de Sherbrooke
University College of Cape Breton
University of British Columbia
University of Calgary
University of Kings College
University of Lethbridge
University of Manitoba Libraries
University of New Brunswick
University of Prince Edward Island
University of Saskatchewan
University of Toronto
University of Victoria
University of Waterloo
University of Western Ontario
University of Windsor
Wilfred Laurier University
York University

Queen's University

TN3270 QUCDNADM.QUEENSU.CA or 130.15.125.20

OPAC = NOTIS

To exit, use the TN3270 escape key.

University of New Brunswick

TN3270 UNBMVS1.CSD.UNB.CA
Choose option 8 to search PHOENIX

To disconnect, use the TN3270 escape key

Contact person:

Stephen Sloan
Librarian III
Engineering Library, University of New Brunswick
SLOAN@UNB.CA

University of Calgary

```
TELNET DEVELNET.UCALGARY.CA or 136.159.1.70
Request: LIBRARY
Select 0C as your brand of terminal
When the screen blanks, hit RETURN
Hit RETURN on the University of Calgary screen

To exit, use the TELNET escape key
```

York University

TELNET YORKLINE.YORKU.CA or 130.63.1.10
At the ENTER TERM TYPE: prompt, enter VT100
On the Yorkline screen, hit RETURN

OPAC = NOTIS

To exit, type X

University of Toronto

TELNET VAX.LIBRARY.UTORONTO.CA or 128.100.95.1
Username: utlink

OPAC = DRA

To exit, type 8 on main menu

McGill University

TN3270 MVS.MCGILL.CA
On the menu, choose option 2 (Muse)
Hit RETURN on the CICS screen

OPAC = NOTIS

To exit, type OFF

University of Western Ontario

Telnet GEAC.LIB.UWO.CA or 129.100.2.18
Hit ENTER after "Current terminal type =vt100"

OPAC = GEAC

To exit, type Control-D or use the Telnet escape key

University of Saskatchewan

TELNET SKLIB.USASK.CA or 128.233.1.20
Username: SONIA

OPAC = GEAC

To exit, type END

Athabasca University

TELNET AUCAT.ATHABASCAU.CA or 131.232.5.1
Username: AUCAT
Select 1 for catalogue

OPAC = BUCAT

To exit, type QUIT

Brandon University

TELNET LIBRARY.BRANDONU.CA or 142.13.16.4
Username: LIBCAT

OPAC = BUCAT

To logout, type QUIT, EXIT, or END

Mount Allison University

TELNET MACC1.MTA.CA or 138.73.1.1
Username: catalog
Enter 1 for English

OPAC = DRA

To exit, press CTRL-Z

University of Prince Edward Island

TELNET LIB.CS.UPEI.CA or TN3270 LIB.CS.UPEI.CA or 137.149.1.3
Username: bobcat

OPAC = DRA

To exit, hit CTRL-Z

Dalhousie University

Telnet NOVANET.DAL.CA or 129.173.1.22
Press RETURN to enter the catalog

OPAC = GEAC

To logout hit END or the Telnet escape key

Mount Saint Vincent University

Telnet NOVANET.DAL.CA or 129.173.1.22
Press RETURN to enter the catalog

OPAC = GEAC

To logout hit END or the Telnet escape key

Nova Scotia College of Art and Design

Telnet NOVANET.DAL.CA or 129.173.1.22
Press RETURN to enter the catalog

OPAC = GEAC

To logout hit END or the Telnet escape key

Saint Mary's University

TELNET NOVANET.DAL.CA or 129.173.1.22
Press RETURN to enter the catalog

OPAC = GEAC

To logout hit END or the Telnet escape key

Technical University of Nova Scotia

Telnet NOVANET.DAL.CA or 129.173.1.22
Press RETURN to enter the catalog

OPAC = GEAC

To logout hit END or the Telnet escape key

University College of Cape Breton

Telnet NOVANET.DAL.CA or 129.173.1.22
Press RETURN to enter the catalog

OPAC = GEAC

To logout hit END or the Telnet escape key

University of Kings College

Telnet NOVANET.DAL.CA or 129.173.1.22
Press RETURN to enter the catalog

OPAC = GEAC

To logout hit END or the Telnet escape key

McMaster University

TN3270 MCMVM1.CIS.MCMASTER.CA.
TAB to the COMMAND prompt
Type DIAL VTAM
At the ENTER YOUR LOGONID prompt, enter super
At the ENTER PASSWORD prompt, enter session
At the SNA SYSTEMS INTERCONNECT screen, enter s
At the SERVICE SELECTION screen, hit F9
At the SUPERSESSION APPLICATION SELECTION screen, hit F3

OPAC = NOTIS

To exit, use the TN3270 escape key

University of British Columbia

Requires id and password from the university.

TELNET LIBRARY.UBC.CA or TN3270 LIBRARY.UBC.CA or 137.82.29.239

University of Manitoba Libraries

Telnet UMOPAC.UMANITOBA.CA or 130.179.16.89
At the UML=> prompt, type BE

OPAC = PALS

To exit, type $$SOFF

St. Boniface	University
General Hospital	of Manitoba
Libraries	Libraries

BRIDGE

Welcome to the online public access catalogue. The PALS-based catalogue provides access to the collections of two institutions so users should note the system prompt to determine which institution they are searching.

If you are using the system for the first time, type: HELP
If you wish to search both libraries in the system, type: HELP SY
If you are using this system from outside a library, remember that to leave and return to the campus network, you must type: $$SOFF

PALS INSTRUCTIONS: Searching Other Libraries

The online public access catalogue contains bibliographic records from the following two libraries:

SBH -- St. Boniface General Hospital Libraries
UML -- University of Manitoba Libraries

The collection sizes for each library can be displayed by typing SIZE.

By default, all of your searches will be run against one library. However, you may also search either "the other" library or both of them together by using a location symbol immediately after your command name. For example:

AU SBH MILLER BENJAMIN FRANK
CO UML GODAVARI HAZARDOUS
TI SYS DENTISTRY AN ILLUSTRATED HISTORY

The symbol SYS will search both the SBH and UML collections.

If you wish to search extensively in another library, you may also change the default through the use of the SET LIB command. For instructions on this command, type HELP SZ.

UML=>help sz

PALS INSTRUCTIONS: Changing The Default Library

Normally, all of your searches will be processed against one default library, either SBH (St. Boniface General Hospital Libraries) or UML (University of Manitoba Libraries). You also have the option of searching either the other library or both of them together by inserting the location symbol immediately after your command name. The symbol for both is SYS. For example:

AU SBH MILLER BENJAMIN FRANK
CO UML GODAVARI HAZARDOUS
TI SYS DENTISTRY AN ILLUSTRATED HISTORY

If you wish to search extensively in another library, you may temporarily change your search default with the LIB command. For example:

```
SET LIB UML
SET LIB SBH
SET LIB SYS
```

When you use the SET LIB command, your system prompt will change to reflect the new search default. Following a period of inactivity, the system will return the search default for your terminal to its original setting and the prompt will revert back to normal.

St. Boniface General Hospital Libraries

Telnet UMOPAC.UMANITOBA.CA or 130.179.16.89
At the UML=> prompt, type BE

OPAC = PALS

To exit, type $$SOFF

St. Boniface	University
General Hospital	of Manitoba
Libraries	Libraries

BRIDGE

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If you wish to search extensively in another library, you may also change the default through the use of the SET LIB command. For instructions on this command, type HELP SZ.

UML=>help sz

PALS INSTRUCTIONS: Changing The Default Library

Normally, all of your searches will be processed against one default library, either SBH (St. Boniface General Hospital Libraries) or UML (University of Manitoba Libraries). You also have the option of searching either the other library or both of them together by inserting the location symbol immediately after your command name. The symbol for both is SYS. For example:

AU SBH MILLER BENJAMIN FRANK
CO UML GODAVARI HAZARDOUS
TI SYS DENTISTRY AN ILLUSTRATED HISTORY

If you wish to search extensively in another library, you may temporarily change your search default with the LIB command. For example:

```
SET LIB UML
SET LIB SBH
SET LIB SYS
```

When you use the SET LIB command, your system prompt will change to reflect the new search default. Following a period of inactivity, the system will return the search default for your terminal to its original setting and the prompt will revert back to normal.

University of Waterloo

TELNET WATCAT.UWATERLOO.CA or 129.97.58.151
Hit RETURN

OPAC = GEAC

To exit, type END

Lakehead University

```
Telnet THINK2.LAKEHEADU.CA or 192.75.62.204
Username: FACULTY

To exit:

Hit the PF1 key or
Hit ESC [P and the enter key
```

Trent University

TELNET TRENTU.CA or 192.75.12.103
Username: TOPCAT
At the TOPCAT Main Menu, select "1" for the Author/Title Catalogue or
"2" for the Keyword Catalogue

OPAC = DRA

To exit, type EX from the main menu

Contact:

Alan Darnell
Systems Librarian
Trent University Library
Peterborough, Ontario
(705)748-1538
adarnell@trentu.ca

Carleton University

```
Telnet LIBRARY.CARLETON.CA or 134.117.1.46
At the first OPTION prompt, type PROFILE vt100
At the second OPTION prompt, type HELP for commands

To exit, hit the Telnet escape key

 Commands: T   title                   e.g. T Studies in European politics
           A   author                  e.g. A Porter John
           LC  LC subject heading      e.g. LC housing and health
           DK  document keyword        e.g. DK mining companies
           K   keyword/subject         e.g. K biochemistry
           C   call number            e.g. C FC2041.G75
           RSV course no./prof's name  e.g. RSV 45.324 or RSV LAIRD

           DI or DI #   to display records from the index
           GET #        to display a specific record from a group of hits
           B            to browse backwards
           F            to browse forwards
           I            to display the current index

 Keys: RETURN (with no input)  - displays the directory
       (CR TO GO) - means press RETURN
 For assistance in using any command, enter HELP followed by the command.
 For additional commands enter HELP MENU or HELP MENU2 or HELP MENU3
```

Simon Fraser University

Telnet LIBRARY.SFU.CA or 128.189.32.14
Username: SFULIB

OPAC = GEAC

To exit, type END

Problems to libhelp@sfu.ca

University of Windsor

TELNET LIBRARY.UWINDSOR.CA or 137.207.128.49
Select 1 for Main library or 2 for Law library
Select vt100 terminal emulation

OPAC = NOTIS

To exit, type STOP

Ontario Institute for Studies in Education

TELNET ELOISE.OISE.ON.CA or 192.75.177.39
login: eloise

OPAC = MULTILIS

To exit hit PF1 or the Telnet escape key

Acadia University

TELNET AUAD.ACADIAU.CA or 131.162.2.77
login: opac

To exit, type Q

Concordia University

TELNET MERCURY.CONCORDIA.CA or 132.205.7.3
login: library

OPAC = INNOPAC

To exit, hit the Telnet escape key

University of Lethbridge

TELNET DARIUS.ULETH.CA or 142.66.6.10
login: library

OPAC = INNOPAC

To exit, type B

University of Victoria

TN3270 UVVM.UVIC.CA
At the VM/XA screen hit RETURN
Enter victor
Enter main for McPherson Library
or law for Law Library

OPAC = NOTIS

To exit, type stop

Laval University

TELNET ARIANE.ULAVAL.CA or 132.203.250.33
Username: ARIANE

OPAC = MULTILIS

To exit, hit the Telnet escape key

Universite de Sherbrooke

TELNET CATALO.BIBLIO.USHERB.CA or 132.210.170.12
login: bg

OPAC = MULTILIS

To exit, hit the Telnet escape key

Wilfred Laurier University

```
TELNET MACH1.WLU.CA or 192.54.242.17
login: public
Select library

To exit, type 8 on main menu
```

Canada Centre for Mineral and Energy Technology

Energy, Mines, and Resources, Canada

TELNET CANLIB.EMR.CA or 132.156.44.50
login: opac

OPAC = MULTILIS

To exit, hit the Telnet escape key

Ottawa Public Library

TELNET OTTLIB.CARLETON.CA or 134.117.1.28

OPAC = DRA

To exit, type 4 on main menu

Campus-Wide Information Systems

Canada

Carleton University Information Database
Dalhousie University Computing & Information Services
UDEMATIK: Service telematique de l'Universite de Montreal

Carleton University Information Database

```
Telnet INFO.CARLETON.CA or 134.117.1.149
Enter Terminal Type : decvt100

                    MAIN MENU
     1.  General Administrative Services
     2.  Academic Information: Departments, Programs, Services
     3.  Events & Entertainment
     4.  Directories: Staff, Student, Offices, EMail, Fax Numbers
     5.  Schedules: Class, Exam, itv, Bus Service, Sports
     6.  Employment: Job listings, Personnel Policy and Procedures Manual
     7.  Athletics: Facilities and Programs
     8.  Services for Students
     9.  Supportive Resources
    10.  Facts About Carleton
    11.  Library
    12.  Statistics Canada Daily Report
    13.  InfoMail: Suggestions and Comments
    14.  Index
    15.  Help
     /   Quit

        Note: enter the menu number next to
        the item you want, and press the return key.
```

UDEMATIK: Service telematique de l'Universite de Montreal

```
Telnet UDEMATIK.UMONTREAL.CA or 132.204.2.102
At the Votre terminal : prompt, type vt100
At the Votre terminal permet-il d'afficher les accents (Iso latin) ?
type N
                                          Bienvenue sur U D E M A T I K !
                          Service telematique de l'Universite de Montreal
     ------------------------------------------------------------------------
 U      A propos de UdeMatik...
 1      Avec ou sans accent ?  Configuration du set-up du terminal
 2      Consultation des programmes d'etudes, conditions d'admission
 3      Faculte d'education permanente
 4      Recherche thematique dans la banque des descriptions de cours
 5      Comparaison entre des programmes d'etudes
 6      Preparation aux etudes universitaires (prealables)
 7      Les Services aux etudiants (S.A.E.)
 8      LE bottin
 9      Les Services informatiques - InformaTrucs
 E      Etudes a l'UdeM - etudiants francais
 F      Fin de consultation
        Envoyez vos commentaires/suggestions a udematik@ere.umontreal.ca
```

Dalhousie University Computing & Information Services

```
TELNET AC.DAL.CA or 129.173.1.100
Username: DALINFO
                        Welcome  to  D a l I n f o
                   Dalhousie University Information Network
                Dalhousie University, Halifax, Nova Scotia, Canada

   Use TAB or ARROW KEYS to move to any topic; then press RETURN or ENTER

    HELP                                    Library Information
    What's New on DalInfo                   Security & Safety
    Index to Information on DalInfo         Special Announcements
    About DalInfo                           Sports and Dalplex
    Campus Events and Lectures              Student Activities
    Computing Services                      Employee Group Announcements
    Curriculum and Course Information       University Policies & Procedures
    Employment Opportunities/Training       University Services and Facilities
    Pot-pourri                              Exit DalInfo
--------------------------------------------------------------------------------
|     DalInfo is Dalhousie University's Campus Wide Information System,      |
|     a joint project of Public Relations and University Computing &         |
|     Information Services.  If you want to make a submission to DalInfo     |
|     you can send mail to DALINFO@AC.DAL.CA or phone 494-1323.              |
--------------------------------------------------------------------------------
```

Campus-Wide Information Systems

Germany

Informationsdienst am Rechenzentrum der Universitaet Freiburg/Brsg.
Informationssystem der Osnabruecker Hochschule
Infosystems der Westfalischen Wilhelms-Universitat Munster

Informationssystem der Osnabruecker Hochschule

```
Telnet JUPITER.RZ.UNI-OSNABRUECK.DE or 131.173.18.1
login:rzinfo
Password:rzinfo

        infOhs - Informationssystem der Osnabruecker Hochschule

      Bewegen Sie den Cursor zum gewuenschten Thema
      und druecken Sie [ENTER].

    infOhs Hilfe                          Zentrale Einrichtungen
    Ueber infOhs                          Uni Telefonverzeichnis
    Letzte Meldungen                      Die groesste Primzahl
                                          Exit infOHS

|-------------------------------------------------------------------------|
| Dies ist eine Versuchsinstallation von PNN am Rechenzentrum der         |
| Universitaet Osnabrueck.                                                |
| Weitere Information: Ivo Duentsch, duentsch@dosuni1.bitnet              |
|-------------------------------------------------------------------------|
```

Infosystems der Westfalischen Wilhelms-Universitat Munster

```
TELNET OBELIX.UNI-MUENSTER.DE or 128.176.0.11
login: inform
Select 1 for VT100
```

Informationsdienst am Rechenzentrum der Universitaet Freiburg/Brsg.

```
TELNET SUN8.RUF.UNI-FREIBURG.DE or 132.230.1.56
login: info
Password: info

---- Informationsdienst am Rechenzentrum der Universitaet Freiburg/Brsg.
------
                      Version  2.07  09.07.92  -=BB=-

                        Gruppe : H A U P T M E N U E
                        ---------------------------
                a  Grp: Aktuelle Informationen und Termine
                b  Grp: Letzte Aenderungen im Info-System
                c  Grp: Dienste des Rechenzentrums
                d  Grp: Schriften des Rechenzentrums
                e  Grp: Schriften der Universitaetsbibliothek
                f  Grp: Binaerdateien / Software

                          Bitte auswaehlen >

SEITE 1 von 2
Leertaste
            3 Neuanzeige       6 Kontext-Hilfe    9 Ende
----------------------------  ? Info
----------------------------------------
```

Campus-Wide Information Systems and Directory Services

Canada
Germany
United Kingdom
United States

Campus-Wide Information Systems

United Kingdom

Cambridge University Information Service
Edinburgh University Information Service
Lancaster University Information Service
London University Central Information Exchange
Nottingham University Directory Service
Oxford University OUCS Information Service
Queen Mary & Westfield College Info Server
University College of Swansea Info Server
University of Birmingham Information Server
University of Bradford Info Server
University of Bristol Info Server
University of East Anglia INFO
University of Leicester Network Info Service
University of Southampton Information Service
University of Sunderland Information Service
University of Surrey Info Server
University of Wales, Aberystwyth Information Server
University of York Information Server

Cambridge University Information Service

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.cam.info

    CAMBRIDGE UNIVERSITY PILOT INFORMATION SERVICE

Scope: Cambridge University Information Service

Type one of the following:
NEWS  - new entries and recent changes to this service
CS    - Cambridge University Computing Service
MICRO - microcomputers and personal systems
NET   - networking and other computing information
CU    - Cambridge University
UNI   - universities and academic community
GEN   - general information
GUIDE - guide to the Information Service
NOTES - notes on this scope
```

Oxford University

OUCS Information service

TELNET INFO.OX.AC.UK or 129.67.1.48
No login required

or

TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.oxford.info

Wed Aug 26 14:29 OUCS INFORMATION SERVICE CONTENTS Page 1 of 7

1 Help Information
2 Summary of Information Topics
3 University Telephone Directory
   3.1 STD Dialling Codes for the United Kingdom
4 University Electronic Mail Directory
   4.1 Email Distribution Lists
5 University Job Vacancies - Introduction & User Guide
   5.1 Job vacancies indexed by grade
   5.2 Job vacancies indexed by department
   5.3 Job vacancies indexed by dept, title, grade & salary
6 University Training Courses
   6.1 Induction Courses
   6.2 Courses for Academic Staff
   6.3 Courses for Academic-related and Non-Academic Staff
7 University's Current Pay Scales and Costs
8 The General Board's Non-Recurrent Equipment Grant Scheme
9 The General Board's Special Research Grant Scheme
10 Bridging Support Scheme for contract research staff
11 University Seminar Lists
12 Forthcoming Presentations/Conferences/Workshops
   12.1 Diary of forthcoming Graphical Events
13 Library Information
   13.1 OLIS - The Oxford Library Information System
      13.1.1 OLIS Member Libraries - brief details
   13.2 British Library move to St Pancras - Latest News
   13.3 BIDS - Online ISI Citation Indexes
      13.3.1 Assistants and Course List
      13.3.2 Bulletin No. 12
      13.3.3 Bulletin No. 13
   13.4 Central Bodleian Library - General Information
      13.4.1 Bodleian Library - Information Technology Update
      13.4.2 Readers' Guide to Specialist Acquisitions Staff
      13.4.3 BARD system - list of remote catalogues
   13.5 Radcliffe Science Library - General Information
      13.5.1 Radcliffe Science Library - IT Update
   13.6 Bodleian Law Library - General Information
   13.7 Indian Institute Library - General Information
   13.8 I.E.S. Library - General Information
   13.9 Rhodes House Library - General Information
   13.10 CD-ROM Union List for Oxford Academic Libraries
   13.11 List of OPACs available over JANET
14 Oxford University Computing Services Courses

14.1 Course Summaries
14.2 Course Dates - Trinity Term 1992
15 General Information from OUCS
15.1 OUCS Telephone Numbers
15.2 OUCS Shop Price List
15.3 Site licence software available from OUCS
15.4 Full NAG Library Deal
15.5 NAG Library for PCs and Workstations
15.6 Centre for Humanities Computing
15.7 List of OUCS Documentation
15.8 New and Withdrawn OUCS Publications
15.9 OUCS Newsletters
15.9.1 Newsletter 119 June 91
15.9.2 Newsletter 120 Jul/Aug 91
15.9.3 Newsletter 121 Sep 91
15.9.4 Newsletter 122 Oct 91
15.9.5 Newsletter 123 Nov 91
15.9.6 Newsletter 124 Christmas 91
15.9.7 Newsletter 125 February 92
15.9.8 Newsletter 126 March 92
15.9.9 Newsletter 127 April/May 92
15.9.10 Newsletter 128 June 92
15.10 List of Allocation Group Managers
15.11 Users' Group Introduction
15.11.1 Users' Group Representatives
15.11.2 Users' Group Minutes April 1991
15.11.3 Users' Group Minutes October 1991
15.11.4 Users' Group Minutes January 1992
16 National Software Deals from CHEST
17 Microcomputer Support and Information from OUCS
17.1 Micro-Advisory Queries
17.2 Microcomputer Suppliers
17.3 Microcomputer Special Offers
17.4 Computer Viruses
17.5 Micro Maintenance Scheme
17.6 Formats supported by Disk Conversion Service
17.7 PC-NFS 3.5
17.8 Public-Domain Software
17.8.1 TeX Software
17.8.2 FREEBEE index for IBM-PC Software - DOS
17.8.3 FREEBEE index for IBM-PC Software - DESQview
17.8.4 FREEBEE index for IBM-PC Software - OS2
17.8.5 FREEBEE index for IBM-PC Software - Windows
17.8.6 FREEBEE index for Macintosh Software - FINDER
17.8.7 FREEBEE index for Macintosh Software - Hypercard
17.8.8 FREEBEE index for X-Windows Software
17.8.9 FREEBEE index for Atari Software
17.8.10 FREEBEE index for Amiga Software
18 The Oxford Text Archive - Introduction
18.1 Oxford Text Archive - List of holdings
19 Networking
19.1 JANET hosts
19.2 Oxford University IP hosts
19.3 Oxford University IP Networks
19.4 Internet hosts
19.5 MHS Domains
19.6 MHS Userguide

19.7 EARN hosts
19.8 PSS - guide
19.9 PSS - charges
19.10 PSS - hosts
19.11 PSS - errors
19.12 Hints for getting through Gateways
20 Kermit - General Information
20.1 Introduction to the Kermit protocol
20.2 General Kermit User Guide
20.3 NEWS about Kermit
20.4 Kermit for VAX/VMS
20.5 Kermit for the IBM-PC running MS-DOS
20.6 Kermit for the Apple Macintosh
20.7 Kermit for the IBM-PC running MS-WINDOWS
20.8 Kermit for Unix systems - in C
20.9 Kermit for the BBC
20.10 Kermit for OS2 Micros
20.11 Other versions of Kermit

___
Find : Help : Quit : Select m (for topic m)
Beginning : End : Goto n (for page n) : Next : Previous
Enter command >

University of York Information Server

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.york.info

  + 1.    INFO_SERV           About the Information Server
  + 2.    CSERV               Computing Service information
  + 3.    LIBRARY             University Library information
  + 4.    CAREERS             Information from the Careers Service
  + 5.    DEPTS               Information from academic departments
  + 6.    UNIV                Who, what, where, when in the University
  + 7.    STUDENT_SERVICES    Information from the SU, GSA and others
  + 8.    EXTERNAL            Access to external information systems
  + 9.    CLASSIFIED          Classified advertisements
   10.    COMMENTS            Leave comments
```

University of Bristol

Info Server

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.bris.info

      1.  Directories and telephone lists
      2.  Equipment lists and prices
      3.  Courses, seminars and events
      4.  What and where in the University
      5.  Documents and publications
      6.  University minutes and papers
      7.  News and general information
```

Nottingham University

Directory Service

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.nott.dir
```

University of Leicester

Network Information Service

TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.le.info

TOPIC	INFORMATION	LAST UPDATED
BITNET	How to access BITNET and NETNORTH	6-Jan-1989
EARN	The European Academic and Research Network	6-Jan-1989
JANET	How to access the Joint Academic NETwork	23-Nov-1990
MAIL	Help for local users on sending network mail	6-Jan-1989
NEWS	Local site news	23-Nov-1990
PSS	How to use the BT data network to/from Leicester	6-Feb-1989

University of Wales, Aberystwyth

Information Server

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.aber.info

Please enter your terminal type and press return:- vt100

 1) UWA general information

 2) Computer Unit : General
 3) Computer Unit : NRS Information
 4) Computer Unit : Microcomputer Section

 5) Library Information
 6) The Careers Service

 7) Entertainment
 8) Travel

*****************************
 x) Exit                                          * If you have any comments
*
 h) Help                                          *   on this service, mail
*
                                                  * Jeremy Perkins - jwp@aber
*
 Please select 1-8, x, or h
*****************************
```

University of Birmingham Information Server

```
Telnet INFO.BHAM.AC.UK or 147.188.128.3
Select one of the following in response to login:

Select a Menu Name in response to login:

       help      -  Main Menu preceded by the Basic Help File
       info      -  The Main Menu
       status    -  Status of ACS Systems
       mail      -  Electronic Mail Addresses
       news      -  ACS Service News
       nrs       -  NRS (or JANET) X29 Addresses
       hensa     -  HENSA (formerly PDSOFT) Indexes
       phones    -  University Telephone Directory
       internet  -  Information on the Internet

Other Menu Names available include:
       acs, bulletin, events, macug, mbug, pcug, unixug, weather.
```

University of East Anglia INFO

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.uea.info

               UEA INFORMATION SYSTEM
               ----------------------
    CPC          ... UEA Computing Centre services.
    MEETINGS     ... UEA Newsletter Meetings Section.
    TELEPHONE    ... UEA Telephone directory.
    USERNAMES    ... UEA Electronic Mail Names.
    JANET        ... National JANET Addresses.
    XINFOS       ... External Information Systems.
    LIBGUIDE     ... UEA Library Guide to Services.
    OPAC         ... UEA Library Online Public Access Catalogue.
    STC          ... UEA Library Short-Title Catalogue.
    PERIODICALS ... UEA Library Periodicals.
    TRAVEL       ... Selected bus and train timetables.
    NOTES        ... Notes and Hints.
    COMMENTS     ... Leave a comment about INFO.
    EXIT         ... Exit from the information system.
```

University of Bradford Info Server

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.brad.info

                Internet Gopher Information Client v1.02
                 Root gopher server: gopher.brad.ac.uk

      1.  About the Bradford Information Service.
      2.  The University of Bradford/
      3.  Computer Centre/
      4.  Connect to Bradford Library [TEL]
      5.  Departments/
      6.  Miscellaneous/
      7.  Networks/
      8.  Other Gopher and Information Services/
      9.  Personnal Computers/
      10. Testing/
      11. U of Bradford FTP Archives/

Any comments or questions about this service: please write to
P.C.Sutton@bradford.ac.uk
```

University of Southampton Information Service

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.soton.info
Enter name/address : info

   MAIN MENU
1  General Information ............
2  Administration .................
3  Faculties ......................
4  Academic Services ..............
5  Research and Industrial Affairs
6  University Committees & Boards .
7  Staff Facilities and Support ...
8  Student Facilities and Support .
9  Sport ..........................
10 Entertainment ..................
```

University of Sunderland Information Service

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.sund.info

         University of Sunderland Information Service Main Menu

1  University Telephone Directory
2  Computing Services News
3  Computing Services Information
4  Computing Services System Availability
5  SPAN network
6  JANET network information
7  Departmental information

8  Send message to Systems staff
   (comments, suggestions, advice requests)

9  Search Public Domain software index
```

University College of Swansea Info Server

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.swan.info
login: info

      1.  OFFICIAL COLLEGE DOCUMENTS AND ANNOUNCEMENTS
      2.  TELEPHONE AND OTHER DIRECTORIES
      3.  LIBRARY
      4.  COMPUTER CENTRE
      5.  CAREERS
      6.  OTHER CENTRAL SERVICES AND FACILITIES
      7.  DEPARTMENTAL NEWS AND ANNOUNCEMENTS
      8.  PUBLIC INFORMATION (INCLUDES TRAVEL)
      9.  ABOUT THE INFO SERVER AND OTHER ENQUIRIES
```

Queen Mary & Westfield College Info Server

```
TELNET ALPHA.QMW.AC.UK or 138.37.6.1
login: info

      1.  Telephone Directory  (5 Jun 92)
      2.  NRS Network names  (1 Sep 92)
      3.  Student Registrations  (12 Mar 92)
      4.  Fortune cookie (application test)  (PROGRAM)

This is currently an experimental service, and any comments on it would
be most welcome.  Please use the Suggestion facility within the Server,
or send electronic mail to "R.S.Jones@uk.ac.qmw" as you prefer.
```

University of Surrey Info Server

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.surr
```

London University Central Information Exchange

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.lon.lucie

1  Help Information
2  Summary of Information Topics
3  EVENTS OF THE UNIVERSITY
4  LECTURES AND SEMINARS FOR STUDENTS AND STAFF OF THE UNIVERSITY
5  MEETINGS
6  NOTICES
7  PUBLIC LECTURES AND SEMINARS
8  PUBLICATIONS
9  STUDENTSHIPS SCHOLARSHIPS AND AWARDS
10 SYMPOSIUMS
11 WORKSHOPS
```

Lancaster University Information Service

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.lancs.info

                              Main-menu

1.  About the Information Service  (1 Sep 92)
2.  Telephone Directory  (6 Jul 92)
3.  Travel/Recreation/Catering
4.  University General
5.  Academic Services (Library/Computer)
6.  Academic Departments
7.  University Services
```

Edinburgh University Information Service

```
TELNET CASTLE.ED.AC.UK or 129.215.128.23
login: edinfo

                            E D I N F O

      1   READ THIS FIRST !!  13/10/92
      2   News and Events
      3   People (directories)
      4   Departments and Units
      5   University : Government, Administration, Services etc.
      6   City of Edinburgh and beyond
      7   Using EDINFO
```

Campus-Wide Information Systems

United States

Appalachian State University VideoText System
Citadel, the Military College of South Carolina
CU-LawNet: Columbia Law School Public information service
Columbia University
Cornell's CUINFO
Drake University
Iowa State University (CYNET)
KUfacts: University of Kansas On-Line Information System
Mississippi State University Information System
MIT TechInfo
New Mexico State University NMSU/INFO
New York University
New York University Medical Center
North Carolina State University Happenings!
Ohio State University
Pima Community College
PNN - Princeton News Network
Purdue University
Rensselaer Polytechnic Institute
Rutgers University Pilot Campus-Wide Information System: INFO
San Diego State University
Syracuse University (Prism)
University of Arkansas
University of Colorado CULINE
University of Delaware UDInfo
University of Denver
University of Maine UMServe: Public Service Resource Network
University of Maryland INFO
University of Minnesota
University of Minnesota - Duluth
University of Nebraska - Lincoln
University of New Hampshire's VideoTex
University of New Mexico UNM_INFO
University of North Carolina at Asheville INFO
University of North Carolina at Chapel Hill INFO
University of North Carolina at Greensboro MINERVA
University of North Carolina at Wilmington SEABOARD
University of Northern Iowa
University of Pennsylvania PENNINFO
University of Pennsylvania School of Medicine
University of Washington Information Navigator (UWIN)
Western Carolina University
Yale University ENTERPRISE

Columbia University

```
TELNET COLUMBIANET.COLUMBIA.EDU or 128.59.40.154
No login required

ColumbiaNet

Main Menu:

           1: Academic Information Systems
           2: CLIO Plus: Library Catalogs and Encyclopedia
           3: ColumbiaNet Public Information System
           4: Departmental Systems

           Q: to quit the ColumbiaNet system entirely

           And type the 'ESC' key TWICE to leave a session.
_____________________________________________________________
choose from 1 to 4; or Q
```

Cornell's CUINFO

```
Telnet 128.253.1.19 300

Different versions of telnet or TN3270 have different syntax for
defining the port. The following are the common ones:
telnet cuinfo.cornell.edu 300 or
telnet cuinfo.cornell.edu..300.
And some VMS versions want:
telnet cuinfo.cornell.edu /port=300

       C U I N F O - Cornell University's Electronic Information Source

Select...      For items such as...

      NEWS          Weather, Announce, Grad. Bulletin, Safety Reports, Updates
      EVENTS        Calendars, Athletics, Colloquia, Theatre, Music, Movies
      DIALOGS       Drug I.Q. Network, Mr. Chips, Uncle Ezra, Suggest
      SERVICES      Computing, Support, Housing, Transport, Food, Jobs, OEO,
                    Directories, Volunteer, Library

Or select a more general category like...

      ACADEM        Information about Cornell instruction and research
      ADMIN         Items from and about Cornell administrative offices
      ITHACA        General information for and about the Ithaca area

Or type the name of any specific CUINFO entry such as WEATHER, DIRECT, or
EZRA.
(Type INDEX for a list of available items, or DETAILS for descriptions.)

Contact: Steve Worona [SLW@CORNELLA]
```

MIT TechInfo

```
Telnet TECHINFO.MIT.EDU or 18.72.1.146
Enter your terminal type, or press RETURN for vt100

                        TechInfo main menu
                  1   About TechInfo
                  2   Around MIT - Offices & Services
                  3   Classified Ads
                  4   Computing
                  5   Courses, Schedules(Fall) & Calendars
                  6   Events
                  7   Information Desk (calendar & things to do)
                  8   Jobs
                  9   MIT Libraries
                 10   Ongoing Activities, Notices, & Clubs
                 11   Policies, Rules & Procedures
                 12   Potluck
                 13   Publications
                 14   Weather

Command:
Basic Commands: Main, Return, Find, Outline, Source, Clear, Advanced, Help,
Qui
```

New Mexico State University NMSU/INFO

```
Telnet INFO.NMSU.EDU or 128.123.3.7
Userid is INFO, and there is no password.

                 New Mexico State University -- Main Menu

NMSU/INFO
   1 - NMSU/INFO - Orientation              6 - Sports Information Services
                                                (News, Schedules, etc.)
   2 - Campus Phone Directory
                                            7 - Other Electronic
   3 - KRWG/TV - Program Information            Information Services

   4 - Placement and Career Services        8 - NMSU Library
       (Jobs, Recruiting Schedules, etc.)

   5 - Information Services                 9 - Schedule of Classes
       (News, Academic Calendar)

                                    [MAIN]
   Commands:   Help   Search   Backout   Main menu   Quit info

    Enter menu choice number or command:
```

NYU

Telnet INFO.NYU.EDU or 128.122.138.142

Welcome to INFO, An Information Resource of NYU's Academic Computing Facility

INFO is an experimental system for providing online information about some of the resources of NYU and the Academic Computing Facility. The INFO system offers an assortment of information, as well as HELP on the use of the NYU Computer System Selector (MICOM) and the campus-wide network (NYU-NET).

> Please report any difficulties to the ACF by selecting the PROBLEMS option from any INFO menu, by sending electronic mail to TIHOR@acfcluster.nyu.edu or by calling Gary Chapman at (212 998-3045).

NYU/ACF INFO System Main Menu

Choice	Description
BBOARDS	an assortment of electronic bulletin boards
DOWNLOADS	public domain software and documents for downloading
HELP	help in using various computers and network services.
INCLUDES:	
NYU-NET	NYU-NET ("the broadband","the network") and
MICOM	the NYU Computer System Selector ("micom","switch")
COURSES	Course catalog, schedule, and advisement information
FACILITIES	information about ACF hardware, software, and sites
INFORMATION	information from other information providers
STATUS	status and availability of computers, networks, services
PHONE	NYU phone book, and demonstration of some information browsers
NEWS	News and Weather
PROBLEMS	for reporting problems with the ACF INFO System
?	for information about the INFO system ** partial **
EXIT	to leave the INFO system

PNN - Princeton News Network

Telnet PUCC.PRINCETON.EDU or 128.112.129.99

When you see the VM 370 logo, clear it, and instead of logging on, enter pnn (case does not matter). Clear the information screen that appears (after reading it carefully of course) and you'll be in PNN.

PNN is a full-screen VM/CMS based system (the public version is slightly restricted). In the near future UNIX and HyperCard version will be available. PNN VM/CMS is available free on an as-is basis.

Contact: Howard Strauss [Howard@PUCC]

University of New Mexico UNM_INFO

```
Telnet UNMINFO.UNM.EDU or 129.24.8.235
login: unminfo
TERM = (vt100) vt100

         UNMINFO MAIN MENU                              Menu: MAIN

                 1.  Overview of UNMINFO
                 2.  General Student Information
                 3.  Event Calendars
                 4.  Student and Faculty/Staff Directories
                 5.  Catalogs and Class Schedule
                 6.  Special Interest Databases
                 7.  Library Access
                 8.  Connections to Other Systems

-------------------------------------------------------------------------------
   Enter numeric choice, menu name, 'H' for Help, or 'X' to Exit: 6

Contact: Art St. George [STGEORGE@UNMB]
```

University of North Carolina at Chapel Hill INFO

Telnet INFO.ACS.UNC.EDU or 128.109.157.1
Log on with username INFO.

W E L C O M E T O
Academic Computing Services
UNCVX1

Academic Computing Services
Information Center

1. HELP--Using INFO
2. Calendar
3. Job openings
4. Grant/funding opportunities
5. News
6. Campus Directory, catalogs, and lists
7. Ask INFO about...
8. Other Information Systems

Send suggestions to: INFO@UNCVX1 or Judy Hallman, UNC ACS CB#3460

Appalachian State University VideoText System

```
Telnet CONRAD.APPSTATE.EDU or 152.10.1.1
Login as info
Emulate a VT100

             Welcome to the Appalachian State University VideoText System
        This is an electronic bulletin board for the use of Students,
Faculty,
         Staff, and Visitors.  ONLY HIGHLIGHTED OPTIONS ARE AVAILABLE.
    95)  TO OBTAIN A QUICK LIST OF AVAILABLE INFORMATION
     1) Directories                    10) Ask Uncle Sigmund
     2) Employment                     11) Scholarly Resources
     3) Calendars and Events           12) Academic Programs/Courses/Seminars
     4) News                           13) Buy/Sell/Trade etc
     5) Facts About Appalachian        14) Career Development Services
     6) Libraries at Appalachian       15) Other Information Systems
     7) Univ Policies/Procedures       16) List Todays' Activities
     8) Computer Information           17) APPALCART ROUTES
     9) Student Activities & Programs
```

University of New Hampshire's VideoTex

```
Telnet UNHVTX.UNH.EDU or 132.177.128.58
USERNAME:  student (no password required)
Control-z to log off
VT100/VT200 terminal emulation
Contact person: Robin Tuttle (r_tuttle1@unhhh.edu)
```

North Carolina State University Happenings!

Telnet CCVAX1.CC.NCSU.EDU or 152.1.13.4
Login as info.
Emulate a VT100.
Logoff with Control-Z
Hardware/software: DEC/VTX
Contact: Harry Nicholos hmn@ncsuvax.bitnet

University of Pennsylvania School of Medicine

```
Telnet "128.91.254.116" 9010
                or whatever your system needs to
                connect directly to a port.

                 1   Academic Programs
                 2   Biomedical Library
                 3   Clinical Alerts
                 4   Journal Contents
                 5   Medical Newsletter
                 6   Medical Student Information
                 7   School of Medicine Events Calendars
Command:
Basic Commands: Main, Return, Find, Outline, Source, Clear, Advanced,
Help, Quit
```

University of Minnesota

Telnet VX.ACS.UMN.EDU or 128.101.63.1
Login: INFO
Assumes a VT100 terminal.

This is the first version of our CWIS (actually Multi-campus). It includes some newsletters, events calendar, policies, and campus descriptions. Comments are welcome, either via the "Respond" command in INFO, or to the following.

Contact:

Jim Miner +1-612-626-1091 jfm@vx.acs.umn.edu
Academic Computing Services 2520 Broadway Drive
University of Minnesota Lauderdale, MN 55113 USA

University of Arkansas

```
Telnet UAFSYSB.UARK.EDU or 130.184.7.11
At "Please enter your terminal id" enter 8
At "USERID" enter INFO
No password required

                  University of ArMain Menu

    This system utilizes the CUINFO program, placed in the public domain by
         Cornell University, Ithaca, New York.  Thank you, Cornell U.!

Title       Description                 Title      Description
---------- --------------------------   ----------
--------------------------
CALENDAR   University Calendars         DIRECT     E-mail Directory
HOURS      Building and Services Hours  POLICIES   Policies and Procedures
SUGGEST    Comments and Suggestions     TUTOR      UARK-INFO Tutorial

Type enough characters to identify a title, or press PF3 or ENTER to exit.
```

University of Minnesota - Duluth

```
Telnet UB.D.UMN.EDU or 131.212.32.6
Terminal emulation required = vt100
login = info
Main Menu item #10 allows connections to remote sites and
running of the Unix/VMS version of HYTELNET

                        UMD On-Line Information Service

Suggestions and comments are welcome. Mail suggestions to
fsimmons@ub.d.umn.edu

   1 General Campus Information
   2 Scholarship Information
   3 Administrative Information (Job Postings, Schedule Revisions, Calendars)
   4 News Releases (Media Relations, NRRI, Continuing Education, Currents)
   5 UMD Library and Database Information
   6 UMD Bookstore Information (Main Street Store, Bulldog Shop, Marketplace)
   7 UMD Computers and Computing Network Information
   8 University of Minnesota Student/Staff Directory
   9 Off-Campus Housing Information
   10 Connect to external databases and libraries
   11 Course Materials(Handouts,Syllabi,Instructor's Notes)
   12 About INFO - Campus Information System
================================================================================
===
Command:
Type [item#][RETURN] to select an item, "x" to exit the program,
     "/" to search, or "?" to get more help.
```

Syracuse University (PRISM)

```
Telnet ACSNET.SYR.EDU or 128.230.1.21
login with suvm
ENTER TERMINAL TYPE: vt100
At USERID ===> suinfo
Type suinfo once more

      Welcome to SUINFO! You will now be able to perform online searches
      on all publicly available databases currently carried by PRISM.
      Before proceeding, the following may be noted:

      *  This account may be used for PRISM searches only.
      *  Certain databases cannot be searched because of licensing
restrictions.
         You may search these databases by logging into SUVM the regular way.
      *  PRINTing, SENDing to a userid or the WRITEing to a computer file
         of your search result(s) has been disabled.
         Numerous error messages will be encountered if attempted!
      *  You must type LOGOFF to EXIT PRISM

                            Welcome to Prism
 File selection                                              33 files
available

 Select a file or service by typing its name below,
    or, press the Return key to see a list of all files,
    or, type a category number to see a list of files in that category:

    1.  General Interest
    2.  CWIS: Campus Wide Info. System (includes SCIS, Job Ops)
    3.  WOT: Network Accessible Resources
    4.  Demonstration
    5.  Application Development
    6.  Testing New Applications

                            Welcome to ERIC
     This file contains bibliographic  information  and abstracts for a
     variety of  EDUCATIONAL  documents  from the Educational Resources
     Information Center (ERIC).  The file contains all the ERIC data from
     1984 through the first quarter of 1991 (approximately 208507 records).
     You can search for items using one or more keywords from a variety of
     fields such as title, author, or abstract.

    *-------------------------------------------------------------------*
    |  For help call the ERIC Clearinghouse at 443-3640.                |
    |  To report technical problems contact: Jhychun Wang [JINWANG@SUVM]|
    |                                        x-2143                     |
    *-------------------------------------------------------------------*
```

University of Northern Iowa

```
Telnet INFOSYS.UNI.EDU or 134.161.11.5
login: public
Terminal Type: vt100

        Main Menu

    A - What's New on Infosys (updated 9/27/91)
    B - Tips on Using the Information System
    C - Computing Services (ISCS)
    D - Library
    E - Public Safety and Parking
    F - Registration: Closed & Available Classes
    G - Residence, Department of
    H - Student Organizations and Support Groups
    I - Suggestion Box (Ask Questions, Make Suggestions)
    J - Telephone Directories and Services
    K - Theatre
    L - University Calendar (through Spring, 1992)
```

San Diego State University

```
Telnet WINTERMUTE.SDSU.EDU or 130.191.2.20
login: sdsuinfo
                    SDSU Resource Access Service

        DATABASES           Available Online Databases
        PUBLIC              Public Access Systems
        UTILITIES           Miscellaneous Services
        SDSUInfo            Sources of Information for the SDSU Campus
        LIBRARIES           Access Library Catalogs on the Internet
        TELEPHONES          SDSU Campus Phone Directory
        WEATHER             San Diego Weather Forecast
        HELP                Help on the SDSU Resource Access Service menus
        ABOUT               About RAS and SDSUInfo
        REFRESH             Refresh the screen
        PREVIOUS            Go to the previous menu
        TOP                 Go to the top menu
        QUIT                Quit the menus
```

University of Denver

```
Telnet DU.EDU or 130.253.1.4
login: atdu

Welcome to ATDU.  Today's subjects are:

atdu ..................... Information about ATDU.                  Jul  2
1991
athena ................... Software Licenses to Expire on Athena    Apr 25
11:33
buffer ................... CaIR's Newjournal.                       (sub-menu)
computers-and-networks .. Computing and computer networks at DU.   (sub-menu)
employee-info ........... New jobs postings & info for employees.  (sub-menu)
events-and-schedules .....                                         (sub-menu)
features ................ fortune, time, weather, etc.             (sub-menu)
internet ................ Information about Internet.              (sub-menu)
new-system .............. Cassandra is ready!                      Mar 25
15:54
purchasing .............. News from the DU Purchasing Department.  (sub-menu)
suggestions ............. Questions, comments and suggestions.     (sub-menu)
telephone-services ...... DU phone directory and other phone info. (sub-menu)

Please enter a subject, "//help", or press RETURN to exit.
Subjects may be abbreviated by entering only the first few letters.
  Subject:  internet

Today's subjects are:

acceptable-use .......... Acceptable Use of the NSFnet Backbone    Apr 15
19:32
faq ..................... Frequently Asked Questions               (sub-menu)
ftp ..................... File Transfer Protocol (info & sites)    (sub-menu)
gold .................... There's Gold in them thar Networks!      (sub-menu)
hytelnet ................ Hypertext database of telnet sites       (program)
irg ..................... Internet Resource Guide                  (sub-menu)
termecho ................                                        (program)
zen ..................... Zen and the Art of the Internet          (sub-menu)

Please enter a subject, "//help", or press RETURN for the previous menu.
Subjects may be abbreviated by entering only the first few letters.
```

University of North Carolina at Greensboro MINERVA

```
Telnet STEFFI.ACC.UNCG.EDU or 128.109.200.3
Username: INFO

                        M   I   N   E   R   V   A

                        UNCG's INFORMATION SYSTEM
                        1  Bulletin Boards
                        2  Directories
                        3  Other Information Systems
                        4  Help on Campus
                        5  Help using MINERVA
```

Pima Community College

```
Telnet PIMACC.PIMA.EDU or 144.90.1.8
Username: PIMAINFO
VT100 terminal emulation needed

                          T O P   L E V E L

  P I M A I N F O          Suggestion/Comments
                 VTXMGR@PIMACC.PIMA.EDU or (602) 884-6809

   1.  WHAT IS PIMAINFO     2.  THE COLLEGE          3.  THE STUDENT
   First time users can     Campuses & Centers,      Getting Started at
   start here.              College Profiles,        Pima, When & Where to
   Now Showing:             Mission Statement,       Register, Tuition,
   Keyboard Equivalents     & much more.             Classes, Access Your
                                                     Student Information.


   4.  THE PROVIDERS        5.  LIBRARY SERVICES     6.  MASTER INDEX
   Information Providers    ONLINE LIBRARY CATALOG   Access Options you
   update their areas of              &              want the quick and
   responsibility.                 --LIBS--          easy way.
                              Internet  Access
                            GATEWAY TO THE WORLD


                  Select an Option that best fits your needs:

                      To Exit PIMAINFO ====> Enter EXIT
```

University of North Carolina at Wilmington SEABOARD

```
Telnet VXC.UNCWIL.EDU or 128.109.221.3
Username: INFO

                UNIVERSITY OF NORTH CAROLINA AT WILMINGTON
                              SeaBoard
                  Your Campus Online Information System

        1   UNCW Videotex HELP                 6   Randall Library Services
        2   UNCW Facilities Schedules          7   Academic Information
        3   Phone Directories                  8   Faculty & Staff Interests
        4   Schedule of Classes                9   [future expansion]...
        5   Institutional Facts               10   News and Publications

                    98   Other Videotex Systems
                    99   What's New on SeaBoard

          Questions??? Contact Eddy Cavenaugh ext. 3427 or CAVENAUGHD
```

University of Colorado CULINE

```
Telnet CULINE.COLORADO.EDU or 128.138.129.2
login: culine
Use vt100 emulation
                      CULINE - CU On-Line Services
    Move the cursor with the arrow keys to any topic below and press Return
    HELP
    Activities.................Athletics, CEB, Films, Rec Center, Theatre
    Campus Services.........Ralphie, Computing, Diversity, Jobs, Libraries
    Community Services...........CARL, Renting, Travel, Weather, Airporter
    Compendia...................411, Calendar, Clubs, FAX, Services, Stats
    Faculty/Staff Info..........Admin, AMS, A/P, BCSC, B&C, Emp Devel, FCQ
    Student Admin Info.........Advising, Bursar, Fin Aid, Honors, Registrar
    Indexed Menu.....................Complete Alphabetized Menu of Topics
    Recent Updates to CULine

University of Colorado at Boulder On-Line Services are brought to you by
Computing and Network Services, with support from the student computing
initiative. CULine information is supplied by many sources. We make
every effort to ensure its timeliness and reliability but can't be held
responsible for its complete accuracy. Call 492-3867 to comment about
CULine.
```

University of Maryland INFO

```
Telnet INFO.UMD.EDU or 128.8.10.29
login: info
Select vt100

  1     BUDGETIMPACTS     Directory    22 Oct, 1991 09:48
  2     Computers         Directory    21 Oct, 1991 15:13
  3     EconData          Directory    05 Jun, 1991 00:00
  4     Literature        Directory    18 Oct, 1991 16:52
  5     Macintosh         Directory    27 Oct, 1991 19:00
  6     NewsLetters       Directory    19 Aug, 1991 12:30
  7     PC                Directory    25 Oct, 1991 01:30
  8     USGovt            Directory    06 Aug, 1991 16:13
  9     UofMaryland       Directory    26 Sep, 1991 11:31
 10     Weather           Directory    25 Oct, 1991 08:03
 11     World             Directory    18 Sep, 1991 15:13
 12     info.cat          File         27 Oct, 1991 19:00    56920 bytes
 13     update.cat        File         27 Oct, 1991 07:00    12206 bytes
 14     welcome           File         12 Sep, 1991 11:32     1782 bytes
```

ENTERPRISE: Yale University Campus Information System

```
Telnet "130.132.1.4" 300
At the "No data to write to network" message, hit Enter key
To exit type /CANCEL

NOTE:
Different versions of telnet or tn3270 have different syntax for
defining the port.

The following are the most common:
TELNET yalevm.ycc.yale.edu 300
TELNET yalevm.ycc.yale.edu::300
or  TELNET yalevm.ycc.yale.edu..300

     E N T E R P R I S E -- Yale University Campus Information System

Title      Description                    Title      Description
ABOUT      Enterprise Information         MEDGRANT   Biomed.-Behav. Research
Info
CALENDAR   Yale Calendar                  MOVIES     Movies on Campus
CATALOGS   Internet Library Catalogs      NEURO      Neuroscience at Yale
COLLEGES   Residential College News       OMNIBUS    Yale Computing Monthly
COMPUTING  Computing Services on Campus   PHYSPLANT  Air Filter Maint.
Schedule
CONCERTS   Yale School of Music           RADIO      Campus Radio Stations
COURSES    Fall 1991 Course Supplement    REPORT     M&P Job Evaluation
Committee
DINING     Dining Halls Menus & Info      SCILIBS    Science Libraries
DIRECTORY  Yale Directories               SYLLABI    Course Syllabi
EVENTS     Weekly Calendar Events         THEYALE    The Yale
GOVDOCS    Government Documents Center    TUTORING   Yale Tutoring Programs
GUESTSUITE Harkness Guest Apartments      UCS        Undergraduate Career
Service
HERALD     Yale Herald                    WEATHER    Yale Forecast & Info
JOBS       Yale Employment Openings       UPDATES    Enterprise Topic Updates
```

University of Pennsylvania PENNINFO

```
Telnet PENNINFO.UPENN.EDU or 128.91.254.116
TERM is vt100-nam

                    PennInfo Main Menu
 1   READ ME FIRST
 2   READ ME - About the Asterisk (*)
 3   About PennInfo
 4   About the University of Pennsylvania
 5   Business Services
 6   Campus Activities and Services
 7   College of Arts & Sciences
 8   Computing
 9   Financial Policy Manual
10   Grants & Fellowships
11   Human Resources
12   Libraries
13   School of Engineering and Applied Science (SEAS)
14   School of Medicine
15   Student Financial Services (SFS)
16   Transportation and Parking
17   University Calendars and Events
18   University Police (UPPD)
19   Wharton
20   What's new on PennInfo
```

INFO: Rutgers University Pilot Campus-Wide Information System

```
Telnet INFO.RUTGERS.EDU or 128.6.26.25
No login required

INFO: Rutgers University Pilot Campus-Wide Information System
Main Menu Commands...
Command              Purpose
-------              -------
About_Rutgers        General Information about the University
Academics            Courses, Schedules, Registration, Special programs
Computing            Computing facilities, services and network information
Campus               Courses and events specific to each campus.
Directories          Phone directories, Faculty research info., Univ. Forms
Using_INFO           What is INFO, how to use it, how to send suggestions
Library              Libraries, information resources, reference material
News_n_Events        News, Weather
Services             Students,Faculty/Staff services, police info
University           University , Community
For other info, call the Student Info. and Assistance Center at 932-9090.
```

Rensselaer Polytechnic Institute

```
Telnet INFOTRAC.RPI.EDU or 128.113.43.199
No login required
VT100 terminal emulation required
At the "Welcome to InfoTrax" screen, select  CAM
To exit, type STOP

                        CAMPUS INFORMATION
      FILE                                      TYPE

              CAMPUS DIRECTORY.....................DIRectory
              CAREER DEVELOPMENT CENTER
                  FOCus Program & JOB Openings.....CAReer
              NEWS AND COMMUNICATION...............NEWs
              OFFICE OF CONTRACTS AND GRANTS.......GRAnts
              UNDERGRADUATE RESEARCH PROGRAM.......URP
              INFORMATION TECHNOLOGY SERVICES......ITS
              CURRENT JOB OPENINGS.................CJO
              PARKING OFFICE.......................PARking
              OFFICE OF ALUMNI RELATIONS...........ALUmni
```

University of North Carolina at Asheville INFO

```
TELNET UNCAVX.UNCA.EDU or 152.18.1.1
At the Username: prompt, type INFO

      University of North Carolina at Asheville Information System

     1   About INFO
     2   Campus Directory
     3   Course/Class Information
     4   Facilities & Services
     5   Events
     6   News & Publications
     7   Other INFO Systems
     8   UNCA Statistical Data
     9   Academics
    10   Weather Forecast
    11   Personnel/Job Vacancies

Commands:   Help   Quit Info
```

University of Delaware UDInfo

```
TELNET UDINFO.UDEL.EDU or 128.175.13.45
Press RETURN
At ENTER TERMINAL TYPE: enter vt100

  UDInfo                                                              Main
Menu

       Manuals                                                        LABEL
      1 University of Delaware Policy and Procedures Manual           popr
      2 Faculty Handbook                                              facl

       Newspapers
      3 The Review                                                    revw
      4 UpDate                                                        updt
      5 Computing News                                                ncns
      6 Newspapers: Review, UpDate AND Computing News                 news
      7 Calendar of Events                                            date
      8 Minutes: PAC and SAC Meetings                                 mins
      9 Help: How To Use UDInfo                                       info
     10 News About UDInfo   (updated: 1/31/92)                       nooz
```

Mississippi State University Information System

```
Telnet ISIS.MSSTATE.EDU or 130.18.80.11
login: msuinfo
Select vt100 terminal emulation

                  1   *Hot News*
                  2   About MSUInfo
                  3   Academics
                  4   Calendars and Schedules
                  5   Campus Units and Services
                  6   Community
                  7   Computing and Networking
                  8   Directories
                  9   Employment
                 10   Facts about MSU
                 11   Libraries
                 12   News about MSU
                 13   Newsletters
                 14   Policy and Procedures Manual
                 15   Research
                 16   Student Services
                 17   Continuing Education
```

Drake University

```
Telnet ACAD.DRAKE.EDU or 192.84.11.1
At the Username: prompt, type   DRAKEINFO

                DRAKE UNIVERSITY CAMPUS-WIDE INFORMATION SYSTEM
_____________________________________________________________________DRAKE/INFO
 1 About DRAKE/INFO                       11 Hubbell Dining Services
 2 Campus Directory                       12 Campus Activities
 3 Academic Information                   13 Grant Information
 4 The Career Center                      14 Recreational Services
 5 Student Financial Planning            15 Faculty Announcements
 6 Campus Security and Emergency         16 Adult Student Resource Center
 7 Student Development Services          17 Student Government
 8 Academic Computer Services            18 Olmsted Center Hours
 9 University Library
10 Sports Information
                         88 USA TODAY Update
                         99 National Weather Service Forecasts

_____________________________[Main]_____________________________
                     Help   Search   Backout   Main   Quit
```

University of Nebraska - Lincoln

```
Telnet CRCVMS.UNL.EDU or 129.93.1.2
Username: INFO

      University of Nebraska-Lincoln
      Information System -- Main Menu

   1 Campus Activities and Programs
   2 Computing Resource Center
   3 News and Information
   4 Organizational Meetings
   5 Student Judicial Affairs
   6 University Calendar of Events
   7 University Press

  Select: E     M-Main Menu,  E-Exit to Submenu,  Q-Quit,          H-HELP,
                N-Next Page,  P-Previous Page,    G-Go to Screen #
```

University of Maine

UMServe: Public Service Resource Network

Telnet URSUS.MAINE.EDU or 130.111.64.1
login: ursus
Select B from Main Menu
Select 5 from next menu
To exit, return to Main menu and hit D

University of Maine System
UMSserve
Public Service Resource Network

P > PERSONAL NAME
O > ORGANIZATION
S > SUBJECT
W > KeyWORDS
L > LOCATION
U > UMSserve News
R > RETURN to the library catalog

UMSserve is a catalog of system-wide public service resources.

Western Carolina University

```
Telnet WCUVAX3.WCU.EDU or 152.30.1.3
Username: INFO
                          W C U I N F O
                        M A I N  M E N U

 1  Directories                          8  Computer Information
 2  Employment                           9  Courses/Seminars
 3  Calendars                           10  Committee Reports
 4  News                                11  Scholarly Resources
 5  Facts - Western Carolina University 12  Faculty/Staff Expertise
 6  Reserved - future development       13  Other Information Systems
 7  University Policies/Procedures      14  Reserved - future development
```

New York University Medical Center

```
Telnet MCCLB0.MED.NYU.EDU or 128.122.135.4
Username: INFORMATION

            Research Computing Resource: Information Service

     1   Get NYUMC Phone-Book Information
     2   Read NIH's CLINICAL ALERT Information
     3   Read NIH-Guide Information
     4   Read the  Local  (USENET) NEWS (MC Version)
     5   Read the Network (USENET) NEWS (WSq Version)
     6   Connect to the the NYUMC Gopher
     7   Connect to the ACF Information Server
     8   List Available Bulletin-Boards
     9   Read a Selected Bulletin-Board
     10  Connect to the NYUMC Ehrman Library System
     11  Instructions to TELNET to BOBCAT or another node
```

Ohio State University

```
TELNET OASIS.ACS.OHIO-STATE.EDU or 128.146.216.15
login: oasis

        W E L C O M E   T O   T H E   O A S I S   T E S T   M E N U
                OSU Academic Services Information System

     OASIS is the campus wide information system for The Ohio State
     University.  You have connected with a non-login pilot test menu
     that displays one of the many services available on the full OASIS
     system.

     No userid or password is required to use this service and therefore
     it is considered to be a non-login service.  This menu is a pilot
     test and the service may be removed without warning.

     The current limited menu provides a listing of the Master Schedule
     of Classes for Ohio State.  Additional menu items will be added to
     this non-login service in the near future.

     Please mail comments to oasis@magnus.acs.ohio-state.edu.
```

Iowa State University (CYNET)

```
TELNET ISN.IASTATE.EDU or 129.186.99.14
At DIAL: prompt, type  cynet

 1. General University information.
 2. Information concerning a specific college, curriculum or major
 3. Schedules of Classes
 4. General instructions for using CYNET
 5. Advanced instructions for using CYNET
 6. News and announcements about CYNET
```

KUfacts: The University of Kansas

On-line Information System

TELNET LYNX.CC.UKANS.EDU or 129.237.1.30
Login: info

How to use this system
Organizations, Events, and Activities
Departmental Information Services
Reference Shelf
Internet Toolbox
New Features
Key-stroke commands

Purdue University

```
TELNET OASIS.CC.PURDUE.EDU or 128.210.7.41
login: ssinfo
                    Student Services INFormation On-line
    ****** Check Option 10 for SSINFO's PRINT and MAIL capabilities ******
================================== MAIN MENU
==================================
OPTIONS   DESCRIPTIONS                                Provided by       Updated
-------   ---------------------------------------------------
-----------
   1      Purdue Phone Directory ................... Registrar      Bi-weekly
   2      Student Employment Opportunities ..... Financial Aid        Daily
   3      Tutor Directory ................... Dean of Students        Weekly
   4      University Calendars ..................... Registrar      Bi-weekly
   5      The Loan Counselor ................... Financial Aid     Per
Semester
   6      Off Campus Housing ................. Dean of Students        Daily
   7      Final/Evening Examination Schedule ............. SMAS     Per
Semester
   8      Boiler Connection.................. Dean of Students      As Needed
   9      Renewing PUCC Accounts......................... PUCC        Daily
  10      SSINFO PRINT/MAIL capabilities and BUGS .. Registrar      As Needed
Note:  We would appreciate any comments on this system.  Please direct your
       comments to the Office of the Registrar by phone (46147) or electronic
       mail (ssinfo@oasis.cc.purdue.edu). Purdue University is an equal
access/
       equal opportunity university.
```

University of Washington Information Navigator (UWIN)

```
TELNET UWIN.U.WASHINGTON.EDU or 140.142.42.1

  Welcome to the University of Washington Information Navigator (UWIN)

                              Main Menu

            Press one of the following keys to get started.

               A - About:  A brief description of UWIN
               ? - Help:   How to use UWIN, where to get help
               Q - Quit:   Quit UWIN
               V - View:   View news about UWIN
               I - Index:  Go to the index of UWIN information services
               S - Start:  Start an information service

   UWIN News!  UWIN 1.0 released.  Please see UWIN news for details.

? UWIN Help Q Quit       A About UWIN  V View News   I Index       S Start
```

Citadel, the Military College of South Carolina.

```
TELNET CITADEL EDU or 155.225.6.2
Username: INFO

             INFO Main Menu

 Citadel Phone Book (PB)
 Emergency Phone Numbers
 Library...
 USA Today (a Library service)...
 Corps of Cadets...
 Press Releases
 Computers and Networks...
 Purchasing and Property Information...
 Athletics...
 Committee Information and Minutes...
 Faculty Vitae...
 How to use INFO...
 Exit to $ prompt
```

CU-LawNet: Columbia Law School Public information service

```
TELNET SPARC-1.LAW.COLUMBIA.EDU or 128.59.176.78
login: lawnet
                        CU-LawNet Info System

 1 - Law Library Catalog PEGASUS
 2 - University Catalog  CLIO
 3 - Law School Info Server
 4 - Law School Academic Services
 5 - Law School Career Services
 6 - ColumbiaNet
 7 - Advanced World wide library access (HytelNet)
 h - Help message
```

Denmark

Aarhus University
Aalborg University
ALBA
Danish Natural and Medical Science Library
Dansk BiblioteksCenter
Denmarks Technical Library
PEPSY
Roskilde University
Royal Danish Library
University of Copenhagen
University of Odense

Danish Natural and Medical Science Library

```
TELNET COSMOS.DNLB.BIB.DK or 129.142.160.101
Username: COSMOS
At the CCL> prompt type DIA ENG for English interface

                              Welcome
                          to DNLB and COSMOS
                    Online catalog and ordering system

    CCL> INFO       for screens of general information on the system
    CCL> HELP or ?  for windows of screen specific help
    CCL> DO or !    for a window of possible commands to enter
    CCL> WHY        for a window of the last 16 commands you entered
    CCL> DIA DAN    to change the dialogue language to Danish
    CCL> CCL        to return to this screen
    CCL> STOP       to end the session and logout
```

Royal Danish Library

TELNET 129.142.161.005
Hit the ESCAPE key
At the att prompt, type rex
At the password prompt, type kb rex
Type dia eng
For the English guide, type ?guide

REX is the online catalogue of the Royal Library and its associated institutions, whose collections concentrate on the humanities, the social sciences and theology: the two libraries of the University of Copenhagen, Fiolstr{de and Amager, and many of the departmental libraries at the Univ. of Copenhagen.

REX contains RECORDS of the books, periodical titles, printed music and other documents acquired after 1980 as a general rule. Such records correspond to the catalogue cards in a physical library catalogue. Periodical titles are included, but NOT articles in periodicals.

The English REX guide begins with 6 introductory help screens which explain through brief examples how to search in REX. A sample of the display possibilities is also provided.

Further English language information is available on certain essential aspects of REX. These more specialized help screens are ordered in four other groups of screens. The contents of these screens are displayed in Menu II. To view Menu II, TYPE ?mii (enter).

University of Copenhagen

TELNET 129.142.161.005
Hit the ESCAPE key
At the att prompt, type rex
At the password prompt, type kb rex
Type dia eng
For the English guide, type ?guide

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Further English language information is available on certain essential aspects of REX. These more specialized help screens are ordered in four other groups of screens. The contents of these screens are displayed in Menu II. To view Menu II, TYPE ?mii (enter).

Aalborg University

```
TELNET AUBOLINE.BIB.DK or 129.142.49.63
Press RETURN
At the > prompt, type def

To exit, hit the TELNET escape key
```

ALBA

ALBA is a library database containing a variety of databases.

TELNET ALBA.BIB.DK or 129.142.6.119

To exit, unknown

Dansk BiblioteksCenter

This is a service that charges for use. I do not have the registration information.

TELNET BCINFO.BIB.DK or 130.225.233.9
Login: artb
Press ESCAPE
At the att prompt, type bcinfo
At the > prompt, answer with your userid and password

To exit:

Type logout
Press CTRL-D

Denmarks Technical Library

You must acquire an account. Contact: Danmarks Tekniske Bibliotek; Anders Engelunds Vej 1; Lyngby, Denmark.

TELNET ALIS.BIB.DK or 129.142.160.129

To exit, well, we don't know...

PEPSY

Contains Nordic literature on peadagogics. Userid and password is required, but I do not have instructions on how to get them.

TELNET VMS2.UNI-C.DK or 129.142.6.68

To exit, unknown

Roskilde University

```
TELNET FIND.UNI-C.DK or 129.142.6.72
Login: find
At the brugerkode prompt, type rubikon
Type 1 to select terminal type

To exit, type stop
```

University of Odense

TELNET ODIN.BIB.DK or 129.142.135.15
Login: odin
When you see the message "connected to oub9000", press ESCAPE
At the "att" prompt, type odin
At the > prompt, type odin

To exit:

Type stop
Press CTRL-D when prompted to

Aarhus University

```
TELNET HELIOS.AAU.DK or 129.142.17.239
login: rc9000
Press ESC
At att prompt type  sol
At next prompt write  sol sol

To exit, hit the Telnet escape key

There is no english-language online help or manual, the electronic
catalogue only goes back to 1979 . The library as such has about 2
million volumes.
```

Whois / White Pages / Directory Services

Australian White Pages Pilot Project (Adelaide)
Australian White Pages Pilot Project (Monash)
Australian White Pages Pilot Project (Queensland)
Australian White Pages Pilot Project (Sydney)
British Telecom's "Electronic Yellow Pages" Service
CSO Nameservers
DDN Network Information Center (NIC)
JANET Public Access Directory Service
Knowbot Information Service at nri.reston.va.us
Knowbot Information Service (Bucknell University)
Legal Information Institute Directory Server
Lund University Information System
Netfind: AARNet, Melbourne, Australia
Netfind: OpenConnect Systems
Netfind: Pontificia Universidad Catolica de Chile
Netfind: University of Colorado
Netfind: University of Minnesota
Ohio State University WHOIS Service
PARADISE - the COSINE Interactive Directory Manager
PARADISE Directory Service (CICA, Spain)
PARADISE Directory Service (DKUUG, Denmark)
PARADISE Directory Service (GARR, Italy)
PARADISE Directory Service (Imperial College)
PARADISE Directory Service (IRIS-DCP, Spain)
PARADISE Directory Service (Liverpool University)
PARADISE Directory Service (Manchester University)
PARADISE Directory Service (Sussex University)
PARADISE Directory Service (Sweden)
PARADISE Directory Service (Trinity College, Dublin)
PARADISE Directory Service (University of Leeds)
PARADISE Directory Service (University of London Computer Ctr)
PARADISE Directory Service (UPC, Spain)
PSI White Pages Pilot Project
Swiss Electronic Phone Book
University of California at Berkeley Network Information Server
University of Maryland Umail
USENET contributor e-mail addresses
WHOIS searches
X.500 service at Aston University (QUIPU)
X.500 service at Brunel University
X.500 service at FUNET, Finland
X.500 service at University of Kent (QUIPU)
X.500 service at King's College
X.500 service at University of Manchester (QUIPU)
X.500 service at Manchester Computing Centre (QUIPU)
X.500 service at Manchester Institute of Science and Technology (QUIPU)
X.500 service at University College London

See also the Campus-Wide Information Systems and Directory Services
Canada
Germany
United Kingdom
United States

Australian White Pages Pilot Project (Adelaide)

```
TELNET WHITEPAGES.ADELAIDE.EDU.AU or 129.127.40.3
Login: fred
Password: fred

The following clients are available to allow you to access the White Pages
database -
        fred    this client provides a line orientated interface similar to
                the whois service.
        pod     This client provides a "nifty" X style interface
        sd      A screen based client of similar functionality to xd.

Note: Only fred allows you to modify your entry (at this time).

If you want X windows access, please enter your DISPLAY name,
e.g., myhost.dept.adelaide.edu.au:0.0

We are running DNS so you shouldnt have to enter the IP number, the full
qualified name should work.

DISPLAY=fred

Select one of the following clients (dish pod fred de doog xtdua): fred

Try   "help" for a list of commands
     "whois" for information on how to find people
    "manual" for detailed documentation
    "report" to send a report to the white pages manager

To find out about participating organizations, try
    "whois -org *"
```

British Telecom's "Electronic Yellow Pages" Service

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.niss
Select U on the NISS Gateway menu
Select E on the Information Services in the UK menu
Press RETURN until Log On Screen appears
Select 1 for vt100 emulation
To log off, follow the menu

                    ELECTRONIC YELLOW PAGES
              * * * * * * * FRONT MENU  * * * * * * *

                             OPTIONS
                  [1] SEARCH FOR COMPANIES
                  [2] HOW TO USE EYP
                  [3] HOW TO ADVERTISE ON EYP
                  [4] QUICK GUIDE TO EYP
                  [5] SEND US A MESSAGE
                  [6] THE EYP HELPLINE
                  [7] CONDITIONS OF USE
                  [H] HELP
                  [E] EXIT
```

DDN Network Information Center (NIC)

```
Telnet NIC.DDN.MIL or 192.112.36.5
No login required

* For TAC news, type:                TACNEWS [return]
* For user and host information, type: WHOIS [return]
* For NIC information, type:             NIC [return]
*
* For user assistance call (800) 365-3642 or (800) 365-DNIC or (703) 802-4535
* Please report system problems to ACTION@NIC.DDN.MIL

A T1 connection is now installed directly to the Internet.

The DDN Network Information Center (NIC) is located at the DDN
Installation and Integration Support (DIIS) program office in Chantilly,
Virginia.  The NIC is funded by the Defense Information Systems Agency
(DISA), Defense Network Systems Organization (DNSO).  The NIC is
responsible for providing general reference services to DDN users via
telephone, electronic mail, and U.S. mail.

The NIC also provides databases and information services of interest to
network users, including the WHOIS registry of network users, the
NIC/Query browsing system, TACNEWS, and the official DoD Host Name
Service.  The NIC maintains the RFC (Request for Comments) collection.
Many of the online files are available through the NIC's automatic mail
service, SERVICE@NIC.DDN.MIL.

Among its other duties, the NIC
      *  registers hosts and domains,
      *  assigns IP network numbers and Autonomous System Numbers (ASNs),
      *  provides hostname translation tables and domain name system server
         files to the DDN and the Internet,
      *  registers network users,
      *  issues MILNET TAC Access Cards.

For more information on this service get:

Bjork, Steven, et al., eds.  DDN new user guide.  From a Bitnet
     site, send email to SERVICE@NIC.DDN.MIL and in the subject
     line put NETINFO NUG.DOC.  Some background information on
     using The Internet, but mainly oriented to Defense Data
     Network users.  Also available via FTP from NIC.DDN.MIL.
```

Knowbot Information Service

at nri.reston.va.us

```
TELNET "132.151.1.1" 185
or whatever it takes for you to connect directly to a port

The "Knowbot Information Service" (KIS) is a "white pages" service that
allows you to query one service and have it search several other address
databases of various sorts for addresses matching your query.

DESCRIPTION
     netaddress is an information service that provides a uniform
     user interface to heterogeneous remote information services.
     By submitting a single query to netaddress a user can search
     a  set of remote information services and see the results of
     the search in a uniform format.

EXAMPLES
     In the following examples, `%' is the UNIX prompt and `>' is
     the netaddress prompt.

     % netaddress droms
             Searches the default list of directory  servers  for
             user ``droms''.

     % netaddress
     > service profile@nri.reston.va.us
     > droms

             Searches the profile service at NRI.RESTON.VA.US for
             user ``droms''.

     % netaddress
     > service profile@nri.reston.va.us
     > query droms

             Is identical to the previous example.

     % netaddress -s profile@nri.reston.va.us droms
             Is identical to the previous example.

     % netaddress 'service profile@nri.reston.va.us' droms
             Is identical to the previous two examples.

     % netaddress 'alison brown'
             Searches the default list for a user with first name
             ``alison'' and last name ``brown''.

AUTHOR
     Ralph Droms, rdroms@NRI.RESTON.VA.US
```

Lund University Information System

```
Telnet GEMINI.LDC.LU.SE or 130.235.132.5
Username: LDC_INFO
This service is mostly in Swedish

To exit, type 0 at the main menu

                    Informationssystem f|r Lunds datacentral LDC

                         Tillg{nglig information
                    1 -  Allm{n kundinformation
                    2 -  LDC telefonlista
                    3 -  Tj{nster och produkter
                    4 -  N{ttj{nster, datorpost, konferenssystem
                    5 -  Kursprogram
                    6 -
                    7 -  F|r{ndringar av receptionen
                    8 -  Available common servers at Lund University
                    9 -  Basic facts on Lund and Lund University
                    0 -  AVSLUTA / EXIT
          Ange nummer:
```

Ohio State University WHOIS service

```
Telnet OSU.EDU or 128.146.10.72

*** Please note: Current status = Unknown is the normal
    status for students and some employees.

To display information on an OSU person, enter their name in
one of the following formats:
      lastname
      firstname.lastname
      firstname.middlename.lastname
Abbreviations may be used.
To leave WHOIS enter QUIT.
Whois>
```

PARADISE Directory Service (Sweden)

```
TELNET HYPATIA.UMDC.UMU.SE or 130.239.16.15
Login: de
                Introduction to the Directory Service

The directory service helps you to find out information about people and
the organisations they work for: in particular it can provide electronic
mail addresses, postal addresses and telephone and facsimile numbers.
Once you have provided information about a person's NAME and where they
are based, the directory service will search various local and remote
databases to try and find information about people with a name matching
the one you have given.

The directory service can, of course, only find entries for people who
work for organisations who are participating in this pilot service.  At
the time of writing (May 1991), there are over 400 participating
organisations and approximately 350,000 individual entries in the
Directory.

If you cannot find an entry for the person you are looking for, it may
be that the entry is in the Directory but that the Directory Service
does not recognise the name you have provided.  In this case, you might
like to BROWSE the Directory: you can list people within a DEPARTMENT,
DEPARTMENTs within an ORGANISATION, ORGANISATIONs within a COUNTRY, and
the list of countries with participating ORGANISATIONs.

When using the directory service, you will be prompted to type in:
SPACE for next screen; q to quit:
:- the NAME of the person whose address you are looking for
   (e.g. "Paul Barker", or "P Barker", or even just "Barker"))

:- their DEPARTMENT
   (e.g. "Computer Science")

:- the ORGANISATION they work for
   (e.g. "University College London", or "UCL")

:- the COUNTRY in which the ORGANISATION is based
   (e.g. "gb", "uk" or "Britain"  for Great Britain).

The line above the prompt (:- ) indicates what information the system is
expecting.  This line also indicates the default (what the directory
service will fill in as information if you just press the RETURN key).

On line HELP is always available: type

?      for HELP on information currently expected
??     for HELP on HELP (how to use on-line HELP)

SPACE for next screen; q to quit: ?TERM  for HELP on any topic, where
TERM is any of the words displayed in capital letters in this and any
other HELP screen

Further useful commands:
```

Control-C	to abandon whatever you are doing: i.e. abandon a current query and allow for the entry of another query; abandon the entry of a query and allow the re-entry of the query; if no current query, exit the Directory Service.
q	to quit the directory service, when given in response to a request for a person's name

PARADISE Directory Service (University of London Computer Centre)

```
Telnet PARADISE.ULCC.AC.UK or 128.86.8.56
login: dua
               Welcome to PARADISE - the COSINE Directory Service

You can use this directory service to look up telephone numbers and
electronic mail addresses of people and organisations participating in
the Pilot Directory Service.  You will be prompted to type in:

:- the NAME of the person for whom you are seeking information
:- their DEPARTMENT (optional),
:- the ORGANISATION they work for, and
:- the COUNTRY in which the organisation is based.

On-line HELP is available to explain in more detail how to use the
Directory Service.  Please type ?INTRO (or ?intro) if you are not
familiar with the Directory Service.

?          for HELP with the current question you are being asked
??         for HELP on HELP
q          to quit the Directory Service (confirmation asked unless at the
           request for a person's name)
Control-C  abandon current query or entry of current query

If you have any comments, or have had any difficulties while using this
service, or if you would like further information about PARADISE
including how to participate in the pilot, please contact:

  PARADISE HelpDesk
  telephone:      +44 71 405 8400 x432
  fax:            +44 71 242 1845
  email:          helpdesk@paradise.ulcc.ac.uk

Further written information about PARADISE can be obtained from:

 email:           info-server@paradise.ulcc.ac.uk
 post:            PARADISE Project
```

PSI White Pages Pilot Project

```
TELNET WP1.PSI.NET or 192.33.4.21
login: fred

Try "help" for a list of commands
    "whois" for information on how to find people
    "manual" for detailed documentation
    "report" to send a report to the white pages manager

To find out about participating organizations, try
    "whois -org *"
```

FRED(1C) USER COMMANDS FRED(1C)

NAME

fred - a white pages user interface (FRont-End to Dish)

SYNOPSIS

fred [options] [command arguments ...]

whois arguments ... (as in "fred whois smith -org psi")

DESCRIPTION

The fred program is a front-end to the OSI Directory, and in particular the dish (1c) program. It is most useful as an interface to the white pages service.

The fred program is meant to be similar to the WHOIS service familiar to most users of the network. There are some differences however.

First, users in the white pages are uniquely identified by their distinguished name, e.g.,

"@c=US@o=Performance Systems International@cn=Manager"

In contrast, users of the WHOIS service are uniquely identified by their WHOIS handle, a brief key, e.g., "MTR". Since distinguished names are much longer than WHOIS handles, fred maintains a list of aliases during its execution. When an entry for something is retrieved, it is assigned a numeric alias for its name.

Second, searches in the white pages are relative to an "area". The default area is set by your system administrator. It can be changed using the area command. Because the white pages are distributed, searches occurring at higher areas are more expensive in terms of time, networking resources, etc.

Third, the white pages are highly structured. As such, you can potentially retrieve much more detailed information about an entry. Although the fred should prove useful for the majority of queries, it is purposefully limited in its searching capabilities. Users desiring a more powerful

interface, should use dish (1c) directly.

EXAMPLES

The command syntax, while meant to be intuitive, is tedious. Here are a few simple examples:

whois "smith"

looks for any entries with this name in the default area (choice of matching on the entry's surname or fullname is based on the value of the `namesearch' variable).

Swiss Electronic Phone Book

```
TELNET 130.59.2.10
Select language:
1=DEUTSCH
2=FRANCAIS
3=ITALIANO

At the "Introduire le(s) critere(s) de recherche ou help" type help

To exit, type 9 (return) then 0 (return)
```

University of California at Berkeley

Network Information Server

```
Telnet 128.32.136.12 117

UNIVERSITY OF CALIFORNIA AT BERKELEY NETWORK INFORMATION

Enter a command or a question mark (?) for a list of commands.
Enter "? TERM" for how to set terminal type.
IBM VM/CMS users and others with local pagers enter "LINES 0".
Report problems to [netinfo@violet.berkeley.edu].

 **
 *  U.C. BERKELEY NETWORK INFORMATION SERVER (version 7.21) HELP - 12/2/91
 *
 *  General purpose commands:
 *      COMMENT EXPLAIN LINES   NEWS    QUIT    TERM    TERMCAP
 *  Internet domain nameserver query commands:
 *      ANY     MX      NS      REVERSE
 *  Host table query commands:
 *      LOOK    BITNET  IPATH   UPATH
 *  UUCP/USENET map data base query commands:
 *      UFIND   UFILE   UHOST   UPATH
 *  U.C. Berkeley faculty and staff campus directory
 *      WHOIS
 *  U.C. Berkeley Central Computing Services online help:
 *      HELP
 *
 *  For information about a command enter "? [command]".
 *  Commands may be entered in lower case.
 *  Some command arguments must be in lower case.
 *
 *  This experimental server is still under development.
 *  To report bugs in network information server send email to
 *      [netinfo@violet.berkeley.edu].
```

Netfind: University of Colorado

```
TELNET BRUNO.CS.COLORADO.EDU or 128.138.243.151
login: netfind

Welcome to the University of Colorado Netfind server.

Given the name of a person on the Internet and a rough description of where
the person works, Netfind attempts to locate information about the person.
When prompted, enter a name followed by a set of keywords, such as
        schwartz university colorado boulder
The name argument specifies the person being sought by first name, last
name, or login name.  The keys describe where the person works.  They can
consist of any combination of strings describing the name of the
institution, the city/state/country, or the type of institution (e.g.,
"edu", "com", "mil", etc.)  If you know the institution's domain name
(e.g., "cs.colorado.edu") you can specify it as keys, without the dots
(e.g., "cs colorado edu").  The first components of host names (e.g.,
"brazil" in "brazil.cs.colorado.edu") cannot be used as keys.  Keys are
case insensitive and may be specified in any order.  Using more than one
key implies the logical AND of the keys.  Because of this, specifying too
many keys may cause searches to fail.  If this happens, try specifying
fewer keys, e.g.,
        schwartz boulder
If you specify keys that match a large number of domains, Netfind will
list some of the matching domains and ask you to form a more specific
query.  Note that you can use any of the words in the organization
strings (in addition to the domain components) in forming such queries.

When Netfind runs, it displays a trace of the parallel search progress,
lessalong with the results of the searches.  Since output can scroll by
quickly, you might want to run it in a window system, or pipe the output
through tee(1):
        rlogin [this server name] -l netfind |& tee log

A number of options exist for the client version of Netfind, which cannot
be invoked via the telnet/rlogin server interface.  If you would like to
install Netfind locally (which will allow you too run it as a client
without the telnet/rlogin interface), you can get it by anonymous FTP from
ftp.cs.colorado.edu, in pub/cs/distribs/netfind.  More complete
documentation is also available in that package.
```

University of Maryland Umail

TELNET UMAIL.UMD.EDU or 128.8.10.28

An online directory of faculty and staff at the University of Maryland.
Access is by name of individual. Information includes full name,
position, department, phone number, home address, and e-mail address.

```
-------------------------------------------------------------------------------
--
| Select  EXPAND  Go-To  Quit |
 -----------------------------

          Name             Phone              Title           20 names found
-------------------------------------------------------------------------------
--
  1   ROBINSON, Aundrie L.  57309         Mnt Chief IV       Steam Dis-PP
  2   ROBINSON, Darla J.    55671         Pers Assoc II      Personnel
  3   ROBINSON, Donita                    Graduate Fellow    Electrical
  4   ROBINSON, Eric C.                   Dietary Aide III   Din Ser-Adm
  5   ROBINSON, Eugene S.  56257          Instructor         Rad
-------------------------------------------------------------------------------
--
Name:    Eric C. ROBINSON                Phone:
Title:   Dietary Aide III
Address: Din Ser-Adm
                                       Zip: 20742-8411

Home: 7817 Fiske Avenue, Lanham, MD 20706, 773-6273

Email Address: Eric_C_ROBINSON@umail
-------------------------------------------------------------------------------
When finished viewing the expanded entry, press ESC to continue.
Use arrow keys to view other entries.
```

WHOIS searches

Available on the Internet Gopher

Select Phone Books from Main Menu
Select WHOIS Searches from Phone Books Menu

1. Association of Research Networks in Iceland
2. Baylor College of Medicine
3. Bull HN Information Systems
4. California Institute of Technology
5. California Institute of Technology
6. California State University - Fresno
7. California State University - Hayward
8. California State University - Sacramento
9. Cambridge Computer Associates
10. Chalmers University of Technology
11. DDN Network Information Center
12. Dansk UNIX-system Bruger Gruppe
13. EASInet Operations Center
14. Energy Sciences Network
15. Florida State University
16. GTE Laboratories
17. George Mason University
18. Gesellschaft fuer Mathematik und Datenverarbeitung
19. Gettysburg College
20. Harvard University
21. Helsinki University of Technology
22. Imperial College
23. Indiana University
24. Institut National de Recherche en Informatique et Automatique
25. InterCon Systems Corporation
26. Johns Hopkins University
27. Lawrence Berkeley Laboratory
28. Lawrence Livermore National Laboratory
29. MCNC - Center for Communications
30. Massachusetts Institute of Technology
31. Merit Computer Network
32. Mississippi State University
33. NASA Ames Research Center
34. National Centre for Software Technology
35. National Energy Research Supercomputer Center
36. Naval Research Laboratory
37. New Jersey Institute of Technology
38. New Jersey Intercampus Network
39. New York University
40. New York University, Courant Institute
41. North Carolina State University
42. Northern Arizona University
43. Ohio Northern University
44. Ohio State University
45. Oregon State University
46. Performance Systems International
47. Portland State University
48. Prime Computer
49. Reseaux IP Europeens
50. Rutgers University

51. SRI International
52. SUNET (Swedish University Network)
53. San Diego State University
54. Sonoma State University
55. Stanford University
56. State University of New York, Stony Brook
57. Sunquest Information Systems
58. Swedish Institute of Computer Science
59. Syracuse University
60. Tampere University of Technology
61. USC Information Sciences Institute
62. Universite Claude Bernard Lyon I
63. University of Adelaide
64. University of California at Berkeley
65. University of California at Davis
66. University of California at Los Angeles
67. University of California at San Diego
68. University of Canterbury
69. University of Chicago
70. University of Cincinnati
71. University of Florida
72. University of Houston
73. University of Maryland
74. University of Miami, Rosentiel School of Marine and Atmospheric
75. University of Minnesota
76. University of Nebraska at Lincoln
77. University of Notre Dame
78. University of Oregon
79. University of Oregon
80. University of Pennsylvania
81. University of Rochester
82. University of Saskatchewan
83. University of Virginia
84. University of Western Australia
85. University of Western Ontario
86. University of Wisconsin
87. Victoria University, Wellington
88. Waikato University
89. Wirtschaftsuniversitaet Wien
90. Worcester Polytechnic Institute

CSO Nameservers

Available on the Internet Gopher
Select Phone Books from Main Menu

University of Arizona
University of Minnesota (maintained by AIS)
Brown University
University of Utah
University of Florida
Eastern Illinois University
Northwestern University
Princeton University
University of Minnesota (maintained by CIS)
UT Austin Staff/Faculty Directory
Texas A&M Directory
University of Iowa
University of Chicago
Universite Laval, Quebec, Canada
University of Illinois Urbana-Champaign
University of Waterloo
Australian Defence Force Academy, New South Wales
University of Wisconsin at Madison
Notre Dame
Massachusetts Institute of Technology
Lakehead University
University of Oregon
Lawrence Livermore National Laboratory
Roskilde Universitetscenter, Denmark
Cornell College, Iowa
University of Nebraska at Omaha

1. Name :
2. Phone :
3. E-Mail :
4. Address :

Press 1-4 to change a field, Return to accept fields and continue

USENET contributor e-mail addresses

Available for searching on the Internet Gopher

Select Phone Books from main menu
Select Internet-wide e-mail address searches

This search works by looking at a database of people who have submitted USENET news items (something like 40,000 to 100,000 people all over the Internet). To search this database, choose the

    Search e-mail addresses of people who contributed to USENET

item and enter the name of the person you are looking for.

This database is run on a WAIS search engine, so when you search here you are using gopher to talk to a WAIS search engine.

Legal Information Institute Directory Server

```
TELNET FATTY.LAW.CORNELL.EDU or 132.236.108.5
login: lookup

                  This directory is a service of
                 The Legal Information Institute
                        Cornell Law School
                             ---+---
     To locate someone, type in

                          query Lastname

     at the ph> prompt. Note that the search is case-sensitive.

     If you want a list of people at a particular school, try

                  query department=Institution

     A help system is under construction; type help

     Type 'quit' to quit.
```

With contributions from many quarters, it contains e-mail addresses for over 850 faculty members, librarians, administrators, and technical people at AALS law schools. There are still 42 schools for which we have no addresses, a larger number for which we have only a few, but the coverage at many schools is quite complete. Schools for which the directory holds 15 or more entries include:

University of Arizona
University of Arkasas, Fayetteville
U.C.L.A.
University of Chicago
Cornell
Georgetown
Harvard
University of Montana
St. Louis University
Southern Illinois
Wake Forest
University of Washington

PARADISE - the COSINE Interactive Directory Manager

TELNET FOUND.PARADISE.ULCC.AC.UK or 128.86.8.56
Login: idm

This tool allows users (with appropriate access control) to add new organsiations into the Directory and then to add, modify or delete entries. It is seen as an ideal way to help SMEs (small to medium size enterprises) actively participate in the pilot, as well as a tool to allow users in large organisations to have limited access to their own entries.

David Goodman (d.goodman@cs.ucl.ac.uk)
PARADISE Project Manager

JANET Public Access Directory Service

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.jnt.dir

Type what you are looking for, with commas separating parts:
 like craigie, jnt, gb
 or   hardcastle-kille, ucl
Control-c interrupts a search, quit leaves the service.

Examples:

:- stone, sussex

Found 3 good matches.
 1 A.STONE, Chemistry and Molecular Sciences, Sussex University, GB
 2 J.STONE, COGS, Sussex University, GB
 3 P.T.STONE, Library, Sussex University, GB

:- 3
Read `P.T.STONE, Library, Sussex University, GB'.
 commonName           - P.T.STONE
 surname              - STONE
 telephoneNumber      - +44 273-606755 ext 8475,8158
 rfc822Mailbox        - alfa8@central.sussex.ac.uk

:- 2
Read `J.STONE, COGS, Sussex University, GB'.
 commonName           - J.STONE
 surname              - STONE
 telephoneNumber      - +44 273-606755 ext 2337

:- 1
Read `A.STONE, Chemistry and Molecular Sciences, Sussex University, GB'.
 commonName           - A.STONE
 surname              - STONE
 telephoneNumber      - +44 273-606755 ext 8135
 rfc822Mailbox        - kafd9@central.sussex.ac.uk
```

X.500 service at Aston University (QUIPU)

TELNET QUIPU.ASTON.AC.UK or 134.151.4.3
login: sd

What is X.500?

X.500 is an Open Systems standard for worldwide electronic mail directory services.

The X.500 service at Aston has been named "Quipu". This is simply a database of people's electronic mail addresses, full names, telephone numbers and department. Quipu is wide ranging, in that it can connect you to X.500 directories around the world to enable you to find a person's electronic mail address.

ALT-H will give you help

There are 3 main items that you need to consider:

1) the location or search area which relates to countries or is world-wide

2) the type you are searching for ie is it a place, department or person

3) the name of the place, department or person

Look at the search area. If it is set to world-wide, then in the search box (below and to the right) you need to enter GB if you want a site in the UK. If it is set to GB and you want a world-wide search, there is a widen search option (press w).

Once you have found the correct country, you can look for the options. If you want an organisation eg Aston, set the type to organisation and then enter Aston in the search box.

Once at Aston, enter the person's surname or part of the surname you require.

A list of matching surname will be shown. Enter the number of the person you require if there is more than one match.

Other main keys in Quipu are] and [which are used to scroll through a list of names.

ALT-U will clear the search line ready for you to enter another search

ALT-X will exit Quipu

PARADISE Directory Service (Imperial College)

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.ic.dir

            Welcome to the PARADISE directory service.

You can use this directory service to look up telephone numbers and
electronic mail addresses of people and organisations participating in
the Pilot Directory Service.

You will be prompted to type in

:- the NAME of the person for whom you are seeking information
:- their DEPARTMENT (optional),
:- the ORGANISATION they work for, and
:- the COUNTRY in which the organisation is based.

On-line HELP is available to explain in more detail how use the
directory service.  Please type ?INTRO (or ?intro) if you are not familiar
with the Directory Service.

?          for HELP with the current question you are being asked
??         for HELP on HELP
q          to quit, when given in response to a request for a person's name
Control-C  abandon current query or entry of current query
Person's name, q to quit, * to list people, ? for help
```

PARADISE Directory Service (University of Leeds)

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.leeds.dir

You can use this directory service to look up telephone numbers and
electronic mail addresses of people and organisations participating in
the Pilot Directory Service.  You will be prompted to type in:

:- the NAME of the person for whom you are seeking information
:- their DEPARTMENT (optional),
:- the ORGANISATION they work for, and
:- the COUNTRY in which the organisation is based.

On-line HELP is available to explain in more detail how to use the
Directory Service.  Please type ?INTRO (or ?intro) if you are not
familiar with the Directory Service.
```

PARADISE Directory Service (Liverpool University)

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.liv.dir

You can use this directory service to look up telephone numbers and
electronic mail addresses of people and organisations participating in
the Pilot Directory Service.

You will be prompted to type in

:- the NAME of the person for whom you are seeking information
:- their DEPARTMENT (optional),
:- the ORGANISATION they work for, and
:- the COUNTRY in which the organisation is based.

On-line HELP is available to explain in more detail how use the
directory service.  Please type ?INTRO (or ?intro) if you are not familiar
with the Directory Service.
```

PARADISE Directory Service (Manchester University)

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.mbs.dir

You can use this directory service to look up telephone numbers and
electronic mail addresses of people and organisations participating in
the Pilot Directory Service.

You will be prompted to type in

:- the NAME of the person for whom you are seeking information
:- their DEPARTMENT (optional),
:- the ORGANISATION they work for, and
:- the COUNTRY in which the organisation is based.

On-line HELP is available to explain in more detail how use the
directory service.  Please type ?INTRO (or ?intro) if you are not familiar
with the Directory Service.
```

PARADISE Directory Service (Sussex University)

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.susx.dir

You can use this directory service to look up telephone numbers and
electronic mail addresses of people and organisations participating in
the Pilot Directory Service.

You will be prompted to type in

:- the NAME of the person for whom you are seeking information
:- their DEPARTMENT (optional),
:- the ORGANISATION they work for, and
:- the COUNTRY in which the organisation is based.

On-line HELP is available to explain in more detail how use the
directory service.  Please type ?INTRO (or ?intro) if you are not familiar
with the Directory Service.
```

X.500 service at University of Kent (QUIPU)

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.ukc.dir
```

X.500 service at University of Manchester (QUIPU)

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.man.dir
```

X.500 service at Manchester Computing Centre (QUIPU)

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.mcc.dir
```

X.500 service at Manchester Institute of Science & Technology (QUIPU)

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.umist.dir
```

X.500 service at Brunel University

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.brunel.dir

To do a search, just type the name of the person or organisation
that you are looking for. Use commas to separate parts of the address,
which is just like a postal address.

For example:

        findlay, computer centre, brunel
        mahl, brunel
        paul barker,ucl
        w prinz, gmd, germany
```

X.500 service at King's College

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.kcl.dir

You are connected to the King's directory service. This interface
currently only allows you to query the King's database by person's name.

Enter the person's name (or "?" for help, "q" to quit): ?

You will be prompted for the surname of the person you are looking for.

No department need be specified, as all departments within King's are
searched.

You do not have to enter complete names: for example, entering the string
"Smith" would also find entries for "Greensmith", "Smithy" and so on.
Upper/lower case is not significant in searches.

Of course the less information you provide, the more names will be matched
by your query. If the person whose telephone number you are seeking has a
relatively common name, the directory may well return more names than you
can easily sift through and the message

        "there are too many results to print"

will appear.
```

X.500 service at University College London

```
TELNET SUN.NSF.AC.UK or 128.87.8.7
login: janet
hostname: uk.ac.ucl.dir

You are connected to the UCL directory service. You will be prompted for
the type of interface - 'easy' or 'advanced'. The 'easy' interface will
prompt you with the following three questions in turn:

Enter the person's name (or "?" for help, "q" to quit):
Enter department ("Return" to search all depts, * to list depts):
Enter site ("Return" for UCL, * to list all sites):

This interface currently only allows you to query within the UK.

An alternative style of querying the directory is provided by the
'advanced' interface.  This is screen based and so needs to know the
type of terminal you are using. This interface allows you to look for
entries outside of the UK.
```

Netfind: Pontificia Universidad Catolica de Chile

```
TELNET MALLOCO.ING.PUC.CL or 146.155.1.43
login: netfind

Welcome to the Netfind server at PUC's Department of Computer Science

(Netfind was developed at University of Colorado, see help menu for
details).

I think that your terminal can display 24 lines.
If this is wrong, please enter the "Other" menu and
set the correct number of lines.

Help/Search/Other/Quit [h/s/o/q]:
```

Knowbot Information Service (Bucknell University)

```
TELNET 134.82.11.4 185

Try ? or man for help.
> Commands are:
-------------
service  service@host [service@host ...]
services
org      organization
country  country
echo     [on|off]
ident    service-specific-identifier
print
query    username
username (where ``username'' is the name
         to be searched for
help, ?  print this summary
man      print manual page entry
quit
exit
```

Netfind: OpenConnect Systems

```
TELNET RA.OC.COM or 192.82.215.92
login: netfind

Top level choices:
        1. Help
        2. Search
        3. Seed database lookup
        4. Options
        5. Quit (exit server)
```

Netfind: University of Minnesota

```
TELNET MUDHONEY.MICRO.UMN.EDU or 134.84.132.7
login: netfind

Search/Quit/Help [s/q/h]:
```

Netfind: AARNet, Melbourne, Australia

```
TELNET ARCHIE.AU or 139.130.4.6
login: netfind

Top level choices:
        1. Help
        2. Search
        3. Seed database lookup
        4. Options
        5. Quit (exit server)
```

Australian White Pages Pilot Project (Monash)

```
TELNET NICE.CC.MONASH.EDU.AU or 130.194.2.68
login: fred

The following clients are available to allow you to access the White Pages
database -
        fred    this client provides a line orientated interface similar to
                the whois service.
        pod     This client provides a "nifty" X style interface
        xd      Another X client
        sd      A screen based client of similar functionality to xd.

Note: Only fred allows you to modify your entry (at this time).

If you want X windows access, please enter your X windows DISPLAY name,
e.g., myhost.dept.monash.edu.au:0.0

    We are running DNS so you shouldn't have to enter the IP number, the full
    qualified name should work.

    X windows DISPLAY=sd

Select one of the following clients (xd pod fred): fred

Try   "help" for a list of commands
     "whois" for information on how to find people
    "manual" for detailed documentation
    "report" to send a report to the white pages manager

To find out about participating organizations, try
    "whois -org *"
```

Australian White Pages Pilot Project (Queensland)

```
TELNET CUSCUS.CC.UQ.OZ.AU or 130.102.128.43
login: fred

The following clients are available to allow you to access the White Pages
database -
        fred    this client provides a line orientated interface similar to
                the whois service.
        pod     This client provides a "nifty" X style interface
        xd      Another X client with less "popups" and cruder "style"
        sd      A screen based client of similar functionality to xd.

Note: Only fred allows you to modify your entry (at this time).

If you want X windows access, please enter your DISPLAY name,
e.g., myhost.dept.uq.oz.au:0.0 -You will have to have permissions
set to let this host (cuscus.cc.uq.oz.au) display back on the server.

We are running DNS so you shouldn't have to enter the IP number, the full
qualified name should work.
```

Australian White Pages Pilot Project (Sydney)

```
TELNET JETHRO.UCC.SU.OZ.AU or 129.78.64.15
login: fred

The following clients are available to allow you to access the Directory
database -

        de      This client provides a line orientated interactive interface
        pod     This client provides a "nifty" X style interface

If you want X window access, please enter your DISPLAY name,
otherwise, if you do not wish to use X, enter "none"

e.g. DISPLAY= stevec.ucc.su.oz.au:0.0

DISPLAY (default=128.233.1.20:0.0)=pod

Select one of the following clients (de pod) or "quit" to exit: pod
```

PARADISE Directory Service (DKUUG, Denmark)

```
TELNET LOGIN.DKUUG.DK or 129.142.96.43
login: ds

     Main menu (choose desired service)

     [ 1 ]  QUERY the Directory (User Interface menu)
     [ 2 ]  HELP about User Interfaces
     [ 3 ]  change CONFIGURATION
     [ 4 ]  send MESSAGE to Administrator

     [ 0 ]  Leave this Menu (back to previous Menu)


     Directory User Interfaces

     [ 1 ]  DE     (The user friendly PARADISE interface)
     [ 2 ]  DISH   (command line, full X.500 functionality)
     [ 3 ]  SD     (menu oriented, only read functionality)
     [ 4 ]  FRED   (simple white pages interface ('whois')

     [ 0 ]  Leave this Menu (back to previous Menu)
```

PARADISE Directory Service (Trinity College, Dublin)

```
TELNET ASHE.CS.TCD.IE or 134.226.32.17
login: de
            Welcome to the PARADISE directory service.

You can use this directory service to look up telephone numbers and
electronic
mail addresses of people and organisations participating in the Pilot
Directory Service.

You will be prompted to type in

:- the NAME of the person for whom you are seeking information
:- their DEPARTMENT (optional),
:- the ORGANISATION they work for, and
:- the COUNTRY in which the organisation is based.

On-line HELP is available to explain in more detail how use the
directory service.  Please type ?INTRO (or ?intro) if you are not familiar
with the Directory Service.

?          for HELP with the current question you are being asked
??         for HELP on HELP
q          to quit, when given in response to a request for a person's name
Control-C  abandon current query or entry of current query
Person's name, q to quit, * to list people, ? for help
:- q
```

PARADISE Directory Service (GARR, Italy)

```
TELNET JOLLY.NIS.GARR.IT or 192.12.192.5
login: de

            Welcome to the PARADISE directory service.

You can use this directory service to look up telephone numbers and
electronic mail addresses of people and organisations participating in
the Pilot Directory Service.

You will be prompted to type in

:- the NAME of the person for whom you are seeking information
:- their DEPARTMENT (optional),
:- the ORGANISATION they work for, and
:- the COUNTRY in which the organisation is based.

On-line HELP is available to explain in more detail how use the
directory service.  Please type ?INTRO (or ?intro) if you are not familiar
with the Directory Service.

?          for HELP with the current question you are being asked
??         for HELP on HELP
q          to quit, when given in response to a request for a person's name
Control-C  abandon current query or entry of current query
Person's name, q to quit, * to list people, ? for help
:- q
```

PARADISE Directory Service (IRIS-DCP, Spain)

```
TELNET CHICO.IRIS-DCP.ES or 130.206.1.3
login: directorio

                Servicio Piloto de Directorio de RedIRIS
              Bienvenido al Servicio de Directorio Paradise

Usted puede usar el Servicio de Directorio para buscar numeros de
telefono y direcciones de mensajeria electronica de personas y
organizaciones participantes en el servicio piloto de directorio.

Al entrar en la aplicacion, esta le preguntara:
:- el nombre de la persona sobre la que busca informacion,
:- su departamento en el que trabaja (opcional),
:- la organizacion en la que trabaja, y
:- el pais en el que se situa la organizacion.

Existe una ayuda on-line que explica, en mas detalle, como usar el Servicio
de Directorio. Teclee ?INTRO (o ?intro), si usted no esta familiarizado con
el Servicio de Directorio.

?       Para ayuda sobre la cuestion actual que se le pregunta.
??      Para ayuda sobre la ayuda
q       Para salir, cuando se introduce como respuesta al NOMBRE de la
persona
CTRL-C  Para abandonar la actual peticion.

Nombre de persona, quit para salir, * para lista de personas, ? para ayuda
```

PARADISE Directory Service (CICA, Spain)

```
TELNET OCELOTE.CICA.ES or 150.214.4.4
login: directorio
                        Welcome to the Directory Service

                  Servicio Piloto de Directorio de RedIRIS
                Bienvenido al Servicio de Directorio Paradise

Usted puede usar el Servicio de Directorio para  buscar  numeros  de
telefono y  direcciones  de  mensajeria  electronica  de  personas  y
organizaciones participantes en el servicio piloto de directorio.

Al entrar en la aplicacion, esta le preguntara:
:- el nombre de la persona sobre la que busca informacion,
:- su departamento en el que trabaja (opcional),
:- la organizacion en la que trabaja, y
:- el pais en el que se situa la organizacion.

Existe una ayuda on-line que explica, en mas detalle, como  usar  el
Servicio de Directorio. Teclee ?INTRO (o ?intro), si usted no  esta
familiarizado  con el Servicio de Directorio.

?       Para ayuda sobre la cuestion actual que se le pregunta.
??      Para ayuda sobre la ayuda
q       Para salir, cuando se introduce como respuesta al NOMBRE de la
persona
CTRL-C  Para abandonar la actual peticion.

Nombre de persona, quit para salir, * para lista de personas, ? para ayuda
```

PARADISE Directory Service (UPC, Spain)

```
TELNET SAKI.UPC.ES or 147.83.41.13
login: directorio
                        Welcome to the Directory Service

               Servicio Piloto de Directorio de RedIRIS
             Bienvenido al Servicio de Directorio Paradise

Puede usar el Servicio de Directorio para buscar numeros de telefono y
direcciones de mensajeria electronica de personas y organizaciones
participantes en el servicio piloto de directorio.

Al entrar en la aplicacion, esta le preguntara:
:- el nombre de la persona sobre la que busca informacion,
:- el departamento en el que trabaja (opcional),
:- la organizacion en la que trabaja, y
:- el pais en el que se situa la organizacion.

Existe una ayuda interactiva que explica, en mas detalle, como usar el
Servicio de Directorio. Teclee ?INTRO (o ?intro), si usted no esta
familiarizado con el Servicio de Directorio.

?       Para ayuda sobre la cuestion actual que se le pregunta.
??      Para ayuda sobre la ayuda
q       Para salir, cuando se introduce como respuesta al NOMBRE de la
persona
CTRL-C  Para abandonar la actual peticion.

Nombre de persona, quit para salir, * para lista de personas, ? para ayuda
```

Finnish University and Research Network FUNET

X.500 Directory Service

```
TELNET NIC.FUNET.FI or 128.214.6.100
login: dua
```

Distributed File Server Systems

Internet Gopher Servers
Wide Area Information Servers
World Wide Web

Electronic Books

Aesop's Fables
Alice in Wonderland (Lewis Carroll)
Antigone (Sophocles)
Bible (King James Version)
Book of Mormon
Concise Oxford Dictionary, 8th Ed.
Far from the madding crowd (Thomas Hardy)
Federalist Papers
Hacker's Dictionary
Herland (Charlotte Perkins Stetson Gilman)
Hunting of the Snark (Lewis Carroll)
Koran
The Life of Frederick Douglass
Moby Dick (Herman Melville)
O Pioneers! (Willa Cather)
Oedipus at Colonus (Sophocles)
Oedipus the King (Sophocles)
Oxford Dictionary of Familiar Quotations (and Modern Q.)
Oxford Thesaurus
Paradise Lost (John Milton)
Peter Pan (J.M.Barrie)
Roget's Thesaurus 1911 edition
Shakespeare's Plays and Sonnets
Song of Hiawatha (Longfellow)
Through the looking glass (Lewis Carroll)
Webster's Dictionary
World Factbook

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ALICE'S ADVENTURES IN WONDERLAND

Lewis Carroll

THE MILLENNIUM FULCRUM EDITION 2.7a

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Project Gutenberg Release 2.7a of Alice in Wonderland

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THE ELECTRONIC BIBLE

Available on the Cleveland FREE-NET

Welcome to the ELECTRONIC BIBLE.

Contained in this area is the complete text of the King James version of the Christian Bible. It is divided into Old and New Testament sections and can be read and/or searched a chapter at a time by selecting from the appropriate menu or, in the case of the New Testament, can be searched in its entirety.

The search routines are fairly crude and quite slow, so we hope you will have patience with the process. More details on searching can be found in the instruction file in the New Testament area. The limitations on our search routines are such that we can only provide this service on the (much smaller) New Testament. We hope to be developing faster and more powerful search capabilities in the near future which will allow us to include the Old Testament as well.

The King James version was selected, quite frankly, because it was the only version we could find that was not copyrighted. We hope at some point in the future to be able to offer the Revised Standard as well as other versions.

This feature and the Biblical Help files was a joint project of the All-Denominational Forum on the Cleveland Free-Net, and the staff of the National Public Telecomputing Network (NPTN). It is being made available to this system via NPTN Cybercasting Services.

.....

Also available at Dartmouth

The King James Version of the Bible. Each item, or document, that you retrieve is a single chapter of one Book of the Bible. Each item contains a Book name, a Chapter number, and many Verses.

You can search the following indexes:
GENERAL - finds your words anywhere in the Chapter.
TEXT - finds all Chapters containing your words in the same Verse.
BOOK - finds all Chapters of that Book (FIND BOOK EXODUS)
CHAPTER - finds Chapter of a specific Book (F BOOK GENESIS AND CHAPTER 4)
There are no stopwords.

The books classed as the Apocrypha are not in this version of the Bible.

THE BOOK OF MORMON

Electronic Version

Available on the Cleveland FREE-NET

Issue the command go mormon to access

This ASCII version of the Scriptures was created through the efforts of many volunteers. Although every effort was made to be as accurate as possible, we are sure these files contain errors. Therefore, be sure to consult a post-1982 printed version of the Book of Mormon if accuracy is important. The printed version always takes precedence.

These files are not public domain. They are freely copyable. No charge may be made for them. No changes may be made, except to bring them into conformity with the official version printed by the Church of Jesus Christ of Latter-Day Saints. The headers to books and chapters (all parts numbered with :0) must conform with pre-1979 versions of the scriptures. All of the files in this archive must be kept together when distributing the archive. The ASCII Scriptures may be used and distributed freely for NON-COMMERCIAL, PRIVATE purposes. Uploading to bulletin boards is encouraged.

Comments are welcome. These files are currently being edited to correct the mistakes we are sure they still have. If you find errors, please point them out to me so I can correct them in the master. Sending me a corrected copy of the verses would make me very happy. If you have any comments or suggestions, I will be happy to hear from you.

InterNet address: blake@nevada.edu (preferred)
BITnet address: blake@unsvax
Uncle Sam's mail: PO Box 81083
Las Vegas, NV 89180

Concise Oxford Dictionary, 8th Ed.

Available for browsing at Rutgers University CWIS
Choose Reference on Main Menu

The Federalist Papers

This is the Project Gutenberg 1.1 release of
The Federalist Papers

Available for browsing and searching on the Internet Gopher

Due to an error in file transfer the 1.0 version was decapitated of all but the first section of the five sections we received in which the following information was contained in various mark-up formats and various footnoting conventions. You may note in the middle portion that the footnotes are different, and indentation is practically non-existent. We hope to have this fixed in only a week or so, as we are requesting new copies from which to work and we are also requesting a scholarly review of this file, from Tom Horton (one of the requestors of the file. . .Tom. . .help-- are you out there). So, please bear in mind that while editions from Project Gutenberg are not supposed to be authoritative, our expectations are to provide you with documents that are at least internally consistent. Therefore, the next release or two would be in hopes of clearing this up immediately.

My personal apologies to those who require them. I have edited, and edited, but find myself at the point of diminshing returns.

Hopefully at that is in error is that I received an inconsistent collection of file portions and the correct file(s) will be sent shortly. Otherwise I have to rely on Federalist scholars to see what I cannot see in the middle fifth of this file, and correct, send to me, and advise on the preparation of later version.

As mentioned in the August 31 newsletter, we have several files, each of various editions of The Federalist Papers, but this one, such as it is, was okayed for release. The others are still in, shall we say, a state of limbo.

Michael S. Hart, Director, Project Gutenberg Septmeber 1, 1991

Hacker's Dictionary

Available for browsing and searching on the Internet Gopher

This document is a collection of slang terms used by various subcultures of computer hackers. Though some technical material is included for background and flavor, it is not a technical dictionary; what we describe here is the language hackers use among themselves for fun, social communication, and technical debate.

The `hacker culture' is actually a loosely networked collection of subcultures that is nevertheless conscious of some important shared experiences, shared roots, and shared values. It has its own myths, heroes, villains, folk epics, in-jokes, taboos, and dreams. Because hackers as a group are particularly creative people who define themselves partly by rejection of `normal' values and working habits, it has unusually rich and conscious traditions for an intentional culture less than 35 years old.

THE HUNTING OF THE SNARK

an Agony in Eight Fits

by

Lewis Carroll

THE MILLENNIUM FULCRUM EDITION 1.1

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The Life of Frederick Douglass

Available for browsing and searching on The Internet Gopher

NARRATIVE
OF THE
LIFE
OF
FREDERICK DOUGLASS,
AN
AMERICAN SLAVE.

WRITTEN BY HIMSELF.

BOSTON
PUBLISHED AT THE ANTI-SLAVERY OFFICE,
NO. 25 CORNHILL
1845

NARRATIVE
OF THE LIFE OF
FREDERICK DOUGLASS,
AN AMERICAN SLAVE

WRITTEN BY HIMSELF

ENTERED, ACCORDING TO ACT OF CONGRESS,
IN THE YEAR 1845
BY FREDERICK DOUGLASS,
IN THE CLERK'S OFFICE OF THE DISTRICT COURT
OF MASSACHUSETTS.

Moby Dick

by
Herman Melville

Available for browsing and searching on the Internet Gopher

This text of Melville's Moby-Dick is based on the Hendricks House edition. It was prepared by Professor Eugene F. Irey at the University of Colorado. Any subsequent copies of this data must include this notice and any publications resulting from analysis of this data must include reference to Professor Irey's work.

O Pioneers!

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O Pioneers! by Willa Cather

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for a list of books
and
GET NEW GUT for general information
and
MGET GUT* for newsletters.

Oxford Dictionary of Familiar Quotations (and Modern Q.)

Available for browsing at Rutgers University CWIS
Choose Reference on Main Menu

Oxford Thesaurus

Available for browsing at Rutgers University CWIS
Choose Reference on Main Menu

Paradise Lost

by
John Milton

Available for browsing and searching on the Internet Gopher

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eng003@unoma1 on Bitnet
(Judy now has a scanner)

Another edition of Paradise Lost could also be available shortly. (We still have to complete our copyright analysis to insure these releases do not infringe on anyone's copyrights.)

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PETER PAN

[PETER AND WENDY]
BY
J. M. BARRIE
[James Matthew Barrie]

A Millennium Fulcrum Edition
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Available for browsing and searching on the Internet Gopher

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Roget's Thesaurus 1911 edition

Available for searching on the Internet Gopher

Shakespeare - Plays and Sonnets

Available at Dartmouth

For the Shakespeare Play text, type "select file shakespeare plays"
For the Shakespeare Sonnet text, type "select file shakespeare sonnets"

Shakespeare Plays file. It consists of the full text of thirty-three of Shakespeare's plays, taken from Arthur Bullen's Stratford Town Edition. The plays included are:

Macbeth	Twelfth Night	As You Like It	The Two Gentlemen of Verona
Othello	King Henry V	A Comedy of Errors	A Midsummer Night's Dream
King Lear	Julius Caesar	Antony and Cleopatra	King Henry IV (Part I)
King John	Timon of Athens	Measure for Measure	King Henry IV (Part II)
Cymbeline	Romeo and Juliet	Troilus and Cressida	Much Ado About Nothing
Pericles	Titus Andronicus	Love's Labour's Lost	The Taming of the Shrew
Hamlet	King Richard III	The Merchant of Venice	King Henry VI (Part III)

Shakespeare Sonnets file. It consists of the full text of all 154 of Shakespeare's sonnets, taken from Arthur Bullen's Stratford Town Edition.

Song of Hiawatha

by
Longfellow

Available for browsing and searching on the Internet Gopher

The Song of Hiawatha is based on the legends and stories of many North American Indian tribes, but especially those of the Ojibway Indians of northern Michigan, Wisconsin, and Minnesota. They were collected by Henry Rowe Schoolcraft, the reknowned historian, pioneer explorer, and geologist. He was superintendent of Indian affairs for Michigan from 1836 to 1841.

Schoolcraft married Jane, O-bah-bahm-wawa-ge-zhe-go-qua (The Woman of the Sound Which the Stars Make Rushing Through the Sky), Johnston. Jane was a daughter of John Johnston, an early Irish fur trader, and O-shau-gus-coday-way-qua (The Woman of the Green Prairie), who was a daughter of Waub-o-jeeg (The White Fisher), who was Chief of the Ojibway tribe at La Pointe, Wisconsin.

Jane and her mother are credited with having researched, authenticated, and compiled much of the material Schoolcraft included in his Algic Researches (1839) and a revision published in 1856 as The Myth of Hiawatha. It was this latter revision that Longfellow used as the basis for The Song of Hiawatha.

Longfellow began Hiawatha on June 25, 1854, he completed it on March 29, 1855, and it was published November 10, 1855. As soon as the poem was published its popularity was assured. However, it also was severely criticized as a plagiary of the Finnish epic poem Kalevala. Longfellow made no secret of the fact that he had used the meter of the Kalevala; but as for the legends, he openly gave credit to Schoolcraft in his notes to the poem.

I would add a personal note here. My father's roots include Ojibway Indians: his mother, Margaret Caroline Davenport, was a daughter of Susan des Carreaux, O-gee-em-a-qua (The Chief Woman), Davenport whose mother was a daughter of Chief Waub-o-jeeg. Finally, my mother used to rock me to sleep reading portions of Hiawatha to me, especially:

"Wah-wah-taysee, little fire-fly,
Little, flitting, white-fire insect
Little, dancing, white-fire creature,
Light me with your little candle,
Ere upon my bed I lay me,
Ere in sleep I close my eyelids!"

Woodrow W. Morris
April 1, 1991

THROUGH THE LOOKING GLASS

by LEWIS CARROLL

THE MILENNIUM FULCRUM EDITION (C)1991
Project Gutenberg Release 1.5 of Through the Looking-Glass

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Webster's Dictionary

```
Telnet DECOY.UOREGON.EDU 2627 or 128.223.32.19 2627

No data to write to network [press Enter key at this point]
[Type HELP in capitals to display the Help file]

NeXT Websterd 2.0 beta
Still under development - some commands described below haven't
been implemented yet.

This daemon works in much the same way as the standard Webster daemon,
plus it can access both the NeXT's on-line dictionary and thesaurus.
Commands are in the same format as the old websterd, with the addition
of an INDEX command.

See the original websterd documentation for full details

DEFINE word       - look up a word in the online dictionary (or thesaurus)
COMPLETE word     - complete the word if unambiguous
ENDINGS word      - produce list of endings
SPELL word        - indicate if spelling is correct, or possible alternates
INDEX indexname   - choose which index we want to use, possibilities are:
   INDEX dictionary      the default
   INDEX thesaurus       the Webster's Thesaurus
   INDEX dictionary-full the full content dictionary index
HELP              - print this message
QUIT              - You know, 'quit'.

Characters may occasionally be printed in hexadecimal inside brackets,
like this:  [0xa][0x6d] - these represent various special dictionary
characters that I haven't figured out how to deal with yet.

Comments and suggestions to sahayman@iuvax.cs.indiana.edu .
```

THE WORLD FACTBOOK 1990

ELECTRONIC VERSION

Available at the Cleveland FREE-NET
Type go nations at the Your Choice prompt

Also available on the Internet Gopher at the University of Minnesota

The World Factbook is produced annually by the Central Intelligence Agency for the use of United States Government officials, and the style, format, coverage, and content are designed to meet their specific requirements. Comments and queries are welcome and may be addressed to:

Central Intelligence Agency
Attn: Public Affairs
Washington, DC 20505
(703) 351-2053

There are 249 entities in the Factbook that may be categorized as follows:

NATIONS:

157 UN members (there are 159 members in the UN, but only 157 are included in The World Factbook because Byelorussia and Ukraine are constituent republics of the Soviet Union)
15 nations that are not members of the UN--Andorra, Federated States of Micronesia, Kiribati, Liechtenstein, Marshall Islands, Monaco, Namibia, Nauru, North Korea, San Marino, South Korea, Switzerland, Tonga, Tuvalu, Vatican City

OTHER:
1 Taiwan

DEPENDENT AREAS:

6 Australia--Ashmore and Cartier Islands, Christmas Island, Cocos (Keeling) Islands, Coral Sea Islands, Heard Island and McDonald Islands, Norfolk Island
2 Denmark--Faroe Islands, Greenland
16 France--Bassas da India, Clipperton Island, Europa Island, French Guiana, French Polynesia, French Southern and Antarctic Lands, Glorioso Islands, Guadeloupe, Juan de Nova Island, Martinique, Mayotte, New Caledonia, Reunion, St. Pierre and Miquelon, Tromelin Island, Wallis and Futuna
2 Netherlands--Aruba, Netherlands Antilles
3 New Zealand--Cook Islands, Niue, Tokelau
3 Norway--Bouvet Island, Jan Mayen, Svalbard
1 Portugal--Macau
16 United Kingdom--Anguilla, Bermuda, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Falkland Islands, Gibraltar, Guernsey, Hong Kong, Isle of Man, Jersey, Montserrat, Pitcairn Islands, St. Helena, South Georgia and the South Sandwich Islands, Turks and Caicos Islands
15 United States--American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands,

Navassa Island, Northern Mariana Islands, Palmyra Atoll,
Puerto Rico, Trust Territory of the Pacific Islands (Palau),
Virgin Islands, Wake Island

MISCELLANEOUS:

7 Antarctica, Gaza Strip, Iraq-Saudi Arabia Neutral Zone,
Paracel Islands, Spratly Islands, West Bank, Western Sahara

OTHER ENTITIES
4 oceans--Arctic Ocean, Atlantic Ocean, Indian Ocean, Pacific Ocean
1 World
===
249 total

For each entry, five major categories of information are presented: Geography, People, Government, Economy, Communications, and Defense Forces. Under these major categories are over eighty sub-categories of information, as follows:

NAME OF COUNTRY:

[[[GEOGRAPHY]]]

Total area
Comparative area
Land boundaries
Coastline
Maritime claims
Contiguous zone
Continental shelf
Exclusive fishing zone
Exclusive economic zone
Territorial Sea
Disputes
Climate
Terrain
Natural resources
Land use
Environment

[[[PEOPLE]]]

Population
Birth rate
Death rate
Net migration rate
Infant mortality rate
Life expectancy at birth
Total fertility rate
Nationality
Ethnic divisions
Religion
Language
Literacy
Labor force

Organized labor

[[[GOVERNMENT]]]

Long-form name
Type
Capital
Administrative divisions
Dependent areas
Independence
Constitution
Legal system
National holiday
Executive branch
Legislative branch
Judicial branch
Leaders
Head of Government
Political parties and leaders
Suffrage
Elections
Federal Council
National Council
Communists
Other political or pressure groups
Member of
Diplomatic representation
Flag

[[[ECONOMY]]]

Overview
GDP
Inflation rate
Unemployment rate
Budget
Exports
Imports
External debt
Industrial production
Electricity:
Industries
Agriculture
Illicit drugs
Aid
Currency
Exchange rates:
Fiscal year

[[[COMMUNICATIONS]]]

Railroads
Highways
Inland waterways
Ports
Merchant marine
Pipelines

Civil air
Airports
Telecommunications

[[[DEFENSE FORCES]]]

Branches
Military manpower
Defense expenditures

Antigone (Sophocles)

Available for browsing and searching on The Internet Gopher

Translation by F. Storr, BA
Formerly Scholar of Trinity College, Cambridge
From the Loeb Library Edition
Originally published by
Harvard University Press, Cambridge, MA
and
William Heinemann Ltd, London

First published in 1912

Oedipus at Colonus (Sophocles)

Available for browsing and searching on The Internet Gopher

Translation by F. Storr, BA
Formerly Scholar of Trinity College, Cambridge
From the Loeb Library Edition
Originally published by
Harvard University Press, Cambridge, MA
and
William Heinemann Ltd, London

First published in 1912

Oedipus the King (Sophocles)

Available for browsing and searching on The Internet Gopher

Translation by F. Storr, BA
Formerly Scholar of Trinity College, Cambridge
From the Loeb Library Edition
Originally published by
Harvard University Press, Cambridge, MA
and
William Heinemann Ltd, London

First published in 1912

Far from the madding crowd (Thomas Hardy)

Available for browsing and searching on The Internet Gopher

HERLAND

by Charlotte Perkins Stetson Gilman
1860-1935

Available for browsing and searching on the Internet Gopher

Spain

Centro Informatico Cientifico de Andalucia
Universitat Autonoma de Barcelona
Consejo Superior de Investigaciones Cientificas

Centro Informatico Cientifico de Andalucia

```
TELNET SEVAX2.CICA.ES or 150.214.4.14
At the Username: prompt, type   ALEPH
At the Terminal: prompt, enter 11 (VT100)
For English, enter  ?/ENG

To exit, type  ADIOS
```

Universitat Autonoma de Barcelona

TELNET BABEL.UAB.ES or 130.206.10.214
At the "Ordinador BABEL de les Biblioteques UAB. Entreu HELLO UAB.BIB:"
prompt, type hello uab.bib
At the "Premeu RETORN per a continuar..." prompt, hit RETURN
At the "Enter line number of TERMINAL TYPE" prompt, enter 10
At the "Entreu una comanda, HELP, o ? per al menu de cerca assistida"
prompt, enter /lang 1 for English version.

OPAC = VTLS

To exit, type /quit.

Consejo Superior de Investigaciones Cientificas

TELNET CTI.CSIC.ES or 130.206.32.31
At the Username prompt, enter ALEPH.
At the terminal prompt, enter 11.
For english, type ?/eng.

To exit, type STOP.

TELNET/TN3270 Escape Keys

System	Package	Escape Key(s)
MS-DOS	CUTCP	ALT-X
	KA9Q	F10
	MD-DOSIP	ALT-[space]
	NCSA TELNET	ALT-X
	PCIP	F10 Q Y
	PC/TCP	F10 c
	PC-NFS	F10
Macintosh	NCSA	Apple-K
VAX/VMS	CMU	CTRL-^ c
	Multinet TELNET	CTRL-^ q
	Multinet TN3270	CTRL-C q
	UCX	CTRL-]
	WIN/TCP TELNET	CTRL-] q
	WIN/TCP TN3270	CTRL-Y
Unix1	TELNET	CTRL-] q
	TN3270	CTRL-C q

Notes: These keys should work on all BSD based systems such as the Solbourne. The System V Unix keys are unknown.

Fee-Based Services

a2i network
Actrix Information Exchange
Anomaly: Rhode Island's Gateway to the Internet
BioTechNet Online Signup
CNSLink
Compuserve
C O N N E C T: The IBM PC User Group Conferencing System
EcoNet / Peacenet
Express Access (tm) Online Communications Service
Halcyon BBS
HoloNet (SM) Internet Access BBS
IDS DataForum BBS
Mindlink BBS (Canada)
NETCOM On-line Communication Services
Open University, International centre for Distance Learning
The WELL, Sausalito, California
The World

BioTechNet Online Signup

TELNET BIOTECHNET.COM or 192.80.63.1
Username: JOINBTN
Password: BIOTECH

BioTechNet's new Professional Basic membership plan consists of an $11.40 monthly fee which includes your first hour of use each month. Additional time is just $12.60 per hour. The Professional Basic Plan also carries a one-time signup fee of $25.00. Included in this $25.00 fee is your first monthly fee and a complete BioTechNet Instruction Package including the BioTechNet User Guide, and the BioTechNet Software Library Directory. The $25.00 signup fee will be charged to the charge card you select for this online signup.

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C O N N E C T: The IBM PC User Group Conferencing System

Telnet IBMPCUG.CO.UK or 192.68.174.65

- C O N N E C T -
The IBM PC User Group Conferencing System

CONNECT is open to everyone! You don't have to be an IBM PC UG member.

The IBM PC User Group is for users of IBM PCs, and all compatibles and clones. We are independent of all hardware and software suppliers, and we are the biggest and most professional User Group in the country.

We have conferences, meetings, a monthly magazine, a help desk, a software library, special interest groups and (of course) CONNECT.

Membership costs 34 Pounds per year (plus VAT) for a Personal Membership, and 150 Pounds (plus VAT) for a Corporate Memberhip (five nominated members). To join the IBM PC User Group, phone 081-863 1191 for an application form.

Halcyon BBS

Telnet HALCYON.COM or 192.135.191.2
login: bbs

This system offers you a link to International electronic mail (e-mail), as well as access to megabytes of forums, called newsgroups. You will be able to read and post messages to many of over 600,000 computers (and some 3 million users) around the globe. Thousands of messages arrive each day (some 22 megabytes of text, equivalent to about 10,000 type-written pages). We also offer a modest file download section.

Halcyon users may use an integrated bbs package called WAFFLE (Thomas Dell, author).

We are a test site for WAFFLE, so what you see here may not be available on other WAFFLE sites, but can provide a look at features-to-come. We currently run v1.65. We help to provide support in case you wish to set up your own Waffle.

This system is fee-supported. We offer mail-only, mail and news, and a UNIX shell account as options. Contact ralphs@halcyon.com for more information.

HoloNet(SM) Internet Access BBS

```
TELNET HOLONET.NET or 157.151.0.1
Login: guest

HoloNet members have full Internet E-mail an can send and receive mail from
other systems including: AppleLink, BitNet, BIX, Compuserve, Connect, MCI,
Sprint Mail.

HoloNet members can also use interactive Internet services including:
  Telnet - log in to other computers on the Internet.
  FTP - find and download files from the vast Internet Archives
  Talk - talk directly to anther person on the Internet.
  IRC - chat with other people internationally - averages >450 people 24
hours.
  MUDs - Explore or talk with others in an adventure environment.

HoloNet also has online publications such as: USA Today Decisionline,
DataNet, Newsbytes, EeeekBits, and Boardwatch Magazine.

Features coming soon:
 HoloTerm - allows background uploads and downloads!
 FidoNet  - even more conferences (news groups)!
```

IDS DataForum BBS

```
TELNET IDSVAX.IDS.RISC.NET or 155.212.1.2
Username: guest

Welcome to the IDS DataForum, "The Mother Of All Online Information
Systems" (C) 1990 InteleCom Data Systems.

                        IDS DataForum Main Menu
    1 ... (B)  News/Information/Weather
    2 ... (E)  Electronic Mail
    3 ... (U)  User Information/Configuration
    4 ... (G)  Games & Entertainment
    5 ... (H)  Home & Hobby Information & Utilities
    6 ... (S)  SIGS/Message Bases & File Areas
    7 ... (FT) File Transfers
    8 ... (CM) CB Chat/INTERNET Mail/Usenet
    9 ... (QM) QMail Offline Reader

    (CARD) ... Online Credit Card Sponsorship

   80 ... (HELP) Help
   90 ... (OFF)  Log Off
```

Mindlink BBS (Canada)

```
TELNET MINDLINK.BC.CA or 134.87.165.1
Name? (GUEST for new users):guest

  MIND LINK! Guest Menu
 [1] MIND LINK! features
 [2] Register For Access
 [3] Call for SysOp
 [4] Access BBS List
 [5] Leave Mail
 [6] Leave Feedback
 [X] Leave MIND LINK!

    Features of MIND LINK!
 [1] Simple, Powerful commands
 [2] Wide range of messages
 [3] Real Time CHAT
 [4] Low Cost FAX service
 [5] International Network
 [6] Free Software
 [7] Private, Custom Services
 [8] What does it cost?
 [Q] Leave the Features Menu
```

The WELL, Sausalito, California

TELNET WELL.SF.CA.US or 192.132.30.2
Type your userid or newuser to register

WELL Registration **** Please READ CAREFULLY

The WELL is a computer teleconferencing system running on a SEQUENT B8 computer located in Sausalito, California.

The WELL offers users access to approximately 200 WELL conferences, to the UNIX operating system, to USENET and to UUCP mail.

The basic cost of the WELL is a $10/month service charge plus a $2.00/hour usage fee. Your first 5 hours of usage @ $2.00/hour are free, so you can get to know the system, though you may want to wait until you get the manual to make the best use of this time.

In the following registration program, type the information requested at each : prompt. Then type a carriage return.

If you make a mistake while registering and want to change your entry, just use the backspace key or [control-h] to delete it. Retype the correct entry.

* * * TERMINAL EMULATION * * *

There are some programs that work better on the WELL if we know what kind of terminal you can "emulate." The most common emulation is vt100 - but other types include ansi or adm3a. If you don't know what's appropriate, just press [return], the system will default to "dumb"... (Which refers to the terminal, NOT the user!) All accounts must have the name of an individual associated with them even if this is a corporate account. This name is not a login ID. The WELL does not accept anonymous accounts except by special arrangement.

Actrix Information Exchange

```
TELNET ACTRIX.GEN.NZ or 192.100.53.17
login: bbs

    To all new users -- you will automatically receive one week's
    free access to Actrix, including downloading of files and
    reading of the USEnet news system.  Simply fill out the
    new user questionnaire for automatic approval.  Note that
    you will not be able to send electronic mail or post news
    items until you subscribe.  Only users who provide real names
    and a telephone contact number will receive free access.

    All information you supply to us will be kept confidential.
    Note that there is no obligation incurred by filling out the
    new user questionnaire.  If you do wish to subscribe, you can
    do this via the credit card questionnaire, or by sending a
    cheque for $72 (including GST) to the address listed below.

           ************************************************
           *     Welcome to Interactive UNIX 386 V3.2 v 3.0   *
           *            running on a Zenith 386/33 MHz        *
           *        Brought to you by Actrix Networks Ltd     *
           *            24 hrs a day / 7 days a week          *
           *       Data lines (wgtn) 395-478, 3895-468,       *
           *          3895-776, 3895-857 & 3896-016           *
           *              PACnet  4800013400                  *
           ************************************************

Welcome to AIX, the Actrix Information Exchange!  This system operates
24 hours a day, 7 days a week, and is based in Wellington, New Zealand.
It is New Zealand's first Public Access UNIX system, which offers
multi-user access to a wide range of facilities, including:

 o  USEnet world-wide University news network
 o  National and International electronic mail
 o  Downloading of public domain files and shareware
 o  Technical forums on many themes
 o  Multi-user interactive chatting
 o  Fidonet international communications

Access is by subscription, which costs $72 (including GST).  You may
send a cheque to the address below, or register on-line using a credit
card. For further information, please write to:

        Actrix Networks
        PO Box 11-410
        Wellington

or send electronic mail to root@actrix.gen.nz
```

NETCOM On-line Communication Services

```
TELNET NETCOM.NETCOM.COM or 192.100.81.100
login: guest

   OPTIONS

 Netcom Info
 Personal Acct
 Business Acct
 SLIP Accounts
 News Feeds
 E-Mail System
 Netnews
 Disk Usage
 Service Fees
 Billing Info
 Modem Pricing
 Internet
 Access Number
 Acct Status
 Leave Mail
 Emergency
 Usage
 REGISTRATION
 Log off
```

Netcom provides a complete dialup and communication service the academic, scientific, engineering, and general computer community. Individuals and businesses can acquire accounts our network of Sun computers for S/W development, accessing Artificial Intelligence tools/shells, Netnews, E-mail, Internet access, and general computing services. In addition, we provide an on-line archive of UUNET, GNU, X, and other sources.

Unlike bulletin Board services, Netcom offers shell access (ksh, csh, tcsh, sh, and bash), which allows you to take full advantage of our network of SPARC based servers. The system is available 24 hours per day, 365 days per year. Because of this dedication we can provide you with the reliability that you would expect from a full time communication networking company. Please feel free to look through the other information that is available through the other menu options, and if you need additional information, please feel free to give us a call at (408) 554-UNIX.

In addition to being a major News/mail carrier and Internet site, Netcom also owns and maintains a large IP network that covers 95% of the bay area. We anticipate expansion of our network to Southern California (Los Angeles) in the fir months of 1992 and Sacremento by April 92.

a2i network

```
TELNET A2I.RAHUL.NET or 192.160.13.1
login: guest

                        *** a2i guest account ***

   i      General information and how to subscribe
   f      Interesting features of this system
   s      Set screen height
   w      San Jose weather forecast
   t      Current time
   h      Host information -- convert between name and IP address
   m      Market report
   ?      Print this menu
   b      Bye (logout and disconnect)

                General information and how to subscribe

The a2i network is in its initial phase of becoming available for public
access. This is a professionally-run system based on a network of Sun
machines. It offers:

   o  Usenet news.
   o  Electronic mail.
   o  Internet access, including telnet and ftp.
      Our IP address is 192.160.13.1.
   o  A SunOS (Unix) software development environment.
   o  News feeds and electronic mail via UUCP, for UUCP subscribers.
   o  A permanent electronic mail address for you.
   o  Other services to be added.

Subscription rates depend on the amount of prepayment.

Subscription rates for personal accounts are given below.  A personal
account is for use by one person only.

   prepayment term     cost per        amount of payment
                       month

   6 months            $12             $72
   3 months            $15             $45
   1 month             $20             $20

There is no sign-up fee and no connect-time charge.  Your subscription
entitles you to 5 megabytes of disk space.  Signing up for a 3- or
6-month term gives you substantial savings and protects you against rate
increases for the duration of your subscription term.

Inexpensive trial subscription:  You may sign up for a 3- or 6-month
term, then cancel at any time for a proportionate refund.  For example,
if you prepay for a 6-month term, but cancel after the first month, your
cost for the first month will be just $12.

HOW TO SUBSCRIBE
```

Be sure you are looking at a current copy of this document. Its expiration date is at the bottom. Send your subscription request and fee in US funds (payable to "a2i communications") by postal service to the address below, and include your name, postal address, telephone number (both daytime and evening if possible), and email address if available. Please specify a username and a password. Your username must consist of three to eight lowercase letters "a" through "z". Your password must contain six to eight characters and must be hard to guess. (Use a random mixture of the following in your password: lowercase and uppercase alphabetic characters; the digits 0 through 9; and special characters such as @$#%&/+.)

Your account will typically be active the same day that we receive payment. We will give you confirmation of account creation by email if an email address is available, else we will confirm via telephone or postal service.

NOTE: If our password checking software considers your requested password easy to guess, we will assign you a new password and notify you by telephone call or postal service. After you log in you will be able to change your password at any time.

a2i communications
1211 Park Avenue #202
San Jose, California 95126-2924

Rates and policies may change. A current copy of this document may be obtained by any of the following methods. 1. Send any mail message to info@rahul.net; a daemon will auto-reply. 2. Get the file called /pub/BLURB by anonymous ftp from ftp.rahul.net. 3. Use your modem to dial 408-293-9010 (v.32 or v.32 bis) or 408-293-9020 (PEP) and log in as "guest". 4. From the Internet, telnet to a2i.rahul.net (IP address 192.160.13.1), and log in as "guest".

If you have specific questions not answered above, or if you need information about UUCP news feeds, please send mail to "support@rahul.net", where it will be read by a human being.

-- management, a2i network
this document last revised August 11, 1992
expires August 31, 1992

The Open University

International Centre for Distance Learning

Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.open.acs.vax
Username: COM_LEARN

Access from 1st September 1992 will be available to subscribers only. Current subscription is 200 pounds through 1992 to the end of 1993. Key users in developing countries may be given free access. Contact ICDL, Open University, Walton Hall, Milton Keynes.

A CD-ROM version is also available, three updates per year and online access.

Contact by e-mail :
Janet: L.R.A.MELTON@UK.AC.OPEN Other: L.R.A.MELTON@OPEN.AC.UK
N.ISMAIL@UK.AC.OPEN N.ISMAIL@OPEN.AC.UK

Compuserve

```
TELNET HERMES.MERIT.EDU or 35.1.48.159
Which Host?% compuserve
User ID:
```

Express Access (tm) Online Communications Service

TELNET DIGEX.COM or 192.55.213.2
login: new

Express Access provides Internet Mail, Usenet Newsgroups and Internet connectivity. Internet services include Telnet, FTP and IRC.

Express Access can be reached via local phone call from the Washington/Baltimore area, and nationally via the Internet, or through use of the Sprint PC-Pursuit service.

The Internet Community has two main tools for the sharing of information: Electronic Mail and Newsgroups. With Express Access, you have unlimited use of both. Express Access offers all of the newsgroups without regard to content; our corporate policy is to provide the highest levels of privacy and integrity possible.

Internet services are used to interact with other computers and users on the worldwide Internet. The Telnet facility allows a user to connect to other computers all over the world and log into them. FTP allows files to be transferred to and from those systems on the Internet, including many gigabytes of publically accessible files. Services such as Archie will allow you to describe what you are looking for, and then they will search the worldwide network to find it for you. IRC (Internet Relay Chat) allows real-time chatting between Express Access users and users logged into other systems all over the world.

Express Access is connected to both Washington and Baltimore area phone lines, so that it is a local call from the Metro Baltimore and Metro Washington areas, and most anything in between. If you're not sure if we're a local call from your area, contact us. V.32bis/V.42bis connections are now supported to both Washington and Baltimore.

The bottom line - Express Access costs $15 per month for a Mail and News only account, or $25 per month with full Internet privileges. That gets you one hour per day of "prime-time" system access (from 3 pm to 3 am Eastern time each day) and unlimited system access at all other times. Each account includes unlimited mail and news posting, 2 megabytes of file space, and shell access on a Sun Microsystems server.

More detailed information is available by logging into our system as "new" on your local modem number: 301-220-0462 in the Washington area, 410-766-1855 in the Baltimore area, or by telnetting to digex.com [192.55.213.2]. Select "Instant Account Application" from the menu. Those wishing to pay by credit card may have an account set up within 24 hours. American Express, Mastercard, Visa, Diners and Carte Blanche are accepted.

Express Access can also be accessed from most major metro areas in the United States, via PC-Pursuit. For more information on PC-Pursuit, contact US-Sprint at 800-736-1130.

EcoNet / PeaceNet

```
Telnet IGC.ORG or 192.82.108.1
At login: type userid (or "new" for new users)
At the password prompt, hit RETURN

  This is a commercial database system which charges telecommunications
  fees.  See information (below) for more information.
------------------------------------------------------------------
EcoNet / PeaceNet
A Service of the Institute for Global Communications (IGC)
18 de Boom Street, San Francisco, CA 94107  USA
voice: (415) 442-0220  fax: (415) 546-1794

WHAT IS ECONET?

EcoNet is an international, computer-based communication system
committed to serving organizations and individuals who are working for
environmental preservation and sustainability.

Most importantly, EcoNet is a community of persons using the network for
information sharing and collaboration with the intent of enhancing the
effectiveness of all environmentally-oriented programs.

ACCESS VITAL INFORMATION RESOURCES

EcoNet resources include such data as reports on the 1992 United Nations
Conference on Environment and Development in Brazil; the Environmental
Grantmakers Association's directory of grantmakers; the Sierra Club
National News Report; the National Wildlife Federation's Conservation
Directory; Global Action Network's federal legislative information;
action alerts; and newsletters from around the world.

We have made international access even more affordable by establishing
partnership relationships with like-minded networks in Canada, England,
Sweden, Australia, Nicaragua, Brazil and Russia. These connections also
allow our users to be in constant communication with a wide range of
internationally active organizations and individuals.

Electronic "gateways" allow EcoNet users to send telex and fax messages
nearly anywhere in the world, and electronic mail to users on many other
electronic systems and most international electronic mail networks.

PUBLIC ELECTRONIC CONFERENCES

Interactive public conferences on EcoNet let users read and participate
in discussions on a wide range of environmental issues. Among many
others, these include global warming, rainforests, legislative
activities, water quality, energy policy, toxics, and environmental
education.

PRIVATE ELECTRONIC CONFERENCES

Users may set up private conferences -- accessible to a specified group
of users -- to prepare a joint paper, to conduct organizational business
or to plan action or educational campaigns.
```

HOW TO JOIN

EcoNet is run by the non-profit Institute for Global Communications with the goal of providing affordable computer communication for the international environmental community. Its services are user-supported by monthly subscriptions and connect- time charges.

Internet connect rates are a flat $3.00/hr. Dialup rates vary depending on the time of connect.

For details, send an e-mail note to econet@igc.org, or phone (415) 442-0220 weekdays between 10 a.m. and 5 p.m. Pacific time.

The World

TELNET WORLD.STD.COM or 192.74.137.5
Login: new

[edited information]

The World is a service provider for Internet services. Among the myriad available services are electronic mail, USENET, file software archives, telnet, ftp, IRC, library catalogs, and much more. As the first provider of public access Internet services, World is committed to providing cost effective, reliable network services for dialup customers of the Internet community.

RATES

The World offers two billing rates which are the same 24 hours per day at all connection speeds. The Basic Rate plan is a $5 monthly account fee plus a $2 per hour usage fee. Basic Rate accounts include a .5MB disk quota. The 20/20 Plan is a bulk usage rate where $20 paid in advance buys 20 hours of online time during a one month period. This includes the monthly account fee and offers an increased disk quota of 2MB. 20/20 Plan accounts used for more than 20 hours during one month are billed at an hourly rate of $1 per hour.

The World offers payment options via MasterCard or Visa, postal invoice, or email invoice. Unfortunately, we cannot accept postal or email billing requests from outside the United States. Additional discounts are available for members of the Boston Computer Society and for corporate customers. Send email to "info@world.std.com" for details.

SIGNUP PROCEDURE

To sign up for public access, dial 617-739-WRLD. At The World's login prompt, use the login "new" to begin the account request program. You will be asked a few questions necessary to create your account. The World will allow you to select your login name which will become your email address. Most people select their name, their initials, or a combination of both. Your initial password will be provided by the account creation software. All customers must contact our office for account activation after making the account request. Accounts are eligible for a one hour trial period (see below).

THE WORLD'S STAFF

The World is managed by a staff of professionals, all of whom have UNIX and international networking experience. We are committed to providing you reliable, cost effective network access. Our full time job is the support of The World and its software in order that you, our customer, can exploit the power of today's electronic community.

ONE HOUR TRIAL

Any person may request an account and spend one hour on the system with no charges being incurred. This provides an opportunity to investigate The World and its resources. Simply complete the account request procedure and take a sixty minute tour on us.

This document was last modified on August 21, 1992
for the latest update, use the ftp archive at world.std.com
or send your request via email to info@world.std.com

Software Tool & Die 1330 Beacon Street Brookline MA 02146
617-739-0202 office@world.std.com

CNSLink

```
TELNET CSCNS.COM or 192.156.196.1
login: new

CNS Main Menu...

       E> E-Mail
       N> News and Discussion Groups
       I> Teleconference
       R> Business and Organizations
       F> Information Services
       G> Entertainment
       P> File Area
       M> Links to Remote Systems
       D> Internet Services
       H> Help and Documentation
       Z> Administration and User Services
       0> Shell to Unix
       L> Logoff
```

This service offers a full UNIX account with interactive Internet access including email, telnet, ftp, usenet, live teleconference, and access to the CNS BBS system. If you don't know what all that means, worry not! We have developed a menu that will make some of these features easy to use.

Like all good things, the CNSLink service is not free. There is a $35 setup fee for creating the UNIX account. There is also a $1.00 per hour connect fee which is charged on the credit card of your choice at the end of each month. A minimum of $10 per month is charged.

After you sign up, you will be getting two copies of a billing contract in the mail along with a self addresses envelop. You will be asked to sign one, and return it to CNS.

Anomaly: Rhode Island's Gateway to the Internet

TELNET ANOMALY.SBS.RISC.NET or 155.212.2.2
login: newuser

Welcome to Anomaly's Online New User Information/Registration System

Anomaly is an menu-based Internet gateway operated by the Rhode Island Internet Systems Cooperative Network, servicing the needs of educators and educational organizations which do not have Internet access.

Anomaly is a subscription service. The funds received from subscriptions help offset the cost of local hardware operation and the cost of the 56kbps leased line network connection to Boston.

Subscription services are obtained by filling out the on-line registration form and mailing payment or a purchase order from a rated institution to Anomaly's address.

Some of the additional benefits subscribers receive are as follows:

* Downloading files from our local SCO archives
* Access to the Anomaly Arcade (Games)
* Read/Post access to USENET News
* Internet Domain-based Mail
* Interactive FTP
* Remote system login via RLOGIN/TELNET
* Internet Relay Chat - Real Time International CB Chat Simulator
* Plus everything else on the Internet! (MUDs, etc.)

Users can subscribe for either 6 months ($125) or 12 months ($200). Yes, it seems like a lot of money, but really its only about $15/month!

Users receive 60 minutes of online time per day. Those users who require more time can purchase "blocks" of time - each block of time is 30 minutes, and costs $10/block/year. A maximum of seven (7) additional blocks can be purchased for a total of 270 minutes of online time per day.

Further information about Anomaly's services and subscription fees can be obtained by contacting:

USnail-Mail: Small Business Systems, Inc.
Route 104, Box 17220
Smithfield, Rhode Island 02917

Internet: info@anomaly.sbs.risc.net

AT&TNet: 1-401-273-4669

Purchase orders are accepted from rated organizations, and are subject to 2/10 NET 30 billing.

Finland

Abo University
Finnish National Bibliography (FENNICA)
Finnish National Library (HELKA)
Joensuu University
Jyvaskyla University
Kuopio Reserve Library
Lapin University
Oulu University
Swedish Business University
Tampere University
Vaasan University

Finnish National Bibliography (FENNICA)

TELNET HYK.HELSINKI.FI or 128.214.4.130
Login: HELLO YOURNAME,USER.CLAS01
At the terminal type menu screen, enter 4 (Scandinavian ASCII 7-bit terminal, eg. VT 100)
At the location code prompt (Anna kokoelma) enter 100
At prompt "Anna uusi..." change the language of help screens and VTLS messages to English by entering /LANG 1 or to Swedish by command /LANG 2

OPAC = VTLS

To exit, enter command /QUIT.

Contact: Kirsti Tainio tainio@cc.helsinki.FI

Joensuu University

TELNET JOYK.JOENSUU.FI or 128.214.14.103
At the HP3000/935 prompt, enter HELLO YOURNAME,USER.CLAS01
Select terminal type 4
At the Anna kokoelma prompt, enter 100
At the Anna uusi komento, help enter /LANG 1 for English

OPAC = VTLS

To exit, hit the telnet escape key

Jyvaskyla University

TELNET JYK.JYU.FI or 130.234.16.2
At the JYKHPXL: prompt, enter HELLO YOURNAME,USER.CLAS01
Select terminal type 4
At the Anna kokoelma prompt, enter 100
At the Anna uusi komento, help enter /LANG 1 for English

OPAC = VTLS

To exit, hit the telnet escape key

Kuopio Reserve Library

TELNET VARASTO.UKU.FI or 128.214.89.9
At the MPE XL: prompt, enter HELLO YOURNAME,USER.CLAS01
Select terminal type 4
At the Anna uusi komento, help enter /LANG 1 for English

OPAC = VTLS

To exit, hit the telnet escape key

Lapin University

TELNET 128.214.30.51
At the MPE XL: prompt, enter HELLO YOURNAME,USER.CLAS01
Select terminal type 4
At the Anna kokoelma prompt, enter 100
At the Anna uusi komento, help enter /LANG 1 for English

OPAC = VTLS

To exit, hit the telnet escape key

Oulu University

TELNET KIRJASTO.OULU.FI or 130.231.241.31
At the KIRJASTO: prompt, enter HELLO YOURNAME,USER.CLAS01
Select terminal type 4
At the Anna kokoelma prompt, enter 100
At the Anna uusi komento, help enter /LANG 1 for English

OPAC = VTLS

To exit, hit the telnet escape key

Swedish Business University

TELNET HANNA.SHH.FI or 128.214.44.16
At the MPE XL: prompt, enter HELLO YOURNAME,USER.CLAS01
Select terminal type 4
At the Anna kokoelma prompt, enter 100
At the Anna uusi komento, help enter /LANG 1 for English

OPAC = VTLS

To exit, hit the telnet escape key

Tampere University

TELNET LAKKA.UTA.FI or 128.214.2.9
At the LAKKA> prompt, enter C HILLA
At the MPE XL: prompt, enter HELLO YOURNAME,USER.CLAS01
Select terminal type 4
At the Anna kokoelma prompt, enter 100
At the Anna uusi komento prompt, help enter /LANG 1 for English

OPAC = VTLS

To exit, hit the telnet escape key

Vaasan University

TELNET KUSTAA.UWASA.FI or 128.214.85.12
At the MPE XL: prompt, enter HELLO YOURNAME,USER.CLAS01
Select terminal type 4
At the Anna kokoelma prompt, enter 100
At the Anna uusi komento, help enter /LANG 1 for English

OPAC = VTLS

To exit, hit the telnet escape key

Abo University

To use, you must have an account. Contact Marie-Louise Lindstrum (miso@finabo.a bo.fi), Susanne Olin (susanne@finabo,abo.fi), or Abo Akademi; Domkyrkogatan 2-4; SF-20500 ABO, Finland.

TELNET BO.ABO.FI or 130.232.16.3
At the BO> prompt, type HELLO userid,REF.CLAS01
Enter your password
Select 10 as your terminal type

OPAC = VTLS

To exit, type /QUIT

Finnish National Library (HELKA)

Contains only books not published in Finland.

TELNET HYK.HELSINKI.FI or 128.214.4.130
Login: HELLO YOURNAME,USER.CLAS02
At the terminal type menu screen, enter 4
At the location code prompt (Anna kokelma), enter 100
At the prompt "Anna uusi...", change the language of help screens and VTLS messages to English by entering /LANG 1 or to Swedish by /LANG 2

OPAC = VTLS

To exit, enter /QUIT

France

Ecole Polytechnique

Ecole Polytechnique

```
TN3270 FRPOLY11.POLYTECHNIQUE.FR
Hit ENTER on userid screen
Type DIAL VTAM
Select BI on Menu des Applications screen

To exit, hit the Telnet or TN3270 escape key
```

FREE-NET systems

The Big Sky Telegraph
Buffalo FREE-NET
Chicago FREE-NET
Cleveland FREE-NET
CORE
Denver FREE-NET
Heartland FREE-NET
La Grande FREE-NET
Lorain County FREE-NET
Medina County FREE-NET
National Capital Freenet, Ottawa, Canada
Salem FREE-NET
Santa Barbara FREE-NET
SENDIT
Tri-State Online (Cincinnati)
Wellington Citynet
Youngstown FREE-NET

Cleveland FREE-NET

```
TELNET HELA.INS.CWRU.EDU or 129.22.8.38
Login: visitor

                          /\
 WELCOME TO THE...      _!  !_
                      _!__  __!_
                    !         !
      __            !   !  !   !
    _!  !_          !   !  !   !
   !      !   /\    !   !  !   !
   !      !  !  !   !   !  !   !___
   !      ! !   !   !   !  !   !   !
   !      !_!_  !   !   !  !   !   !
   !      !   ! !   !   !  !   !   !
  _!      !   !_!_  !           !   !_
 !        !       !_!           !     !
!                                     !
!         CLEVELAND FREE-NET          !
!      COMMUNITY COMPUTER SYSTEM      !
!_____________________________________!

          brought to you by
    Case Western Reserve University
  Community Telecomputing Laboratory

 CLEVELAND FREE-NET DIRECTORY

  1 The Administration Building
  2 The Post Office
  3 Public Square
  4 The Courthouse & Government Center
  5 The Arts Building
  6 Science and Technology Center
  7 The Medical Arts Building
  8 The Schoolhouse (Academy One)
  9 The Community Center & Recreation Area
 10 The Business and Industrial Park
 11 The Library
 12 University Circle
 13 The Teleport
 14 The Communications Center
 15 NPTN/USA TODAY HEADLINE NEWS
 16  SPECIAL FEATURES
```

Heartland FREE-NET

```
Telnet HEARTLAND.BRADLEY.EDU or 136.176.5.114
Login: bbguest

[[[ HEARTLAND FREE-NET DIRECTORY ]]]
  1 Administration Building
  2 Mailboxes for Registered Users
  3 Community Center (Calendar, Public Forum, Recreation)
  4 Social Services and Organizations Center
  5 Business Center
  6 Senior Center
  7 Teen Center
  8 Government Center (Peoria County, Peoria, Job Service)
  9 Professional Building (Legal, Medical, Tax, Invest/Banking)
 10 Education Center
 11 Science and Technology Center
 12 Home and Garden Center
 13 Library Center
 14 Special Interest Groups Center
```

Youngstown FREE-NET

```
Telnet YFN.YSU.EDU or 192.55.234.27
Login: visitor

 Main Menu

  1 Administration
  2 Post Office
  3 The Public Square
  4 The Communications Center
  5 Help Desk
  6 The Animal Hospital
  7 The Business & Industrial Park
  8 The Computer Center
  9 The Courthouse
 10 The Government Center
 11 The Hospital
 12 The House of Worship
 13 The Human Services Building
 14 The Library
 15 The Teleport
 16 The USA/Today Headline News
 17 Youngstown State University
```

Medina County FREE-NET

Currently not available by Telnet.

Available by modem at (216) 723-6732

Tri-State Online (Cincinnati)

TELNET TSO.UC.EDU or 129.137.100.1
login: visitor

Tristate Online is an affiliate of the National Public Telecomputing Network.

Cincinnati Bell Directory would like to take this opportunity to introduce you to the new Tristate Online. The look and feel is basically the same, but there are some obvious improvements that you will notice immediately. Other than the dramatic speed increase, the functionality is greatly enhanced as well.

For online documentation and help, choose Option #12 from the top menu (TSO's New Software). Please address comments and concerns regarding the new software in one of the boards in this area.

Lastly, we recommend that you read the "What's New On Tristate Online" housed in the Administration Center for some brief but important messages.

Thank you and enjoy the new TriState Online!

Chicago FREE-NET

Should be available early 1992
Contact: Paul Bernstein
Voice: 312-951-8451
e-mail: 72466.3137@compuserve.com

La Grande FREE-NET

Should be available early 1992
Contact: Jim Williams
Voice: 503-494-6059
e-mail: williams@ohsu.edu

Lorain County FREE-NET

```
TELNET FREENET.LORAIN.OBERLIN.EDU or 132.162.32.99
login: guest
              An Open Access Community Information Network
          A Project of Leadership Lorain County, Class of 1990

        NEWS, NEWS, NEWS                - [go news]
        MEMBER DIRECTORY LOOK-UP        - [go lookup]
        INTERNET RELAT CHAT             - [go irc or go chat]
        ON-LINE REGISTRATION            - [go register]
        FINANCE AND TAX CENTER          - [go finance]

    Please forward any comments to tucker@freenet.LORAIN.OBERLIN.Edu
```

Salem FREE-NET

Contact: Jim Williams
Voice: 503-494-6059
e-mail: williams@ohsu.edu

Santa Barbara FREE-NET

Should be available early 1992
Contact: Timothy Tyndall
Voice: 805-962-0129
e-mail: 3000rain@ucsbuxa.ucsb.edu

Denver FREE-NET

Available Fall/Winter 1992

Buffalo FREE-NET

Available Fall/Winter 1992

The Big Sky Telegraph

Dillon, Montana

Available Fall/Winter 1992

Wellington Citynet

Wellington, New Zealand

Available Fall/Winter 1992

SENDIT

Fargo, North Dakota

Available Fall/Winter 1992

CORE

Seal Beach, California

Available Fall/Winter 1992

National Capital Freenet

Ottawa, Canada

```
TELNET FREENET.CARLETON.CA or 134.117.1.12
login: guest

 Main Menu

  1 The National Capital Freenet...
  2 Administration...
  3 Post Office...
  4 Public Discussion...
  5 Social Services...
  6 Community Associations...
  7 The Government Centre (under construction)...
  8 Schools, Colleges and Universities (under construction)...
  9 Daily Newspaper...
 10 Libraries...
 11 Special Interest Groups...
 12 Communications...
 13 Help Desk...
```

List of all known anonymous FTP sites

```
a.cs.uiuc.edu                   128.174.252.1   TeX, dvi2ps, gif, texx2.7,
 a.cs.uiuc.edu                                  amiga, GNUmake, GNU
 a.cs.uiuc.edu                  08/22/90  5
anonymous/odin@pilot.njin.net
a.psc.edu                       128.182.66.105  GPLOT, GTEX
 a.psc.edu                      12/31/90  4
anonymous/odin@pilot.njin.net
aarnet.edu.au                   139.130.204.4   Australian AARNET network
 aarnet.edu.au                                  stats
 aarnet.edu.au                  01/03/91  -12
anonymous/odin@pilot.njin.net
ab20.larc.nasa.gov              128.155.23.64   amiga, comp.sources.amiga,
 ab20.larc.nasa.gov                             comp.binaries.amiga
 ab20.larc.nasa.gov             04/01/91  4
anonymous/odin@pilot.njin.net
acacia.maths.uwa.oz.au          130.95.16.2     unknown
 acacia.maths.uwa.oz.au         09/22/91  -8
anonymous/odin@pilot.njin.net
acfcluster.nyu.edu              128.122.128.11  VMS UUCP, news, DECUS
library
 acfcluster.nyu.edu             128.122.128.17  catalog, vsmnet.sources,
 acfcluster.nyu.edu             128.122.128.16  info-vax code segments
 acfcluster.nyu.edu             01/02/91  4
anonymous/odin@pilot.njin.net
acns.nwu.edu                    129.105.49.1    virus info/programs, maps
 acns.nwu.edu                   05/15/90  5
anonymous/odin@pilot.njin.net
acorn.cs.brandeis.edu           129.64.3.8      unknown
 acorn.cs.brandeis.edu          12/31/90  5
anonymous/odin@pilot.njin.net
acsc.acsc.com                   143.127.0.2     unknown
 acsc.acsc.com                  04/24/91  7
anonymous/odin@pilot.njin.net
addvax.llnl.gov                 128.115.19.32   GNU Emacs
 addvax.llnl.gov                02/21/91  7
anonymous/odin@pilot.njin.net
admin.viccol.edu.au             139.132.5.1     unknown
 admin.viccol.edu.au            03/25/91
anonymous/odin@pilot.njin.net
ads.com                         128.229.30.16   internet mailing lists,
 ads.com                                        vision-list, info-graphics
 ads.com                        05/15/90  7
anonymous/odin@pilot.njin.net
aelred-3.ie.org                 192.48.115.36   enhanced billing design
paper
 aelred-3.ie.org                05/15/90  4
anonymous/odin@pilot.njin.net
aeneas.mit.edu                  18.71.0.38      GNU emacs, kerberos
 aeneas.mit.edu                 05/15/90  4
anonymous/odin@pilot.njin.net
aerospace.aero.org              130.221.192.10  minix
 aerospace.aero.org             05/31/90  7
anonymous/odin@pilot.njin.net
ahkcus.org                      192.55.187.25   unknown
```

```
 ahkcus.org                          04/24/91  5
anonymous/odin@pilot.njin.net
ais.org                             141.211.206.16  unknown
 ais.org                            12/31/90  7
anonymous/odin@pilot.njin.net
aisun1.ai.uga.edu                   128.192.12.9    lisp, prolog, natural
 aisun1.ai.uga.edu                                  language processing, msdos
 aisun1.ai.uga.edu                                  utils
 aisun1.ai.uga.edu                  03/14/91  4
anonymous/odin@pilot.njin.net
aix.rpi.edu                         128.113.26.11   aix/370 tcpip benchmarks
 aix.rpi.edu                        01/17/91  7
anonymous/odin@pilot.njin.net
aix370.rrz.uni-koeln.de             134.95.132.2    unknown
 aix370.rrz.uni-koeln.de            09/30/91  -2
anonymous/odin@pilot.njin.net
ajpo.sei.cmu.edu                    128.237.2.253   all the ADA you could ask
for
 ajpo.sei.cmu.edu                   05/15/90  4
anonymous/odin@pilot.njin.net
akbar.cac.washington.edu            128.95.112.1    Next
 akbar.cac.washington.edu           05/31/90  7
anonymous/odin@pilot.njin.net
albanycs.albany.edu                 128.204.1.4     nothing
 albanycs.albany.edu                06/18/90  4
anonymous/odin@pilot.njin.net
alcazar.cd.chalmers.se              129.16.48.100   TeX, amoeba, lpmud
 alcazar.cd.chalmers.se             08/22/90  -1
anonymous/odin@pilot.njin.net
alex.stacken.kth.se                 130.237.237.3   unknown
 alex.stacken.kth.se                02/23/91  -2
anonymous/odin@pilot.njin.net
alfred.ccs.carleton.ca              134.117.1.1     unknown
 alfred.ccs.carleton.ca             02/23/91  4
anonymous/odin@pilot.njin.net
alice.fmi.uni-passau.de             132.231.10.1    unknown
 alice.fmi.uni-passau.de            09/30/91  -2
anonymous/odin@pilot.njin.net
allspice.berkeley.edu               128.32.150.27   unknown
 allspice.berkeley.edu              02/23/91  7
anonymous/odin@pilot.njin.net
allspice.lcs.mit.edu                18.26.0.115     RFCs1056 (PCMAIL) stuff,
MIT
 allspice.lcs.mit.edu                               snmp
 allspice.lcs.mit.edu               05/15/90  4
anonymous/odin@pilot.njin.net
altdorf.ai.mit.edu                  18.43.0.246     c-scheme
 altdorf.ai.mit.edu                 03/28/91  4
anonymous/odin@pilot.njin.net
alumni.cs.colorado.edu              128.138.243.32  eli, mactivation
 alumni.cs.colorado.edu             02/08/91  6
anonymous/odin@pilot.njin.net
alw.nih.gov                         128.231.128.251 NIH Image 1.19
 alw.nih.gov                        05/15/90  4
anonymous/odin@pilot.njin.net
amarna.gsfc.nasa.gov                128.183.112.2   VAX/VMS VNEWS source
 amarna.gsfc.nasa.gov               12/31/90  4
```

```
anonymous/odin@pilot.njin.net
amazonas.cs.columbia.edu          128.59.16.72    unknown
 amazonas.cs.columbia.edu         12/26/90  4
anonymous/odin@pilot.njin.net
ames.arc.nasa.gov                 128.102.18.3    pcrrn, GNU grep, conf,
grep,
 ames.arc.nasa.gov                                iso.ps, mmdf, popd, sail,
 ames.arc.nasa.gov                                xfer, zmodem, SCUBA, Space
 ames.arc.nasa.gov                                archives, 3b2 source and
info
 ames.arc.nasa.gov                07/06/90  7
anonymous/odin@pilot.njin.net
amos.ucsd.edu                     128.54.16.43    unknown
 amos.ucsd.edu                    05/31/90  7
anonymous/odin@pilot.njin.net
andy.bgsu.edu                     129.1.1.2       Unix sysadm tools, Unix
Vote
 andy.bgsu.edu                                    by mail, Unix etc.,
College
 andy.bgsu.edu                                    hockey stats
 andy.bgsu.edu                    09/22/90  4
anonymous/odin@pilot.njin.net
andy.che.utexas.edu               128.83.162.5    unknown
 andy.che.utexas.edu              01/17/91  5
anonymous/odin@pilot.njin.net
anna.stanford.edu                 36.14.0.13      Anna (Annotated Ada)
software
 anna.stanford.edu                                and docs
 anna.stanford.edu                04/07/91  7
anonymous/odin@pilot.njin.net
apple.com                         130.43.2.2      tech-notes, worm papers
 apple.com                        05/15/90  7
anonymous/odin@pilot.njin.net
aramis.rutgers.edu                128.6.4.2       idea, RFCs
 aramis.rutgers.edu               128.6.25.2
 aramis.rutgers.edu               05/15/90  4
anonymous/odin@pilot.njin.net
archive.cis.ohio-state.edu        128.146.8.52    unknown
 archive.cis.ohio-state.edu       09/15/91  6
anonymous/odin@pilot.njin.net
archive.egr.msu.edu               35.8.8.177      info-pmdf archive,
 archive.egr.msu.edu                              cmu-tek-tcp
 archive.egr.msu.edu              02/06/91  5
anonymous/odin@pilot.njin.net
archive.umich.edu                 141.211.164.153 unknown
 archive.umich.edu                09/15/91  5
anonymous/odin@pilot.njin.net
argus.stanford.edu                36.56.0.151     netinfo
 argus.stanford.edu               08/22/90  7
anonymous/odin@pilot.njin.net
ariadne.csi.forth.gr              139.91.1.1      unknown
 ariadne.csi.forth.gr             192.67.249.59
 ariadne.csi.forth.gr             03/31/91  -4
anonymous/odin@pilot.njin.net
ariel.unm.edu                     129.24.8.1      university networking
ethics
 ariel.unm.edu                                    documents
```

```
 ariel.unm.edu                    05/15/90  6
anonymous/odin@pilot.njin.net
arisia.xerox.com                 13.1.100.206    sunfixes, mac, LispUsers,
 arisia.xerox.com                                tcp/ip, IDA sendmail kit,
 arisia.xerox.com                                Portable Common Runtime
 arisia.xerox.com                08/22/90  7
anonymous/odin@pilot.njin.net
armstrong.cs.buffalo.edu         128.205.32.3    rec.radio.amateur.*
archives
 armstrong.cs.buffalo.edu        128.205.36.1
 armstrong.cs.buffalo.edu        03/31/91  4
anonymous/odin@pilot.njin.net
arp.anu.edu.au                   130.56.4.90     F77 compress
 arp.anu.edu.au                  12/15/90  -10
anonymous/odin@pilot.njin.net
arthur.cs.purdue.edu             128.10.2.1      RCS, buildtex, deTeX,
mac32,
 arthur.cs.purdue.edu                            Purdue Tech Reports,
xspeed
 arthur.cs.purdue.edu            08/22/90  4
anonymous/odin@pilot.njin.net
ashley.cs.widener.edu            147.31.254.132  unknown
 ashley.cs.widener.edu           12/26/90  4
anonymous/odin@pilot.njin.net
askhp.ask.uni-karlsruhe.de       192.67.194.33   unknown
 askhp.ask.uni-karlsruhe.de      192.67.194.194
 askhp.ask.uni-karlsruhe.de      09/30/91  -2
anonymous/odin@pilot.njin.net
asuvax.eas.asu.edu               129.219.30.5    fidonet node list
 asuvax.eas.asu.edu              07/10/90  6
anonymous/odin@pilot.njin.net
atari.archive.umich.edu          141.211.164.8   unknown
 atari.archive.umich.edu         09/30/91  5
anonymous/odin@pilot.njin.net
atc.boeing.com                   130.42.28.80    unknown
 atc.boeing.com                  04/24/91  7
anonymous/odin@pilot.njin.net
atc.sp.unisys.com                129.218.59.161  unknown
 atc.sp.unisys.com               05/25/91  5
anonymous/odin@pilot.njin.net
athena.cs.uga.edu                128.192.4.49    gnu, elm, top, cops, etc.
 athena.cs.uga.edu               05/25/91  4
anonymous/odin@pilot.njin.net
athene.uni-paderborn.de          131.234.2.32    unknown
 athene.uni-paderborn.de         09/30/91  -1
anonymous/odin@pilot.njin.net
athos.rutgers.edu                128.6.4.4       dvidoc
 athos.rutgers.edu               128.6.25.4
 athos.rutgers.edu               05/15/90  4
anonymous/odin@pilot.njin.net
att-in.att.com                   192.20.239.129  PSPreviewer
 att-in.att.com                  05/31/90  4
anonymous/odin@pilot.njin.net
audrey.sait.edu.au               130.220.16.88   unknown
 audrey.sait.edu.au              03/31/91  -10
anonymous/odin@pilot.njin.net
augean.eleceng.adelaide.edu.au   129.127.4.2     unknown
```

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 augean.eleceng.adelaide.edu.au    129.127.28.4
 augean.eleceng.adelaide.edu.au    10/05/91  -10
anonymous/odin@pilot.njin.net
augean.ua.oz.au                   129.127.4.2     patches for gdb and gas
 augean.ua.oz.au                  129.127.28.4
 augean.ua.oz.au                  06/02/90  -11
anonymous/odin@pilot.njin.net
aupair.cs.athabascau.ca           131.232.4.1     unknown
 aupair.cs.athabascau.ca          131.232.10.8
 aupair.cs.athabascau.ca          04/24/91  6
anonymous/odin@pilot.njin.net
aurora.arc.nasa.gov               128.102.21.1    Rhosettastone
 aurora.arc.nasa.gov              05/31/90  7
anonymous/odin@pilot.njin.net
avahi.inria.fr                    138.96.24.30    xfedor
 avahi.inria.fr                   08/06/90  -2
anonymous/odin@pilot.njin.net
b.gp.cs.cmu.edu                   128.2.242.8     unknown
 b.gp.cs.cmu.edu                  05/25/91  4
anonymous/odin@pilot.njin.net
b.psc.edu                         128.182.66.102  GPLOT, GTEX
 b.psc.edu                        12/31/90  4
anonymous/odin@pilot.njin.net
b.scs.uiuc.edu                    128.174.90.2    LaTex
 b.scs.uiuc.edu                   08/22/90  5
anonymous/odin@pilot.njin.net
babar.mmwb.ucsf.edu               128.218.21.42   unknown
 babar.mmwb.ucsf.edu              03/17/91  7
anonymous/odin@pilot.njin.net
bach.cs.umb.edu                   192.12.26.23    web2c, TeX stuff
 bach.cs.umb.edu                  04/11/91  4
anonymous/odin@pilot.njin.net
baldrick.cs.flinders.oz.au        129.96.2.4      unknown
 baldrick.cs.flinders.oz.au       129.96.4.11
 baldrick.cs.flinders.oz.au       10/05/91  5
anonymous/odin@pilot.njin.net
banksia.maths.uwa.oz.au           130.95.16.3     unknown
 banksia.maths.uwa.oz.au          09/22/91  -8
anonymous/odin@pilot.njin.net
barnacle.erc.clarkson.edu         128.153.28.12   unknown
 barnacle.erc.clarkson.edu        09/15/91  1
anonymous/odin@pilot.njin.net
bbn.com                           128.89.0.122    uumap
 bbn.com                          05/16/90  4
anonymous/odin@pilot.njin.net
bcm.tmc.edu                       128.249.2.1     nfs list, Texas UUCP maps
 bcm.tmc.edu                      05/15/90  5
anonymous/odin@pilot.njin.net
beach.cis.ufl.edu                 128.227.224.2   Pink Floyd mailing list
 beach.cis.ufl.edu                                archives
 beach.cis.ufl.edu                02/04/91  4
anonymous/odin@pilot.njin.net
belch.berkeley.edu                128.32.152.202  tinymud help robot,
tinymuck
 belch.berkeley.edu               07/09/90  7
anonymous/odin@pilot.njin.net
belgica.stat.washington.edu       128.95.17.57    unknown
```

```
 belgica.stat.washington.edu       02/23/91  7
anonymous/odin@pilot.njin.net
bert.cs.byu.edu                   128.187.2.20    unknown
 bert.cs.byu.edu                  12/26/90  7
anonymous/odin@pilot.njin.net
bessel.clsc.utoronto.ca           128.100.104.6   unknown
 bessel.clsc.utoronto.ca          02/23/91  4
anonymous/odin@pilot.njin.net
betwixt.cs.caltech.edu            131.215.128.4   unknown
 betwixt.cs.caltech.edu           03/22/91
anonymous/odin@pilot.njin.net
betwixt.ugcs.caltech.edu          131.215.133.206 unknown
 betwixt.ugcs.caltech.edu         131.215.128.6
 betwixt.ugcs.caltech.edu         09/30/91  4
anonymous/odin@pilot.njin.net
bikini.cis.ufl.edu                128.227.224.1   comp.simulation, IBM RT
BSD
 bikini.cis.ufl.edu               128.227.128.2   patches
 bikini.cis.ufl.edu               05/15/90  4
anonymous/odin@pilot.njin.net
biom3.univ-lyon1.fr               134.214.100.42  ACNUC nucleic acid
sequences
 biom3.univ-lyon1.fr                              database
 biom3.univ-lyon1.fr              02/21/91  -2
anonymous/odin@pilot.njin.net
birger.forut.no                   128.39.63.102   IEEE P1157 MEDIX documents
 birger.forut.no                  04/11/91  -2
anonymous/odin@pilot.njin.net
bitnic.educom.edu                 192.52.179.2    nicbbs archives
 bitnic.educom.edu                12/24/90  4
anonymous/odin@pilot.njin.net
bitsy.mit.edu                     18.72.0.3       mit worm paper
 bitsy.mit.edu                    05/15/90  4
anonymous/odin@pilot.njin.net
black.cerritos.edu                130.150.200.21  vmsnet sources
 black.cerritos.edu               09/30/91  7
anonymous/odin@pilot.njin.net
blackbird.afit.af.mil             129.92.1.2      unknown
 blackbird.afit.af.mil            05/25/91  4
anonymous/odin@pilot.njin.net
blackbox.mit.edu                  18.172.0.41     unknown
 blackbox.mit.edu                 04/24/91  4
anonymous/odin@pilot.njin.net
bmc1.bmc.uu.se                    130.238.4.81    VMS news, drivers over
 bmc1.bmc.uu.se                                   Decnet, X25 and SLIP for
CMU
 bmc1.bmc.uu.se                                   TCP/IP v6.3
 bmc1.bmc.uu.se                   08/22/90  -2
anonymous/odin@pilot.njin.net
bnlux0.bnl.gov                    130.199.128.1   looking for suggestions
 bnlux0.bnl.gov                   05/15/90  4
anonymous/odin@pilot.njin.net
bobcat.bbn.com                    128.89.2.103    nothing
 bobcat.bbn.com                   08/22/90  5
anonymous/odin@pilot.njin.net
bongo.cc.utexas.edu               128.83.186.13   unknown
 bongo.cc.utexas.edu              05/25/91  5
```

```
anonymous/odin@pilot.njin.net
boole.stanford.edu                36.8.0.65       concurrency models,
algebra
 boole.stanford.edu               04/10/91  7
anonymous/odin@pilot.njin.net
boombox.micro.umn.edu             128.101.95.95   networking stuff (POPmail,
 boombox.micro.umn.edu                            Mailstop)
 boombox.micro.umn.edu            08/22/90  7
anonymous/odin@pilot.njin.net
boulder.colorado.edu              128.138.240.1   unix-pc, sun, Esperanto,
 boulder.colorado.edu             128.138.238.18  ghostscript
 boulder.colorado.edu             12/31/90  6
anonymous/odin@pilot.njin.net
brazos.rice.edu                   128.42.42.2     pub/X11R3/core.src
 brazos.rice.edu                  05/15/90  5
anonymous/odin@pilot.njin.net
bric-a-brac.apple.com             130.43.2.3      Mac Systems Softwre APDA
Mac
 bric-a-brac.apple.com                            utils, Apple II
 bric-a-brac.apple.com            09/20/91  7
anonymous/odin@pilot.njin.net
brillig.cs.umd.edu                128.8.128.79    icons
 brillig.cs.umd.edu               10/25/90  4
anonymous/odin@pilot.njin.net
brokaw.lcs.mit.edu                18.30.0.33      pc-omega, bison, scheme
util
 brokaw.lcs.mit.edu               05/15/90  4
anonymous/odin@pilot.njin.net
brolga.cc.uq.oz.au                130.102.128.5   comp.sources.amiga,
 brolga.cc.uq.oz.au                               comp.sources.games,
 brolga.cc.uq.oz.au                               comp.sources.misc,
 brolga.cc.uq.oz.au                               comp.sources.sun,
 brolga.cc.uq.oz.au                               comp.sources.unix,
 brolga.cc.uq.oz.au                               comp.windows.news, gnu,
RFCs,
 brolga.cc.uq.oz.au                               isode, pp
 brolga.cc.uq.oz.au               01/17/91  -12
anonymous/odin@pilot.njin.net
brownvm.brown.edu                 128.148.128.40  mac, tn3270
 brownvm.brown.edu                08/22/90  4
anonymous/odin@pilot.njin.net
bu.edu                            128.197.2.6     RFCs, mail utils
 bu.edu                           05/15/90  4
anonymous/odin@pilot.njin.net
buacca.bu.edu                     128.197.2.4     unknown
 buacca.bu.edu                    08/22/90  4
anonymous/odin@pilot.njin.net
bugs.nosc.mil                     128.49.16.1     Minix, ada math
 bugs.nosc.mil                    05/29/90  7
anonymous/odin@pilot.njin.net
bull.cs.williams.edu              137.165.5.2     ParaGraph
 bull.cs.williams.edu             05/31/90  4
anonymous/odin@pilot.njin.net
bulldog.cs.yale.edu               128.36.0.3      ispell, ease report
 bulldog.cs.yale.edu              130.132.1.2
 bulldog.cs.yale.edu              08/05/90  4
anonymous/odin@pilot.njin.net
```

```
burdvax.prc.unisys.com              128.126.10.33   diana
 burdvax.prc.unisys.com             05/29/90  4
anonymous/odin@pilot.njin.net
byron.u.washington.edu              128.95.48.32    unknown
 byron.u.washington.edu             09/30/91  7
anonymous/odin@pilot.njin.net
c.scs.uiuc.edu                      128.174.90.3    adventure, dungeon, world,
 c.scs.uiuc.edu                                     some astronomy gifs
 c.scs.uiuc.edu                     01/02/91  5
anonymous/odin@pilot.njin.net
cadillac.siemens.com                129.73.2.39     unknown
 cadillac.siemens.com               04/24/91  4
anonymous/odin@pilot.njin.net
caf.mit.edu                         18.62.0.232     giraphe3
 caf.mit.edu                        05/29/90  4
anonymous/odin@pilot.njin.net
calpe.psc.edu                       128.182.62.148  GPLOT, GTEX
 calpe.psc.edu                      05/29/90  4
anonymous/odin@pilot.njin.net
calvin.nmsu.edu                     128.123.35.150  unknown
 calvin.nmsu.edu                    05/25/91  6
anonymous/odin@pilot.njin.net
casbah.acns.nwu.edu                 129.105.113.52  unknown
 casbah.acns.nwu.edu                129.105.49.52
 casbah.acns.nwu.edu                03/22/91  5
anonymous/odin@pilot.njin.net
casper.na.cs.yale.edu               128.36.12.1     multigrid repository
 casper.na.cs.yale.edu              09/24/91  4
anonymous/odin@pilot.njin.net
caticsuf.cati.csufresno.edu         129.8.100.15    Weather/Drought info for
 caticsuf.cati.csufresno.edu                        California, International
 caticsuf.cati.csufresno.edu                        Market Research, public
 caticsuf.cati.csufresno.edu                        telnet login
 caticsuf.cati.csufresno.edu        02/21/91  7
anonymous/odin@pilot.njin.net
cayuga.cs.rochester.edu             192.5.53.209    JOVE, NL-KR mail list
 cayuga.cs.rochester.edu            09/22/90  4
anonymous/odin@pilot.njin.net
cc.curtin.edu.au                    134.7.70.1      internet access sw,
chemical
 cc.curtin.edu.au                                   eng.
 cc.curtin.edu.au                   09/30/91  4
anonymous/odin@pilot.njin.net
cc.rochester.edu                    128.151.224.6   nothing
 cc.rochester.edu                   05/15/90  4
anonymous/odin@pilot.njin.net
cc.sfu.ca                           128.189.32.250  msdos, mac
 cc.sfu.ca                          08/22/90  4
anonymous/odin@pilot.njin.net
cc.tut.fi                           130.230.23.10   unknown
 cc.tut.fi                          03/17/91  -3
anonymous/odin@pilot.njin.net
cc.utah.edu                         128.110.48.3    nothing
 cc.utah.edu                        12/31/90  6
anonymous/odin@pilot.njin.net
ccadfa.cc.adfa.oz.au                131.236.1.2     unknown
 ccadfa.cc.adfa.oz.au               10/09/90  -11
```

```
anonymous/odin@pilot.njin.net
ccb.ucsf.edu                    128.218.1.13    comp.sources, GNU stuff,
 ccb.ucsf.edu                                   sound_list archives
 ccb.ucsf.edu                   10/30/90  7
anonymous/odin@pilot.njin.net
ccu1.aukuni.ac.nz               130.216.1.5     unknown
 ccu1.aukuni.ac.nz              09/30/91  -10
anonymous/odin@pilot.njin.net
ccv1.bbn.com                    128.89.4.29     unknown
 ccv1.bbn.com                   03/17/91  4
anonymous/odin@pilot.njin.net
cdc1.cc.lehigh.edu              128.180.2.7     cybserv
 cdc1.cc.lehigh.edu             128.180.2.17
 cdc1.cc.lehigh.edu             09/22/90  -4    anonymous/guest
cecelia.media.mit.edu           18.85.0.104     unknown
 cecelia.media.mit.edu          08/22/90  4
anonymous/odin@pilot.njin.net
cephalotus.maths.uwa.oz.au      130.95.16.5     nothing
 cephalotus.maths.uwa.oz.au     09/28/91  -8
anonymous/odin@pilot.njin.net
cerl.cecer.army.mil             129.229.1.101   Pcomm and patches 1-8
 cerl.cecer.army.mil            09/07/90  5
anonymous/odin@pilot.njin.net
cert.sei.cmu.edu                192.88.209.5    virus-l archives
 cert.sei.cmu.edu               05/29/90  4
anonymous/odin@pilot.njin.net
chalmers.se                     129.16.1.1      RFCs, sunet information
(runs
 chalmers.se                                    whois server)
 chalmers.se                    08/22/90  -2
anonymous/odin@pilot.njin.net
chamartin.ai.mit.edu            18.43.0.171     liar, scheme
 chamartin.ai.mit.edu           08/22/90  4
anonymous/odin@pilot.njin.net
chaos.swarthmore.edu            130.58.65.3     unknown
 chaos.swarthmore.edu           10/09/90  4
anonymous/odin@pilot.njin.net
charly.bl.physik.tu-muenchen.de 129.187.160.10  unknown
 charly.bl.physik.tu-muenchen.de 03/17/91  -2
anonymous/odin@pilot.njin.net
charon.mit.edu                  18.70.0.224     perl+patches, xdvi, world
map
 charon.mit.edu                                 data
 charon.mit.edu                 05/29/90  4
anonymous/odin@pilot.njin.net
chem.bu.edu                     128.197.30.18   unknown
 chem.bu.edu                    08/20/90  4
anonymous/odin@pilot.njin.net
cheops.cis.ohio-state.edu       128.146.8.62    unknown
 cheops.cis.ohio-state.edu      12/24/90  4
anonymous/odin@pilot.njin.net
cica.cica.indiana.edu           129.79.20.22    misc unix, pc, NeXT
updates,
 cica.cica.indiana.edu                          ms windows
 cica.cica.indiana.edu          03/01/91  4
anonymous/odin@pilot.njin.net
cicero.cs.umass.edu             128.119.40.189  large collection of
```

```
digitized
 cicero.cs.umass.edu                          images
 cicero.cs.umass.edu            12/25/90  4
anonymous/odin@pilot.njin.net
cis.ohio-state.edu              128.146.8.51    NeWS, alt.gourmand, unix-
pc,
 cis.ohio-state.edu             128.146.56.1    comp.sources.misc,
 cis.ohio-state.edu             128.146.8.50    comp.sources.unix,
 cis.ohio-state.edu             128.146.8.61    comp.sources.x, idea, ien,
 cis.ohio-state.edu                             netinfo, rfc
 cis.ohio-state.edu             12/31/90  4
anonymous/odin@pilot.njin.net
citi.umich.edu                  141.211.128.16  pathalias, CITI macIP
 citi.umich.edu                 09/22/90  4
anonymous/odin@pilot.njin.net
cli.com                         192.31.85.1     akcl piton proof-checker
 cli.com                        08/22/90  7
anonymous/odin@pilot.njin.net
climate.gsfc.nasa.gov           128.183.46.16   unknown
 climate.gsfc.nasa.gov          04/27/91  3
anonymous/odin@pilot.njin.net
clouso.crim.ca                  192.26.210.1    RISQnet related documents,
 clouso.crim.ca                                 mail lists, reports, and
 clouso.crim.ca                                 announcements, awa: ca
domain
 clouso.crim.ca                                 reg., RFCs, IEFT, etc.
 clouso.crim.ca                 05/29/90  4
anonymous/odin@pilot.njin.net
clover.ucdavis.edu              128.120.57.1    eepic, fig2epic, HOL
 clover.ucdavis.edu             05/29/90  7
anonymous/odin@pilot.njin.net
clutx.clarkson.edu              128.153.4.3     BBSLists Batch ISETL
 clutx.clarkson.edu                             MicroEmacs SmallTalk
TurboC
 clutx.clarkson.edu                             TurboPas Z100 aplc
 clutx.clarkson.edu                             ghostscript uupc xlisp
 clutx.clarkson.edu             06/03/90  4
anonymous/odin@pilot.njin.net
clvax1.cl.msu.edu               35.8.2.1        MS Windows
 clvax1.cl.msu.edu              08/22/90  4
anonymous/odin@pilot.njin.net
cmns.think.com                  131.239.2.100   Connection machine
starlisp
 cmns.think.com                                 simulator, starlisp
 cmns.think.com                                 simulator, gmacs, thinking
 cmns.think.com                                 machines gmacs hacks,
other
 cmns.think.com                                 connection machine softare
 cmns.think.com                 05/07/91  4
anonymous/odin@pilot.njin.net
cobalt.cco.caltech.edu          131.215.48.200  unknown
 cobalt.cco.caltech.edu         03/31/91  7
anonymous/odin@pilot.njin.net
cod.nosc.mil                    128.49.16.5     unknown
 cod.nosc.mil                   07/08/90  7
anonymous/odin@pilot.njin.net
cogsci.indiana.edu              129.79.238.6    unknown
```

```
 cogsci.indiana.edu                04/24/91  5
anonymous/odin@pilot.njin.net
col.hp.com                        15.255.240.16   NOS
 col.hp.com                       08/22/90  7
anonymous/odin@pilot.njin.net
columbia.edu                      128.59.32.1     NEST network simulation
 columbia.edu                     128.59.16.1     testbed
 columbia.edu                     05/29/90  4
anonymous/odin@pilot.njin.net
compaq.com                        131.168.249.254 unknown
 compaq.com                       09/27/91  5
anonymous/odin@pilot.njin.net
convex.com                        130.168.1.1     perl sources, perl
examples
 convex.com                       02/19/91  5
anonymous/odin@pilot.njin.net
copernicus.berkeley.edu           128.32.240.37   unknown
 copernicus.berkeley.edu          01/22/91  7
anonymous/odin@pilot.njin.net
coral.bucknell.edu                134.82.1.1      nothing
 coral.bucknell.edu               12/31/90  4
anonymous/odin@pilot.njin.net
coral.hss.cmu.edu                 128.2.229.218   MPW
 coral.hss.cmu.edu                08/22/90  4
anonymous/odin@pilot.njin.net
corto.inria.fr                    128.93.11.2     unknown
 corto.inria.fr                   12/26/90  -2
anonymous/odin@pilot.njin.net
cpsc.ucalgary.ca                  136.159.2.1     unknown
 cpsc.ucalgary.ca                 03/31/91  6
anonymous/odin@pilot.njin.net
crl.dec.com                       192.58.206.2    X11R4, neuralnets tinymud
 crl.dec.com                      05/31/90  4
anonymous/odin@pilot.njin.net
crvax.sri.com                     128.18.10.1     RISKS Digest archive
 crvax.sri.com                    12/31/90  7
anonymous/odin@pilot.njin.net
cs-sun-fsa.cpsc.ucalgary.ca       136.159.2.1     xinterface, text
compression
 cs-sun-fsa.cpsc.ucalgary.ca      136.159.4.1     corpus, the reactive
keyboard
 cs-sun-fsa.cpsc.ucalgary.ca      10/25/90  6
anonymous/odin@pilot.njin.net
cs.arizona.edu                    192.12.69.5     Icon, SR, SBprolog,
SNOBOL4
 cs.arizona.edu                                   languages, xkernel
 cs.arizona.edu                                   communications kernel
 cs.arizona.edu                   05/15/90  6
anonymous/odin@pilot.njin.net
cs.bu.edu                         128.197.2.1     conquer
 cs.bu.edu                        128.197.10.1
 cs.bu.edu                        03/22/91  4
anonymous/odin@pilot.njin.net
cs.columbia.edu                   128.59.16.20    ispell
 cs.columbia.edu                  05/15/90  4
anonymous/odin@pilot.njin.net
cs.curtin.edu.au                  134.7.1.1       nn patches, fdx, images,
```

```
 cs.curtin.edu.au                                raytracing
 cs.curtin.edu.au              09/26/91  -8
anonymous/odin@pilot.njin.net
cs.dal.ca                      129.173.4.5      unknown
 cs.dal.ca                     05/25/91  3
anonymous/odin@pilot.njin.net
cs.nyu.edu                     128.122.140.24   unknown
 cs.nyu.edu                    10/25/90  4
anonymous/odin@pilot.njin.net
cs.orst.edu                    128.193.32.1     Xlisp, smalltalk, TOPS
 cs.orst.edu                                    Terminal, NeXT
 cs.orst.edu                   05/15/90  7
anonymous/odin@pilot.njin.net
cs.stthomas.edu                140.209.5.1      unknown
 cs.stthomas.edu               03/17/91  5
anonymous/odin@pilot.njin.net
cs.ucl.ac.uk                   128.16.5.31      DIS CMIS/P
 cs.ucl.ac.uk                  08/22/90  -1
anonymous/odin@pilot.njin.net
cs.uni-sb.de                   134.96.252.31    GNU, atari, RFCs, perl,
misc
 cs.uni-sb.de                  134.96.7.254     utils
 cs.uni-sb.de                  07/25/90  -2
anonymous/odin@pilot.njin.net
cs.uoregon.edu                 128.223.4.13     raytracing archive
(markv),
 cs.uoregon.edu                                 not much
 cs.uoregon.edu                05/15/90  7
anonymous/odin@pilot.njin.net
cs.utah.edu                    128.110.4.21     Worm Tour, amiga, forth,
utah
 cs.utah.edu                                    raster, news service
archive
 cs.utah.edu                   08/03/90  6
anonymous/odin@pilot.njin.net
cs.utexas.edu                  128.83.139.9     QSIM, FIG
 cs.utexas.edu                 08/22/90  5
anonymous/odin@pilot.njin.net
cs.utk.edu                     128.169.201.1    DECnet mail gateway for
VAXen
 cs.utk.edu                                     and suns, mail11
 cs.utk.edu                    07/19/90  4
anonymous/odin@pilot.njin.net
cs.wm.edu                      128.239.1.30     texsun, animal-rights,
 cs.wm.edu                     128.239.2.31     pargen, ALV, raster images
 cs.wm.edu                     05/15/90  4
anonymous/odin@pilot.njin.net
csab.larc.nasa.gov             128.155.26.10    emacs18.54 ispell mush
 csab.larc.nasa.gov            05/31/90  4
anonymous/odin@pilot.njin.net
csam.lbl.gov                   128.3.254.6      nothing
 csam.lbl.gov                  05/31/90  7
anonymous/odin@pilot.njin.net
csc-sun.math.utah.edu          128.110.198.2    unknown
 csc-sun.math.utah.edu         10/20/90  6
anonymous/odin@pilot.njin.net
csc2.anu.edu.au                150.203.2.2      sun-fixes, RFCs, NCSA,
```

```
msdos,
 csc2.anu.edu.au                                mac
 csc2.anu.edu.au                01/17/91  -12
anonymous/odin@pilot.njin.net
cscihp.ecst.csuchico.edu        132.241.1.2     online chemistry manual
 cscihp.ecst.csuchico.edu       03/20/91  7
anonymous/odin@pilot.njin.net
csd4.csd.uwm.edu                129.89.8.4      high-audio
 csd4.csd.uwm.edu               129.89.7.4
 csd4.csd.uwm.edu               05/15/90  5
anonymous/odin@pilot.njin.net
csdvax.gatech.edu               128.61.9.3      nothing
 csdvax.gatech.edu              08/22/90  4
anonymous/odin@pilot.njin.net
cse.ogi.edu                     129.95.10.2     suntools graphics tools,
old
 cse.ogi.edu                    129.95.40.2     Kerberos, old mush,
 cse.ogi.edu                                    neuro-evolution mailing
list
 cse.ogi.edu                                    archive, speech
recognition
 cse.ogi.edu                                    archive
 cse.ogi.edu                    08/22/90  7
anonymous/odin@pilot.njin.net
csl.sri.com                     192.12.33.2     Handhelds
 csl.sri.com                    05/31/90  7
anonymous/odin@pilot.njin.net
csl36h.csl.ncsu.edu             128.109.218.121 unknown
 csl36h.csl.ncsu.edu            09/27/91  4
anonymous/odin@pilot.njin.net
csli.stanford.edu               36.9.0.46       Gandalf
 csli.stanford.edu              05/15/90  7
anonymous/odin@pilot.njin.net
csri.toronto.edu                128.100.2.30    nothing
 csri.toronto.edu               08/22/90  4
anonymous/odin@pilot.njin.net
csus.edu                        130.86.90.1     NeXT, vectrex
 csus.edu                       07/22/90  7
anonymous/odin@pilot.njin.net
csuvax1.csu.murdoch.edu.au      134.115.4.1     amiga, elmdocs, internet
 csuvax1.csu.murdoch.edu.au                     resources
 csuvax1.csu.murdoch.edu.au     09/22/91  -8
anonymous/odin@pilot.njin.net
csvax.cs.caltech.edu            131.215.131.131 p2c, M88K
 csvax.cs.caltech.edu           01/17/91  7
anonymous/odin@pilot.njin.net
ctrsci.math.utah.edu            128.110.198.1   TeX fonts, make, Beebe VAX
 ctrsci.math.utah.edu                           drivers
 ctrsci.math.utah.edu           08/22/90  6
anonymous/odin@pilot.njin.net
cu.nih.gov                      128.231.64.7    unknown
 cu.nih.gov                     09/30/91  4     anonymous/guest
cujo.curtin.edu.au              134.7.70.70     unknown
 cujo.curtin.edu.au             09/22/91  -8
anonymous/odin@pilot.njin.net
cunixf.cc.columbia.edu          128.59.40.130   MM mailer
 cunixf.cc.columbia.edu         01/11/91  4
```

```
anonymous/odin@pilot.njin.net
curie.cs.unc.edu                128.109.136.151 GIF, graphics programs
 curie.cs.unc.edu               08/22/90  4
anonymous/odin@pilot.njin.net
cuvmb.cc.columbia.edu           128.59.40.129   kermit, ibm tcp/ip mods
 cuvmb.cc.columbia.edu          08/22/90  4
anonymous/odin@pilot.njin.net
cyclone.stanford.edu            36.83.0.188     nothing
 cyclone.stanford.edu           06/01/90  7
anonymous/odin@pilot.njin.net
dagon.acc.stolaf.edu            130.71.192.18   NeXT
 dagon.acc.stolaf.edu           05/15/90  7
anonymous/odin@pilot.njin.net
daimi.aau.dk                    130.225.16.1    unknown
 daimi.aau.dk                   10/25/90  -2
anonymous/odin@pilot.njin.net
dartcms1.dartmouth.edu          129.170.16.19   unknown
 dartcms1.dartmouth.edu         09/30/91  4
anonymous/odin@pilot.njin.net
dartvax.dartmouth.edu           129.170.16.4    dartmouth stuff (rn, mail,
 dartvax.dartmouth.edu                          etc.), ATT 6300+
 dartvax.dartmouth.edu          09/18/91  4
anonymous/odin@pilot.njin.net
dcssparc.cl.msu.edu             35.8.1.6        unknown
 dcssparc.cl.msu.edu            05/25/91  4
anonymous/odin@pilot.njin.net
deco.ucc.su.oz.au               129.78.64.6     unknown
 deco.ucc.su.oz.au              09/30/91  -11
anonymous/odin@pilot.njin.net
decoy.cc.uoregon.edu            128.223.32.19   VAX book, TeX Primer
 decoy.cc.uoregon.edu           04/11/91  7
anonymous/odin@pilot.njin.net
decuac.dec.com                  192.5.214.1     unknown
 decuac.dec.com                 192.5.214.2
 decuac.dec.com                 10/09/90  4
anonymous/odin@pilot.njin.net
dept.csci.unt.edu               129.120.1.2     Texas Packet Radio
Society,
 dept.csci.unt.edu                              MixView, GNUPlot
 dept.csci.unt.edu              05/15/90  5
anonymous/odin@pilot.njin.net
derro.ucc.su.oz.au              129.78.64.5     unknown
 derro.ucc.su.oz.au             12/31/90  -10
anonymous/odin@pilot.njin.net
devvax.tn.cornell.edu           128.84.252.200  tn3270, gated
 devvax.tn.cornell.edu          192.35.82.200
 devvax.tn.cornell.edu          05/15/90  4
anonymous/odin@pilot.njin.net
dftnic.gsfc.nasa.gov            128.183.10.3    VMS stuff, MacSecure,
ALEX,
 dftnic.gsfc.nasa.gov                           VNEWS vms newsreader
 dftnic.gsfc.nasa.gov           09/30/91  4
anonymous/odin@pilot.njin.net
dftsrv.gsfc.nasa.gov            128.183.10.134  VMS & Unix stuff,
MacSecure
 dftsrv.gsfc.nasa.gov                           anti-virus pkg, ALEX util
 dftsrv.gsfc.nasa.gov           01/03/91  4
```

```
anonymous/odin@pilot.njin.net
dg-rtp.dg.com                       128.222.1.2     GDB, DG version of GNU C
for
 dg-rtp.dg.com                                      88K
 dg-rtp.dg.com                      08/22/90  7
anonymous/odin@pilot.njin.net
dimacs.rutgers.edu                  128.6.75.16     unknown
 dimacs.rutgers.edu                 04/24/91  4
anonymous/odin@pilot.njin.net
dirt.cisco.com                      131.108.1.111   Mac telnet w/slip
 dirt.cisco.com                     131.108.13.111
 dirt.cisco.com                     03/15/91  7
anonymous/odin@pilot.njin.net
dkuug.dk                            129.142.96.41   unknown
 dkuug.dk                           09/08/90  -2
anonymous/odin@pilot.njin.net
dmssyd.syd.dms.csiro.au             130.155.96.1    unknown
 dmssyd.syd.dms.csiro.au            01/17/91  -12
anonymous/odin@pilot.njin.net
dolphin.mit.edu                     18.86.0.5       X11r3 device driver for S,
 dolphin.mit.edu                                    LISA
 dolphin.mit.edu                    08/22/90  4
anonymous/odin@pilot.njin.net
dra.com                             192.65.218.43   unknown
 dra.com                            12/31/90  5
anonymous/odin@pilot.njin.net
draci.cs.uow.edu.au                 130.130.65.1    unknown
 draci.cs.uow.edu.au                01/17/91  -12
anonymous/odin@pilot.njin.net
dryandra.maths.uwa.oz.au            130.95.16.12    nothing
 dryandra.maths.uwa.oz.au           09/30/91  -8
anonymous/odin@pilot.njin.net
drycas.club.cc.cmu.edu              128.2.232.11    ANU_NEWS, TALK
 drycas.club.cc.cmu.edu             128.2.232.229
 drycas.club.cc.cmu.edu             12/31/90  4
anonymous/odin@pilot.njin.net
dsl.cis.upenn.edu                   130.91.6.12     GIF, IBM
 dsl.cis.upenn.edu                  05/15/90  4
anonymous/odin@pilot.njin.net
dsrbg2.informatik.tu-muenchen.de    131.159.0.110   unknown
 dsrbg2.informatik.tu-muenchen.de   09/30/91  -2
anonymous/odin@pilot.njin.net
dsrgsun.ces.cwru.edu                129.22.16.2     Minix, TOS Atari ST, gcc
from
 dsrgsun.ces.cwru.edu                               bammi
 dsrgsun.ces.cwru.edu               08/22/90  4
anonymous/odin@pilot.njin.net
duke.cs.duke.edu                    128.109.140.1   compress gnuplot
 duke.cs.duke.edu                   05/31/90  4
anonymous/odin@pilot.njin.net
durer.cme.nist.gov                  129.6.32.4      8mm backup (Exabyte),
pdes,
 durer.cme.nist.gov                                 microemacs 3.10
 durer.cme.nist.gov                 05/15/90  4
anonymous/odin@pilot.njin.net
eagle.cnsf.cornell.edu              128.84.201.1    unknown
 eagle.cnsf.cornell.edu             10/10/90  4
```

```
anonymous/odin@pilot.njin.net
eagle.tc.cornell.edu              128.84.201.1    unknown
 eagle.tc.cornell.edu             09/15/91  4
anonymous/odin@pilot.njin.net
eba.eb.ele.tue.nl                 131.155.20.25   Apollo info
 eba.eb.ele.tue.nl                131.155.40.1
 eba.eb.ele.tue.nl                08/22/90  -2
anonymous/odin@pilot.njin.net
ebony.educom.edu                  192.52.179.1    bitnet files, paroute
 ebony.educom.edu                 08/15/90  4
anonymous/odin@pilot.njin.net
eddie.mit.edu                     18.62.0.6       nothing
 eddie.mit.edu                    05/15/90  4
anonymous/odin@pilot.njin.net
ee.umr.edu                        131.151.4.11    unknown
 ee.umr.edu                       03/17/91  5
anonymous/odin@pilot.njin.net
eecs.nwu.edu                      129.105.5.103   unknown
 eecs.nwu.edu                     01/17/91  5
anonymous/odin@pilot.njin.net
eff.org                           192.88.144.3    unknown
 eff.org                          05/25/91  4
anonymous/odin@pilot.njin.net
einstein.engr.umbc.edu            130.85.110.9    unknown
 einstein.engr.umbc.edu           09/30/91  4
anonymous/odin@pilot.njin.net
eklektik.cs.pitt.edu              130.49.2.135    rec.music.dylan archives
 eklektik.cs.pitt.edu             09/30/91  4
anonymous/odin@pilot.njin.net
elauto-gw.lysator.liu.se          130.236.23.254  unknown
 elauto-gw.lysator.liu.se         130.236.254.1
 elauto-gw.lysator.liu.se         09/28/91  4
anonymous/odin@pilot.njin.net
elbereth.rutgers.edu              128.6.7.26      SF-lovers archive
 elbereth.rutgers.edu             08/22/90  4
anonymous/odin@pilot.njin.net
elroy.cs.iastate.edu              129.186.3.15    mail servers
 elroy.cs.iastate.edu             08/05/90  5
anonymous/odin@pilot.njin.net
elroy.jpl.nasa.gov                128.149.1.100   ANU_NEWS
 elroy.jpl.nasa.gov               128.149.2.2
 elroy.jpl.nasa.gov               05/15/90  7
anonymous/odin@pilot.njin.net
elsie.nci.nih.gov                 128.231.16.1    unknown
 elsie.nci.nih.gov                12/31/90  4
anonymous/odin@pilot.njin.net
emsworth.andrew.cmu.edu           128.2.30.62     Andrew Toolkit
 emsworth.andrew.cmu.edu          08/22/90  4
anonymous/odin@pilot.njin.net
emunix.emich.edu                  192.73.75.2     Ultrix, VMS (soon)
 emunix.emich.edu                 05/15/90  4
anonymous/odin@pilot.njin.net
emx.utexas.edu                    128.83.1.33     net directory
 emx.utexas.edu                   05/15/90  5
anonymous/odin@pilot.njin.net
enac5.enac.dgac.fr                143.196.3.5     unknown
 enac5.enac.dgac.fr               143.196.22.2
```

```
 enac5.enac.dgac.fr                 03/25/91  -2
anonymous/odin@pilot.njin.net
enh.nist.gov                        129.6.16.1      ftp-list
 enh.nist.gov                       08/22/90  4
anonymous/odin@pilot.njin.net
ento.tamu.edu                       128.194.43.65   VAX/VMS games
 ento.tamu.edu                      12/31/90  5
anonymous/odin@pilot.njin.net
eru.mt.luth.se                      130.240.0.9     gnews 19, gated, plp,
 eru.mt.luth.se                                     gcc(old)
 eru.mt.luth.se                     08/22/90  -1
anonymous/odin@pilot.njin.net
ese3.ese.ogi.edu                    129.95.20.62    grtool, xvgr, xmgr,
SunView,
 ese3.ese.ogi.edu                                   Xview, Motif, XY plotting
 ese3.ese.ogi.edu                                   tools
 ese3.ese.ogi.edu                   03/15/91  7
anonymous/odin@pilot.njin.net
euler.eedsp.gatech.edu              130.207.226.7   unknown
 euler.eedsp.gatech.edu             10/12/91  4
anonymous/odin@pilot.njin.net
expo.lcs.mit.edu                    18.24.0.11      unknown
 expo.lcs.mit.edu                   05/15/90  4
anonymous/odin@pilot.njin.net
export.lcs.mit.edu                  18.24.0.12      X, portable bitmaps, CLX
and
 export.lcs.mit.edu                                 CLUE, gwm
 export.lcs.mit.edu                 03/17/91  3
anonymous/odin@pilot.njin.net
extro.ucc.su.oz.au                  129.78.64.1     images, gnu, icon, kermit,
 extro.ucc.su.oz.au                                 Ghostscript patches
 extro.ucc.su.oz.au                 07/08/90  -12
anonymous/odin@pilot.njin.net
f.ms.uky.edu                        128.163.128.6   mac, msdos, unix-pc
 f.ms.uky.edu                       08/22/90  4
anonymous/odin@pilot.njin.net
faramir.informatik.uni-oldenburg.de134.106.1.9      irc
 faramir.informatik.uni-oldenburg.de04/02/91  -2
anonymous/odin@pilot.njin.net
faui43.informatik.uni-erlangen.de   131.188.31.3    NeWS X11 amiga atari faces
 faui43.informatik.uni-erlangen.de  131.188.34.43   games gnu hp28 irc iso
lisp
 faui43.informatik.uni-erlangen.de  131.188.44.43
 faui43.informatik.uni-erlangen.de  08/13/90  -2
anonymous/odin@pilot.njin.net
fergvax.unl.edu                     129.93.33.1     nothing yet
 fergvax.unl.edu                    05/15/90  5
anonymous/odin@pilot.njin.net
fg.sei.cmu.edu                      128.237.2.163   serpent user interface
 fg.sei.cmu.edu                                     management system
 fg.sei.cmu.edu                     05/17/90  4
anonymous/odin@pilot.njin.net
fidji.informatik.uni-freiburg.de    132.230.30.80   some X, TeX, mac
 fidji.informatik.uni-freiburg.de   09/27/91  -2
anonymous/odin@pilot.njin.net
files1zrz.zrz.tu-berlin.de          130.149.4.50    newsreaders, netinfo
 files1zrz.zrz.tu-berlin.de         09/30/91  -2
```

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anonymous/odin@pilot.njin.net
finsun.csc.fi                   128.214.46.40   X11R4 ftp-list
 finsun.csc.fi                  06/01/90  -3
anonymous/odin@pilot.njin.net
fiol.uib.no                     129.177.10.24   pcip packet driver
 fiol.uib.no                    05/15/90  -2
anonymous/odin@pilot.njin.net
fionavar.mit.edu                18.172.0.55     latex styles, jokes,
online
 fionavar.mit.edu                               consulting software (soon)
 fionavar.mit.edu               10/15/90  4
anonymous/odin@pilot.njin.net
fits.cx.nrao.edu                192.33.115.8    FITS (astronomy image
 fits.cx.nrao.edu                               transfer system)
 fits.cx.nrao.edu               05/15/90  4
anonymous/odin@pilot.njin.net
flash.bellcore.com              128.96.32.20    mgr, spiff, RFCs, track
 flash.bellcore.com             01/23/91  5
anonymous/odin@pilot.njin.net
flinders.cs.flinders.oz.au      129.96.2.1      GrowNet.dvi
 flinders.cs.flinders.oz.au     129.96.3.1
 flinders.cs.flinders.oz.au     05/31/90  -11
anonymous/odin@pilot.njin.net
flop.informatik.tu-muenchen.de  131.159.8.35    x11r4, minix, EmTeX,
Scheme,
 flop.informatik.tu-muenchen.de                 etc.
 flop.informatik.tu-muenchen.de 09/20/91  -2
anonymous/odin@pilot.njin.net
flotsam.mit.edu                 18.85.0.36      galatea cake
 flotsam.mit.edu                05/31/90  4
anonymous/odin@pilot.njin.net
fnord.umiacs.umd.edu            128.8.120.3     misc DECstation stuff
 fnord.umiacs.umd.edu           05/15/90  4
anonymous/odin@pilot.njin.net
foobar.cs.colorado.edu          128.138.204.31  BDF fonts, xtex
 foobar.cs.colorado.edu         07/09/90  6
anonymous/odin@pilot.njin.net
forwiss.uni-passau.de           132.231.1.10    SML of NJ, GraphEd, amiga,
 forwiss.uni-passau.de          132.231.20.10   atari st, minix, elisp,
TeX
 forwiss.uni-passau.de                          utils, misc
 forwiss.uni-passau.de          02/05/91  -1
anonymous/odin@pilot.njin.net
freebie.engin.umich.edu         141.212.68.23   macintosh
 freebie.engin.umich.edu        05/31/90  4
anonymous/odin@pilot.njin.net
freja.diku.dk                   129.142.96.1    nn, gnu, x11r4, tex,
isode,
 freja.diku.dk                                  scheme, sun rpc, rfc,
ietf,
 freja.diku.dk                                  emacs archive
 freja.diku.dk                  08/01/90  -2
anonymous/odin@pilot.njin.net
fresnel.stanford.edu            36.10.0.77      X11R4 for Iris
 fresnel.stanford.edu           07/09/90  7
anonymous/odin@pilot.njin.net
fsa.cpsc.ucalgary.ca            136.159.2.1     unknown
```

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 fsa.cpsc.ucalgary.ca              136.159.3.1
 fsa.cpsc.ucalgary.ca              01/26/91  7
anonymous/odin@pilot.njin.net
ftp.brl.mil                       128.63.16.158   info-iris, images, sgi
demos,
 ftp.brl.mil                                      gifs
 ftp.brl.mil                      03/15/91  4
anonymous/odin@pilot.njin.net
ftp.cs.toronto.edu                128.100.3.6     AIList, sun-Spots, many
other
 ftp.cs.toronto.edu               128.100.1.105   mailing list archives, CA
 ftp.cs.toronto.edu                               domain reg. forms, RFCs,
 ftp.cs.toronto.edu                               NETINFO, DOMAIN, IETF,
 ftp.cs.toronto.edu                               INET-DRAFTS, Current C
News,
 ftp.cs.toronto.edu                               dvix, logging ftpd, Jove,
 ftp.cs.toronto.edu                               sunOS SLIP et al, S/SL,
TeX,
 ftp.cs.toronto.edu                               UofT BIND, X applications
 ftp.cs.toronto.edu               03/15/91  4
anonymous/odin@pilot.njin.net
ftp.lysator.liu.se                130.236.254.13  irc, lpmud, primos, qnx
 ftp.lysator.liu.se               08/23/90  -2
anonymous/odin@pilot.njin.net
ftp.pitt.edu                      130.49.253.1    unknown
 ftp.pitt.edu                     130.49.254.250
 ftp.pitt.edu                     04/24/91  4
anonymous/odin@pilot.njin.net
ftp.uni-sb.de                     134.96.7.254    unknown
 ftp.uni-sb.de                    09/30/91  -1
anonymous/odin@pilot.njin.net
ftp.vmars.tuwien.ac.at            128.130.39.19   unknown
 ftp.vmars.tuwien.ac.at           04/24/91  -2
anonymous/odin@pilot.njin.net
funet.fi                          128.214.1.1     FUNET/NORDUNET info
 funet.fi                         10/21/90  -3
anonymous/odin@pilot.njin.net
gaffa.mit.edu                     18.85.0.15      various stuff
 gaffa.mit.edu                    05/31/90  4
anonymous/odin@pilot.njin.net
gandalf.umcs.maine.edu            130.111.112.21  MS windows 3.0 shareware
and
 gandalf.umcs.maine.edu                           freeware
 gandalf.umcs.maine.edu           02/05/91  4
anonymous/odin@pilot.njin.net
gang-of-four.stanford.edu         36.8.0.118      schemer
 gang-of-four.stanford.edu        05/31/90  7
anonymous/odin@pilot.njin.net
garbo.uwasa.fi                    128.214.87.1    msdos, win3, ts-progs,
unix,
 garbo.uwasa.fi                                   vms
 garbo.uwasa.fi                   03/02/91  -3
anonymous/odin@pilot.njin.net
gargoyle.uchicago.edu             128.135.20.100  named-kit, Odbol
equational
 gargoyle.uchicago.edu                            programming language
 gargoyle.uchicago.edu            08/22/90  5
```

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anonymous/odin@pilot.njin.net
gatekeeper.dec.com                16.1.0.2        X11, recipes, cron, map,
 gatekeeper.dec.com                               Larry Wall stuff, STDWIN,
 gatekeeper.dec.com                               lots of source
 gatekeeper.dec.com               05/15/90  7
anonymous/odin@pilot.njin.net
genbank.bio.net                   134.172.1.160   National Repository for
Gene
 genbank.bio.net                  134.172.3.160   Sequence Data
 genbank.bio.net                  05/15/90  7
anonymous/odin@pilot.njin.net
genvax.psycha.upenn.edu           128.91.22.103   ranma
 genvax.psycha.upenn.edu          08/22/90  4
anonymous/odin@pilot.njin.net
gipsy.vmars.tuwien.ac.at          128.130.39.16   nn, minix utils, tcl,
studio,
 gipsy.vmars.tuwien.ac.at                         MARS reports
 gipsy.vmars.tuwien.ac.at         09/19/91  4
anonymous/odin@pilot.njin.net
girch1.hsch.utexas.edu            129.106.4.1     Physiological Research
info
 girch1.hsch.utexas.edu                           and programs
 girch1.hsch.utexas.edu           08/22/90  6
anonymous/odin@pilot.njin.net
giza.cis.ohio-state.edu           128.146.8.61    X, PEX
 giza.cis.ohio-state.edu          128.146.6.150
 giza.cis.ohio-state.edu          05/16/90  4
anonymous/odin@pilot.njin.net
gjetost.cs.wisc.edu               128.105.2.33    unknown
 gjetost.cs.wisc.edu              03/17/91  5
anonymous/odin@pilot.njin.net
gmdzi.gmd.de                      129.26.1.90     unknown
 gmdzi.gmd.de                     09/30/91  -1
anonymous/odin@pilot.njin.net
gmu90x.gmu.edu                    129.174.1.4     nothing
 gmu90x.gmu.edu                   05/15/90  4
anonymous/odin@pilot.njin.net
gmuvax2.gmu.edu                   129.174.1.8     Intel Hypercube library,
hp28
 gmuvax2.gmu.edu                                  software, statistical
 gmuvax2.gmu.edu                                  software
 gmuvax2.gmu.edu                  05/15/90  4
anonymous/odin@pilot.njin.net
godzilla.cgl.rmit.oz.au           131.170.14.2    unknown
 godzilla.cgl.rmit.oz.au          02/23/91  -12
anonymous/odin@pilot.njin.net
gondor.cc.nd.edu                  129.74.35.171   SUG tars (85-89), some
NCSA
 gondor.cc.nd.edu                                 from Univ of Ill
 gondor.cc.nd.edu                 12/31/90  5
anonymous/odin@pilot.njin.net
gondwana.ecr.mu.oz.au             128.250.1.63    unknown
 gondwana.ecr.mu.oz.au            128.250.63.1
 gondwana.ecr.mu.oz.au            10/09/90  -10
anonymous/odin@pilot.njin.net
goober.phri.nyu.edu               128.122.136.10  cnews, nntp, kcl docs,
psnup,
```

```
 goober.phri.nyu.edu                                sequence analysis stuff
 goober.phri.nyu.edu              08/22/90  7
anonymous/odin@pilot.njin.net
goya.dit.upm.es                   138.4.2.2        artix/ixi, eunet, bbs on
 goya.dit.upm.es                                   spain, lotos, irc
 goya.dit.upm.es                  03/15/91  1
anonymous/odin@pilot.njin.net
grape.ecs.clarkson.edu            128.153.28.129   Opus BBS, msdos, graphics,
 grape.ecs.clarkson.edu                            comp.binaries.ibm.pc,
 grape.ecs.clarkson.edu                            Freemacs, packet drivers
 grape.ecs.clarkson.edu           08/22/90  4
anonymous/odin@pilot.njin.net
grasp2.univ-lyon1.fr              134.214.100.33   unknown
 grasp2.univ-lyon1.fr             04/24/91  -2
anonymous/odin@pilot.njin.net
gregorio.stanford.edu             36.8.0.11        vmtp-ip, ip-multicast
 gregorio.stanford.edu            08/22/90  7
anonymous/odin@pilot.njin.net
grinch.umiacs.umd.edu             128.8.121.1      unclear
 grinch.umiacs.umd.edu            128.8.120.2
 grinch.umiacs.umd.edu            08/22/90  4
anonymous/odin@pilot.njin.net
groan.berkeley.edu                128.32.152.202   unknown
 groan.berkeley.edu               10/05/91  4
anonymous/odin@pilot.njin.net
gtss.gatech.edu                   128.61.4.1       amiga rexx stuff
 gtss.gatech.edu                  08/22/90  4
anonymous/odin@pilot.njin.net
guardian.cs.psu.edu               130.203.1.3      unknown
 guardian.cs.psu.edu              130.203.2.3
 guardian.cs.psu.edu              09/27/91  4
anonymous/odin@pilot.njin.net
gumby.cc.wmich.edu                141.218.20.114   MAINT (VMS)
 gumby.cc.wmich.edu               05/15/90  4
anonymous/odin@pilot.njin.net
gumby.dsd.trw.com                 129.193.72.50    some RFCs, networking
progs
 gumby.dsd.trw.com                08/22/90  7
anonymous/odin@pilot.njin.net
gwen.cs.purdue.edu                128.10.2.8       unknown
 gwen.cs.purdue.edu               128.10.3.8
 gwen.cs.purdue.edu               11/09/90  4
anonymous/odin@pilot.njin.net
hal.gnu.ai.mit.edu                128.52.46.11     unknown
 hal.gnu.ai.mit.edu               09/27/91  4
anonymous/odin@pilot.njin.net
halgania.maths.uwa.oz.au          130.95.16.17     nothing
 halgania.maths.uwa.oz.au         09/26/91  -8
anonymous/odin@pilot.njin.net
hamlet.caltech.edu                131.215.139.3    Nanny (VMS)
 hamlet.caltech.edu               131.215.51.150
 hamlet.caltech.edu               12/31/90  7
anonymous/odin@pilot.njin.net
hanauma.stanford.edu              36.51.0.16       sun, TeX, world-map,
astro,
 hanauma.stanford.edu                              cake, graphics (best of
 hanauma.stanford.edu                              comp.graphics 86-89
```

archive),
 hanauma.stanford.edu   neptune pics, zhongwen
 hanauma.stanford.edu   05/17/90 7
anonymous/odin@pilot.njin.net
handel.cs.colostate.edu   129.82.102.32   unknown
 handel.cs.colostate.edu   09/30/91 6
anonymous/odin@pilot.njin.net
harbor.ecn.purdue.edu   128.46.154.76   unknown
 harbor.ecn.purdue.edu   128.46.129.76
 harbor.ecn.purdue.edu   05/25/91 5
anonymous/odin@pilot.njin.net
harry.waisman.wisc.edu   128.104.138.170 LZW
 harry.waisman.wisc.edu   02/21/91 5
anonymous/odin@pilot.njin.net
harvard.harvard.edu   128.103.1.1   sendmail, rmtlib.shar,
lots
 harvard.harvard.edu   of VMS
 harvard.harvard.edu   05/15/90 4
anonymous/odin@pilot.njin.net
helens.stanford.edu   36.2.0.99   kjv, sultrix, secure.tar.Z
 helens.stanford.edu   08/22/90 7
anonymous/odin@pilot.njin.net
helios.tn.cornell.edu   128.84.241.2   unknown
 helios.tn.cornell.edu   05/25/91 4
anonymous/odin@pilot.njin.net
helios.ucsc.edu   128.114.130.37 unknown
 helios.ucsc.edu   03/22/91 7
anonymous/odin@pilot.njin.net
hercules.csl.sri.com   192.12.33.51   Handhelds latex-figures
 hercules.csl.sri.com   05/31/90 7
anonymous/odin@pilot.njin.net
herky.cs.uiowa.edu   128.255.28.100 theorem prover
 herky.cs.uiowa.edu   05/15/90 5
anonymous/odin@pilot.njin.net
hmcvax.claremont.edu   134.173.4.32   cyrillic fonts
 hmcvax.claremont.edu   134.173.80.32
 hmcvax.claremont.edu   12/31/90 7
anonymous/odin@pilot.njin.net
hobbes.catt.ncsu.edu   128.109.153.75 digitized sounds
 hobbes.catt.ncsu.edu   10/30/90 4
anonymous/odin@pilot.njin.net
hobbes.cs.umd.edu   128.8.128.41   homebrew C compiler, minix
 hobbes.cs.umd.edu   08/22/90 4
anonymous/odin@pilot.njin.net
hobiecat.cs.caltech.edu   131.215.131.167 GNU
 hobiecat.cs.caltech.edu   08/22/90 7
anonymous/odin@pilot.njin.net
hogg.cc.uoregon.edu   128.223.32.9   NorthWestNet site info
 hogg.cc.uoregon.edu   05/15/90 7
anonymous/odin@pilot.njin.net
hp4nl.nluug.nl   192.16.202.2   GNU, ABC
 hp4nl.nluug.nl   08/22/90 -2
anonymous/odin@pilot.njin.net
hp5.mcs.kent.edu   131.123.2.7   unknown
 hp5.mcs.kent.edu   09/30/91 4
anonymous/odin@pilot.njin.net
hpcvaaz.cv.hp.com   15.255.72.15   MitX11R4 Motif

```
 hpcvaaz.cv.hp.com                08/22/90  7
anonymous/odin@pilot.njin.net
hpcvbbs.cv.hp.com                15.255.72.16    unknown
 hpcvbbs.cv.hp.com                10/25/90  7
anonymous/odin@pilot.njin.net
hplpm.hpl.hp.com                 15.0.48.161     Neuron digest archives and
 hplpm.hpl.hp.com                                 software
 hplpm.hpl.hp.com                08/22/90  7
anonymous/odin@pilot.njin.net
hplsci.hpl.hp.com                15.255.176.57   unknown
 hplsci.hpl.hp.com                12/31/90  7
anonymous/odin@pilot.njin.net
hpserv1.cs.uit.no                128.39.70.50    unknown
 hpserv1.cs.uit.no                02/02/91  7
anonymous/odin@pilot.njin.net
hpserv1.uit.no                   128.39.60.50    HP stuff, X11, unix, etc.
 hpserv1.uit.no                   08/22/90  -1
anonymous/odin@pilot.njin.net
hscfsas1.harvard.edu             128.103.75.50   COPS
 hscfsas1.harvard.edu             08/22/90  4
anonymous/odin@pilot.njin.net
hub.ucsb.edu                     128.111.24.40   UNISEX
 hub.ucsb.edu                     05/15/90  7
anonymous/odin@pilot.njin.net
hubcap.clemson.edu               130.127.8.1     RFCs
 hubcap.clemson.edu               05/15/90  4
anonymous/odin@pilot.njin.net
hugin.syo.lu.se                  130.235.148.26  unknown
 hugin.syo.lu.se                  09/30/91  -1
anonymous/odin@pilot.njin.net
hurratio.tde.lth.se              130.235.32.22   GNU stuff, some local
elisp
 hurratio.tde.lth.se                              stuff
 hurratio.tde.lth.se              05/15/90  -2
anonymous/odin@pilot.njin.net
husc6.harvard.edu                128.103.1.56    pcip, appleII, uumap copy,
 husc6.harvard.edu                                ucb tahoe
 husc6.harvard.edu                05/15/90  4
anonymous/odin@pilot.njin.net
husky1.stmarys.ca                140.184.1.1     unknown
 husky1.stmarys.ca                09/30/91  3
anonymous/odin@pilot.njin.net
hydra.helsinki.fi                128.214.4.29    misc, TeX, X,
 hydra.helsinki.fi                                comp.sources.misc,
 hydra.helsinki.fi                                comp.sources.sun,
 hydra.helsinki.fi                                comp.sources.unix,
 hydra.helsinki.fi                                comp.bugs.4bsd.ucb-fixes,
 hydra.helsinki.fi                                comp.binaries.ibm.pc
 hydra.helsinki.fi                05/15/90  -3
anonymous/odin@pilot.njin.net
hydra.uwo.ca                     129.100.2.13    some RFCs, vms stuff
 hydra.uwo.ca                     12/31/90  5
anonymous/odin@pilot.njin.net
iamsun.unibe.ch                  130.92.64.10    ET++, GNU, graphics stuff
 iamsun.unibe.ch                  11/02/90  -2
anonymous/odin@pilot.njin.net
ibm1.cc.lehigh.edu               128.180.2.1     Virus-L programs/archives
```

```
 ibm1.cc.lehigh.edu                 08/22/90  4
anonymous/odin@pilot.njin.net
icaen.llnl.gov                     128.115.2.99    VMS postscript
 icaen.llnl.gov                    128.115.2.100
 icaen.llnl.gov                    12/31/90  7
anonymous/odin@pilot.njin.net
icarus.riacs.edu                   134.12.1.1      SLIP, chkpt, macdump,
Xpostit
 icarus.riacs.edu                  128.102.16.8
 icarus.riacs.edu                  05/15/90  7
anonymous/odin@pilot.njin.net
icdc.llnl.gov                      128.115.2.1     unknown
 icdc.llnl.gov                     12/31/90  7
anonymous/odin@pilot.njin.net
ics.uci.edu                        128.195.1.1     perfect hash function
gen.,
 ics.uci.edu                                       web-to-c,
 ics.uci.edu                                       Protoize/Unprotoize, Think
C
 ics.uci.edu                       08/22/90  7
anonymous/odin@pilot.njin.net
icsic.berkeley.edu                 128.32.201.55   unknown
 icsic.berkeley.edu                10/09/90  7
anonymous/odin@pilot.njin.net
iear.arts.rpi.edu                  128.113.6.10    star gifs, raytracers,
RTN,
 iear.arts.rpi.edu                                 graphics gems, numerical
 iear.arts.rpi.edu                                 recipes, raytracing
 iear.arts.rpi.edu                                 bibliographies
 iear.arts.rpi.edu                 12/31/90  4
anonymous/odin@pilot.njin.net
iesd.auc.dk                        130.225.48.4    amiga, mac, msdos, myth
 iesd.auc.dk                       08/05/90  -2
anonymous/odin@pilot.njin.net
ifi.informatik.uni-stuttgart.de    129.69.211.1    unknown
 ifi.informatik.uni-stuttgart.de   08/22/90  -2
anonymous/odin@pilot.njin.net
ifi.uio.no                         129.240.64.2    results of DS5400 vs.
DS5810
 ifi.uio.no                        05/15/90  -2
anonymous/odin@pilot.njin.net
ils.nwu.edu                        129.105.100.1   unknown
 ils.nwu.edu                       04/24/91  5
anonymous/odin@pilot.njin.net
indri.primate.wisc.edu             128.104.230.11  macintosh TransSkel
 indri.primate.wisc.edu                            TransDisplay TransEdit,
imake
 indri.primate.wisc.edu            08/06/90  5
anonymous/odin@pilot.njin.net
indyvax.iupui.edu                  134.68.1.2      unknown
 indyvax.iupui.edu                 12/31/90  5
anonymous/odin@pilot.njin.net
inria.inria.fr                     192.93.2.1      RFCs, epelle, iepelle
 inria.inria.fr                    08/15/90  -2
anonymous/odin@pilot.njin.net
interviews.stanford.edu            36.22.0.175     InterViews X toolkit
 interviews.stanford.edu           08/22/90  7
```

```
anonymous/odin@pilot.njin.net
ipac.caltech.edu                131.215.139.35  gated, sendmail, named,
 ipac.caltech.edu                               kermit, ftp-list
 ipac.caltech.edu               05/15/90  7
anonymous/odin@pilot.njin.net
iraun1.ira.uka.de               129.13.10.90    cisco, clover.ucdavis.edu,
 iraun1.ira.uka.de                              comic, comp.sources.unix,
 iraun1.ira.uka.de                              directories, doc, domain,
 iraun1.ira.uka.de                              drafts, fig, fractals,
 iraun1.ira.uka.de                              ftp-telnet-sw, games, gnu,
 iraun1.ira.uka.de                              ham-radio, msdos, internet
 iraun1.ira.uka.de                              accessible catalog, irc,
 iraun1.ira.uka.de                              isode, kyoto common lisp,
 iraun1.ira.uka.de                              mac, mail, misc, network,
 iraun1.ira.uka.de                              news, osi.ncsl.nist.gov,
 iraun1.ira.uka.de                              rolog, rfc, ripe, risks,
 iraun1.ira.uka.de                              scheme, security,
simtel20,
 iraun1.ira.uka.de                              snmp, spims, src, sun,
tex,
 iraun1.ira.uka.de                              tiff, unix, vms, x11, x25
 iraun1.ira.uka.de                              ftp-list
 iraun1.ira.uka.de              04/24/91  -2
anonymous/odin@pilot.njin.net
ireq-robot.hydro.qc.ca          131.195.20.131  unknown
 ireq-robot.hydro.qc.ca         03/17/91  4
anonymous/odin@pilot.njin.net
iris1.ucis.dal.ca               129.173.18.107  IRIS stuff, space gifs,
off
 iris1.ucis.dal.ca                              objects, movie, byu
objects
 iris1.ucis.dal.ca              12/21/90  3
anonymous/odin@pilot.njin.net
iris613.gsfc.nasa.gov           128.183.10.147  tn3270 for IRIS and HPUX,
 iris613.gsfc.nasa.gov                          other IRIS programs
 iris613.gsfc.nasa.gov          05/15/90  4
anonymous/odin@pilot.njin.net
irisa.irisa.fr                  131.254.2.3     NFF, TeX, iPSC2, tcsh,
 irisa.irisa.fr                                 alt.sources,
 irisa.irisa.fr                                 comp.binaries.atari.st,
 irisa.irisa.fr                                 comp.binaries.ibm.pc,
 irisa.irisa.fr                                 comp.binaries.mac,
 irisa.irisa.fr                                 comp.sources.atari.st,
 irisa.irisa.fr                                 comp.sources.games,
 irisa.irisa.fr                                 comp.sources.mac,
 irisa.irisa.fr                                 comp.sources.misc,
 irisa.irisa.fr                                 comp.sources.sun,
 irisa.irisa.fr                                 comp.sources.unix,
 irisa.irisa.fr                                 comp.sources.x
 irisa.irisa.fr                 05/15/90  -2
anonymous/odin@pilot.njin.net
isca01.icaen.uiowa.edu          128.255.19.175  unknown
 isca01.icaen.uiowa.edu         03/17/91
anonymous/odin@pilot.njin.net
isca01.isca.uiowa.edu           128.255.16.175  NFF, TeX, iPSC2, tcsh,
 isca01.isca.uiowa.edu                          alt.sources,
 isca01.isca.uiowa.edu                          comp.binaries.atari.st,
```

```
 isca01.isca.uiowa.edu                                comp.binaries.ibm.pc,
 isca01.isca.uiowa.edu                                comp.binaries.mac,
 isca01.isca.uiowa.edu                                comp.sources.atari.st,
 isca01.isca.uiowa.edu                                comp.sources.games,
 isca01.isca.uiowa.edu                                comp.sources.mac,
 isca01.isca.uiowa.edu                                comp.sources.misc,
 isca01.isca.uiowa.edu                                comp.sources.sun,
 isca01.isca.uiowa.edu                                comp.sources.unix,
 isca01.isca.uiowa.edu                                comp.sources.x
 isca01.isca.uiowa.edu              05/15/90  -2
anonymous/odin@pilot.njin.net
isdres.er.usgs.gov                  130.11.48.2       US Geological Survey Maps
 isdres.er.usgs.gov                 10/06/90  4
anonymous/odin@pilot.njin.net
isis.cshl.org                       143.48.50.1       unknown
 isis.cshl.org                      05/25/91  4
anonymous/odin@pilot.njin.net
iskut.ucs.ubc.ca                    137.82.27.61      unknown
 iskut.ucs.ubc.ca                   05/25/91  7
anonymous/odin@pilot.njin.net
iss.byu.edu                         128.187.7.3       unknown
 iss.byu.edu                        05/18/91  4
anonymous/odin@pilot.njin.net
isy.liu.se                          130.236.1.3       GNU stuff, screen 2.0,
world
 isy.liu.se                                           map, ccmd, ftpd, TIFF
 isy.liu.se                                           library, Cellsim
 isy.liu.se                         05/15/90  -2
anonymous/odin@pilot.njin.net
itnsg1.cineca.it                    130.186.34.6      NCSA software, Silcon
 itnsg1.cineca.it                                     Graphics, Graphics and
 itnsg1.cineca.it                                     Visualization, Unix
 itnsg1.cineca.it                   01/24/91  -2
anonymous/odin@pilot.njin.net
iubio.bio.indiana.edu               129.79.1.101      biology archive, molecular
 iubio.bio.indiana.edu                                bio
 iubio.bio.indiana.edu              12/31/90  4
anonymous/odin@pilot.njin.net
iuvax.cs.indiana.edu                129.79.254.192    ai biblio, artificial
life,
 iuvax.cs.indiana.edu                                 faces bitmaps, scheme,
 iuvax.cs.indiana.edu                                 SIGPLAN, unix faq list,
 iuvax.cs.indiana.edu                                 usenet oracle, webster,
 iuvax.cs.indiana.edu                                 whitewater, et al
 iuvax.cs.indiana.edu               02/19/91  4
anonymous/odin@pilot.njin.net
ix1.cc.utexas.edu                   128.83.1.21       amiga
 ix1.cc.utexas.edu                  05/15/90  5
anonymous/odin@pilot.njin.net
ix2.cc.utexas.edu                   128.83.1.29       amiga
 ix2.cc.utexas.edu                  05/15/90  5
anonymous/odin@pilot.njin.net
j.cc.purdue.edu                     128.210.9.2       comp.sources.unix,
 j.cc.purdue.edu                    128.210.5.1       comp.sources.x,
 j.cc.purdue.edu                                      comp.sources.amiga, elm,
 j.cc.purdue.edu                                      uupc, comp.binaries.amiga,
 j.cc.purdue.edu                                      comp.sources.sun
```

```
 j.cc.purdue.edu                 11/02/90  4
anonymous/odin@pilot.njin.net
jade.tufts.edu                   130.64.1.32     encore multimax, misc unix
 jade.tufts.edu                  03/26/91  4
anonymous/odin@pilot.njin.net
jaguar.cs.utah.edu               128.110.4.71    unknown
 jaguar.cs.utah.edu              10/12/91  5
anonymous/odin@pilot.njin.net
jaguar.cs.wisc.edu               128.105.1.202   unknown
 jaguar.cs.wisc.edu              10/09/90  5
anonymous/odin@pilot.njin.net
jaguar.utah.edu                  128.110.4.71    GNU
 jaguar.utah.edu                 05/31/90  6
anonymous/odin@pilot.njin.net
jarrah.maths.uwa.oz.au           130.95.16.7     unknown
 jarrah.maths.uwa.oz.au          09/22/91  -8
anonymous/odin@pilot.njin.net
jec4a.its.rpi.edu                128.113.10.1    sun rasters, showtool,
 jec4a.its.rpi.edu                               raytracer
 jec4a.its.rpi.edu               02/06/91  4
anonymous/odin@pilot.njin.net
jhname.hcf.jhu.edu               128.220.2.7     sysV ports of BSD network
 jhname.hcf.jhu.edu                              stuff
 jhname.hcf.jhu.edu              08/06/90  4
anonymous/odin@pilot.njin.net
jhunix.hcf.jhu.edu               128.220.2.5     unknown
 jhunix.hcf.jhu.edu              09/30/91  4
anonymous/odin@pilot.njin.net
jim.ultra.nyu.edu                128.122.129.21  gcc
 jim.ultra.nyu.edu               05/31/90  4
anonymous/odin@pilot.njin.net
joker.optics.rochester.edu       128.151.240.1   nothing
 joker.optics.rochester.edu      08/22/90  4
anonymous/odin@pilot.njin.net
jpl-devvax.jpl.nasa.gov          128.149.1.143   perl, patch, warp
 jpl-devvax.jpl.nasa.gov         128.149.8.43
 jpl-devvax.jpl.nasa.gov         05/15/90  7
anonymous/odin@pilot.njin.net
june.cs.washington.edu           128.95.1.4      TeXhax, dviapollo,
SmallTalk,
 june.cs.washington.edu                          web2c, gated, presto,
maitrd
 june.cs.washington.edu          05/15/90  7
anonymous/odin@pilot.njin.net
jyu.fi                           130.234.0.1     unix, atari, amiga, mac,
 jyu.fi                                          etherprint, abermud,
ularn,
 jyu.fi                                          conquer, knight, larn,
moria,
 jyu.fi                                          nethack 3.0
 jyu.fi                          08/22/90  -3
anonymous/odin@pilot.njin.net
kalikka.jyu.fi                   130.234.0.2     unknown
 kalikka.jyu.fi                  09/27/91  -3
anonymous/odin@pilot.njin.net
kampi.hut.fi                     130.233.224.2   DES routines
(unrestricted),
```

```
 kampi.hut.fi                                    GNU pascal
 kampi.hut.fi                  05/15/90  -3
anonymous/odin@pilot.njin.net
kappa.rice.edu                 128.42.4.7       X11R3, GNU for Sequent
S27,
 kappa.rice.edu                                  Sun3
 kappa.rice.edu                05/15/90  5
anonymous/odin@pilot.njin.net
karazm.math.uh.edu             129.7.7.6        iPSC archives, mathematics
 karazm.math.uh.edu                              and parallel codes,
 karazm.math.uh.edu                              EFF-related files, GNU
 karazm.math.uh.edu            05/25/91  5
anonymous/odin@pilot.njin.net
karron.med.nyu.edu             128.122.135.3    unknown
 karron.med.nyu.edu            12/26/90  4
anonymous/odin@pilot.njin.net
kekule.osc.edu                 128.146.36.48    mindtool, psi88,
kinetics2,
 kekule.osc.edu                                  basis
 kekule.osc.edu                09/22/91  4
anonymous/odin@pilot.njin.net
killington.dartmouth.edu       129.170.28.17    sunchip
 killington.dartmouth.edu      05/31/90  4
anonymous/odin@pilot.njin.net
kl.sri.com                     128.18.10.6      comp.os.vms archives
 kl.sri.com                    08/22/90  7
anonymous/odin@pilot.njin.net
kolvi.hut.fi                   130.233.160.32   kermit stuff, radio
amateur
 kolvi.hut.fi                                    stuff (ka9q etc.), memacs
 kolvi.hut.fi                                    3.10, packet radio
 kolvi.hut.fi                  08/22/90  -3
anonymous/odin@pilot.njin.net
ksuvm.ksu.edu                  129.130.1.1      VM/CMS tools, PCSIG
 ksuvm.ksu.edu                 11/06/90  5
anonymous/odin@pilot.njin.net
kth.se                         130.237.72.201   SCIX, sendmail 5.61 w/ida
 kth.se                        08/02/90  -2
anonymous/odin@pilot.njin.net
kuhub.cc.ukans.edu             129.237.1.10     VMS news
 kuhub.cc.ukans.edu            12/31/90  5
anonymous/odin@pilot.njin.net
kukulcan.berkeley.edu          128.32.131.190   moria archives
 kukulcan.berkeley.edu         05/15/90  7
anonymous/odin@pilot.njin.net
kum.kaist.ac.kr                137.68.1.65      SDN info, ked
 kum.kaist.ac.kr               03/28/91  -9
anonymous/odin@pilot.njin.net
kythera.nmsu.edu               128.123.1.14     ChTeX, misc X11 stuff,
 kythera.nmsu.edu                                Chinese/Japanese X11
fonts,
 kythera.nmsu.edu                                Chinese/Japanese utils
 kythera.nmsu.edu              01/02/91  6
anonymous/odin@pilot.njin.net
l.cc.purdue.edu                128.210.2.8      nothing
 l.cc.purdue.edu               05/15/90  4
anonymous/odin@pilot.njin.net
```

```
labrea.stanford.edu             36.8.0.47       GNU, X, official TeX
sources,
 labrea.stanford.edu                            lots of other stuff
 labrea.stanford.edu            08/22/90  7
anonymous/odin@pilot.njin.net
lamont.ldgo.columbia.edu        129.236.10.30   parse, sunacct, pkunzip,
 lamont.ldgo.columbia.edu                       boeing graph
 lamont.ldgo.columbia.edu       08/22/90  4
anonymous/odin@pilot.njin.net
lampwick.berkeley.edu           128.32.131.141  nh3.0
 lampwick.berkeley.edu          08/22/90  7
anonymous/odin@pilot.njin.net
lan_stuff.ucs.indiana.edu       129.79.16.96    ms windows packet drivers
 lan_stuff.ucs.indiana.edu      08/22/90  5
anonymous/odin@pilot.njin.net
lancaster.andrew.cmu.edu        128.2.13.21     CMU PCIP, RFC1073 telnetd,
 lancaster.andrew.cmu.edu                       RFC1048 bootp
 lancaster.andrew.cmu.edu       05/15/90  4
anonymous/odin@pilot.njin.net
larry.cs.washington.edu         128.95.1.7      Poker
 larry.cs.washington.edu        08/22/90  7
anonymous/odin@pilot.njin.net
larry.mcrcim.mcgill.edu         132.206.4.3     RFCs, X, local nameserver,
 larry.mcrcim.mcgill.edu        132.206.1.1     games, scred (sun bitmap
 larry.mcrcim.mcgill.edu                        editor)
 larry.mcrcim.mcgill.edu        05/15/90  4
anonymous/odin@pilot.njin.net
latour.cs.colorado.edu          128.138.204.19  resource discovery papers
 latour.cs.colorado.edu         09/30/91  4
anonymous/odin@pilot.njin.net
lcs.mit.edu                     18.26.0.36      RFCs, Map, telecom
archive,
 lcs.mit.edu                                    rec.arts.movies.reviews
 lcs.mit.edu                    09/18/91  4
anonymous/odin@pilot.njin.net
lechenaultia.maths.uwa.oz.au    130.95.16.4     unknown
 lechenaultia.maths.uwa.oz.au   09/22/91  -8
anonymous/odin@pilot.njin.net
lhc.nlm.nih.gov                 130.14.1.128    mkmf
 lhc.nlm.nih.gov                08/22/90  4
anonymous/odin@pilot.njin.net
lilac.berkeley.edu              128.32.136.12   POP3 for BSD/Ultrix/sunOS
 lilac.berkeley.edu             05/15/90  7
anonymous/odin@pilot.njin.net
linc.cis.upenn.edu              130.91.6.8      psfig for ditroff, TeX,
 linc.cis.upenn.edu                             unix-pc, Nethack sources
 linc.cis.upenn.edu             08/31/90  4
anonymous/odin@pilot.njin.net
lll-crg.llnl.gov                128.115.1.1     X11R4
 lll-crg.llnl.gov               05/15/90  7
anonymous/odin@pilot.njin.net
loke.idt.unit.no                129.241.1.103   mh 6.6, news, rrn, nntp,
 loke.idt.unit.no               129.241.103.1   sun-spots, webster server,
 loke.idt.unit.no                               GCC vms binaries, net
 loke.idt.unit.no                               directories
 loke.idt.unit.no               08/22/90  -2
anonymous/odin@pilot.njin.net
```

```
louie.udel.edu                  128.175.1.3     net.exe, minix,
NORD<>LINK,
 louie.udel.edu                 128.175.2.33    MH, amiga
 louie.udel.edu                 128.175.7.39
 louie.udel.edu                 05/15/90  4
anonymous/odin@pilot.njin.net
lsiserv2.lsi.usp.br             143.107.3.2     unknown
 lsiserv2.lsi.usp.br            09/30/91  4
anonymous/odin@pilot.njin.net
lth.se                          130.235.16.3    NeWS, cnews, bind, nntp,
 lth.se                                         sendmail, Poskanzer
rasterxs,
 lth.se                                         X11R4
 lth.se                         05/16/90  -2
anonymous/odin@pilot.njin.net
ltisun.epfl.ch                  128.178.119.94  xconq
 ltisun.epfl.ch                 09/01/90  -2
anonymous/odin@pilot.njin.net
lurch.stanford.edu              36.22.0.14      unknown
 lurch.stanford.edu             04/24/91  7
anonymous/odin@pilot.njin.net
lut.fi                          128.214.25.8    PD sources modified for
 lut.fi                                         hp-ux, PC antivirus,
uEmacs
 lut.fi                                         3.10, local research
reports
 lut.fi                                         (neural nets, parallel
 lut.fi                                         computing, etc)
 lut.fi                         03/15/91  -2
anonymous/odin@pilot.njin.net
m2c.m2c.org                     128.188.1.2     Archives for cavers
mailing
 m2c.m2c.org                                    list
 m2c.m2c.org                    05/15/90  4
anonymous/odin@pilot.njin.net
m9-520-1.mit.edu                18.80.0.45      xim utils
 m9-520-1.mit.edu               05/16/90  4
anonymous/odin@pilot.njin.net
macbeth.stanford.edu            36.21.0.13      nothing
 macbeth.stanford.edu           08/22/90  7
anonymous/odin@pilot.njin.net
maccs.dcss.mcmaster.ca          130.113.1.1     GNU, fbm, pbmplus, sun
fixes
 maccs.dcss.mcmaster.ca         09/30/91  4
anonymous/odin@pilot.njin.net
mace.cc.purdue.edu              128.210.9.3     unknown
 mace.cc.purdue.edu             09/27/91  5
anonymous/odin@pilot.njin.net
mach.ncsc.org                   128.109.178.3   unknown
 mach.ncsc.org                  10/05/91  7
anonymous/odin@pilot.njin.net
mach1.npac.syr.edu              128.230.7.14    unknown
 mach1.npac.syr.edu             10/25/90  4
anonymous/odin@pilot.njin.net
maddog.llnl.gov                 128.115.10.1    AWM X tutorial, PCP
 maddog.llnl.gov                                preprocessor & libraries,
 maddog.llnl.gov                                Generic MCPI environment,
```

```
uw
 maddog.llnl.gov                                for mac, plot library
 maddog.llnl.gov                05/15/90  7
anonymous/odin@pilot.njin.net
madhaus.utcs.utoronto.ca        128.100.102.10  mac
 madhaus.utcs.utoronto.ca       07/08/90  4
anonymous/odin@pilot.njin.net
maeglin.mt.luth.se              130.240.1.20    unknown
 maeglin.mt.luth.se             09/30/91  -1
anonymous/odin@pilot.njin.net
mailhost.berkeley.edu           128.32.136.9    unknown
 mailhost.berkeley.edu          128.32.206.9
 mailhost.berkeley.edu          10/07/90  7
anonymous/odin@pilot.njin.net
mammoth.cs.unr.edu              134.197.40.241  STTNG program guide
 mammoth.cs.unr.edu             10/21/90  7
anonymous/odin@pilot.njin.net
mandarin.mit.edu                18.82.0.21      astro
 mandarin.mit.edu               07/22/90  4
anonymous/odin@pilot.njin.net
mango.miami.edu                 129.171.0.18    VMS stuff
 mango.miami.edu                05/31/90  4
anonymous/odin@pilot.njin.net
mango.rsmas.miami.edu           129.171.98.18   unknown
 mango.rsmas.miami.edu          12/08/90  4
anonymous/odin@pilot.njin.net
marlin.jcu.edu.au               137.219.16.14   unknown
 marlin.jcu.edu.au              03/17/91  -11
anonymous/odin@pilot.njin.net
mars.ee.msstate.edu             130.18.64.3     msdos, amiga, mac, atari,
 mars.ee.msstate.edu                            pkracks, etc.
 mars.ee.msstate.edu            01/03/91  5
anonymous/odin@pilot.njin.net
math.berkeley.edu               128.32.183.94   unknown
 math.berkeley.edu              02/23/91  7
anonymous/odin@pilot.njin.net
math.princeton.edu              128.112.128.157 unknown
 math.princeton.edu             128.112.16.1
 math.princeton.edu             12/31/90  4
anonymous/odin@pilot.njin.net
math.ucla.edu                   128.97.4.254    named, nettools, sendmail,
 math.ucla.edu                  128.97.64.16    gap, pari
 math.ucla.edu                  09/22/90  7
anonymous/odin@pilot.njin.net
math.uni-heidelberg.de          129.206.103.100 mac
 math.uni-heidelberg.de         01/11/91  -2
anonymous/odin@pilot.njin.net
mathinfo.ams.com                130.44.1.100    American Math Society TeX
 mathinfo.ams.com                               archive - AMS-tex, ams-
latex,
 mathinfo.ams.com                               euler and other
mathematical
 mathinfo.ams.com                               metafonts
 mathinfo.ams.com               11/02/90  4
anonymous/odin@pilot.njin.net
maths.su.oz.au                  129.78.68.2     unknown
 maths.su.oz.au                 12/26/90  10
```

anonymous/odin@pilot.njin.net
max.physics.sunysb.edu 129.49.21.100 MGR for unix-pc
max.physics.sunysb.edu 01/17/91 4
anonymous/odin@pilot.njin.net
maxwell.physics.purdue.edu 128.46.135.3 Commodore Kermit binary
maxwell.physics.purdue.edu files, dln3, LaTeX thesis
maxwell.physics.purdue.edu styles
maxwell.physics.purdue.edu 09/22/91 5
anonymous/odin@pilot.njin.net
mbcrr.harvard.edu 134.174.79.60 protein library
mbcrr.harvard.edu 08/06/90 4
anonymous/odin@pilot.njin.net
mcclb0.med.nyu.edu 128.122.135.4 unknown
mcclb0.med.nyu.edu 02/23/91 5
anonymous/odin@pilot.njin.net
mclean-unisys.army.mil 26.13.0.17 nothing
mclean-unisys.army.mil 08/22/90 7
anonymous/odin@pilot.njin.net
mcnc.mcnc.org 128.109.131.1 ftpd bugfix, intro NIC
docs,
mcnc.mcnc.org 128.109.130.3 VLSI CAD tool benchmarks,
mcnc.mcnc.org some RFCs, triangle.jobs
mcnc.mcnc.org archive
mcnc.mcnc.org 1/23/91 4
anonymous/odin@pilot.njin.net
mcsun.eu.net 192.16.202.1 gnu, graphics, mail, misc
mcsun.eu.net network, znews,
programming,
mcsun.eu.net ripe, text proc utils,
uumap,
mcsun.eu.net windows, security,
mcsun.eu.net eurographics, bootstrap
mcsun.eu.net 01/11/91 -2
anonymous/odin@pilot.njin.net
mdaali.cancer.utexas.edu 129.106.1.6 locally written
statistical
mdaali.cancer.utexas.edu software, msdos, mac
mdaali.cancer.utexas.edu 03/01/91 5
anonymous/odin@pilot.njin.net
me.uta.edu 129.107.2.20 unknown
me.uta.edu 09/30/91 7
anonymous/odin@pilot.njin.net
me10.lbl.gov 128.3.128.110 X11 binaries for hp-ux,
me10
me10.lbl.gov macros, bind for hp-ux,
tex
me10.lbl.gov for hp-ux, misc hp-ux
me10.lbl.gov utilities
me10.lbl.gov 08/22/90 7
anonymous/odin@pilot.njin.net
meadow.stanford.edu 36.64.0.20 unknown
meadow.stanford.edu 05/15/90 7
anonymous/odin@pilot.njin.net
meap.uta.edu 129.107.2.20 msdos engineering/science
sw
meap.uta.edu 04/24/91
anonymous/odin@pilot.njin.net

```
media-lab.media.mit.edu          18.85.0.2       unknown
 media-lab.media.mit.edu         07/22/90  4
anonymous/odin@pilot.njin.net
menaik.cs.ualberta.ca            129.128.4.241   SMURPH
 menaik.cs.ualberta.ca           09/01/90  5
anonymous/odin@pilot.njin.net
merit.edu                        35.1.1.42       RFCs, ideas
 merit.edu                       08/22/90  4
anonymous/odin@pilot.njin.net
merlin.cs.purdue.edu             128.10.2.3      ConcurrenC, Xinu, mac
 merlin.cs.purdue.edu            11/09/90  5
anonymous/odin@pilot.njin.net
methan.chemie.fu-berlin.de       130.133.2.81    unknown
 methan.chemie.fu-berlin.de      05/25/91  0
anonymous/odin@pilot.njin.net
metro.ucc.su.oz.au               129.78.64.2     Internet Resource Guide
 metro.ucc.su.oz.au              01/17/91  -12
anonymous/odin@pilot.njin.net
midgard.ucsc.edu                 128.114.14.6    amoeba, tr,
us.constitution
 midgard.ucsc.edu                06/02/90  7
anonymous/odin@pilot.njin.net
midway.uchicago.edu              128.135.12.73   OzTeX
 midway.uchicago.edu             07/09/90  5
anonymous/odin@pilot.njin.net
miki.cs.titech.ac.jp             131.112.172.15  Nemacs
 miki.cs.titech.ac.jp            08/22/90  -12
anonymous/odin@pilot.njin.net
mildred.lerc.nasa.gov            139.88.30.61    unknown
 mildred.lerc.nasa.gov           09/30/91  4
anonymous/odin@pilot.njin.net
milton.u.washington.edu          128.95.136.1    commodore, star trek info,
 milton.u.washington.edu                         dist point for Mentifex
AI,
 milton.u.washington.edu                         go
 milton.u.washington.edu         12/24/90  7
anonymous/odin@pilot.njin.net
mims-iris.waterloo.edu           129.97.129.116  laser fonts & utilities
 mims-iris.waterloo.edu          08/22/90  4
anonymous/odin@pilot.njin.net
mimsy.umd.edu                    128.8.128.8     declarative languages bib,
 mimsy.umd.edu                                   SLIP, rn
 mimsy.umd.edu                   01/17/91  4
anonymous/odin@pilot.njin.net
mindseye.berkeley.edu            128.32.232.19   kanji
 mindseye.berkeley.edu           05/31/90  7
anonymous/odin@pilot.njin.net
mingin.engin.umich.edu           141.212.66.36   unknown
 mingin.engin.umich.edu          09/15/91  -1
anonymous/odin@pilot.njin.net
minnie.cs.adfa.oz.au             131.236.20.90   unknown
 minnie.cs.adfa.oz.au            09/30/91  -12
anonymous/odin@pilot.njin.net
mis1.mis.mcw.edu                 141.106.64.11   decus uucp, anu-news
 mis1.mis.mcw.edu                09/30/91  5
anonymous/odin@pilot.njin.net
mizar.docs.uu.se                 130.238.4.1     gnu
```

```
 mizar.docs.uu.se                  130.238.8.6
 mizar.docs.uu.se                  05/31/90  -2
anonymous/odin@pilot.njin.net
mojo.eng.umd.edu                  128.8.133.9     unknown
 mojo.eng.umd.edu                  10/25/90  4
anonymous/odin@pilot.njin.net
mondo.engin.umich.edu             141.212.68.14   unknown
 mondo.engin.umich.edu             05/02/91  4
anonymous/odin@pilot.njin.net
monk.proteon.com                  128.185.123.16  cc:mail to smtp gateway
 monk.proteon.com                  05/15/90  4
anonymous/odin@pilot.njin.net
monu1.cc.monash.edu.au            130.194.1.101   unix stuff, gnuplot
 monu1.cc.monash.edu.au            06/07/90  -10
anonymous/odin@pilot.njin.net
monu6.cc.monash.edu.au            130.194.32.106  unknown
 monu6.cc.monash.edu.au            03/22/91  -11
anonymous/odin@pilot.njin.net
moose.cccs.umn.edu                128.101.133.53  icalc
 moose.cccs.umn.edu                08/22/90  5
anonymous/odin@pilot.njin.net
mordred.cs.purdue.edu             128.10.2.2      unknown
 mordred.cs.purdue.edu             08/22/90  5
anonymous/odin@pilot.njin.net
mrcnext.cso.uiuc.edu              128.174.201.12  amiga
 mrcnext.cso.uiuc.edu              05/15/90  5
anonymous/odin@pilot.njin.net
msdos.archive.umich.edu           141.211.165.34  msdos, mac
 msdos.archive.umich.edu           03/01/91
anonymous/odin@pilot.njin.net
mthvax.cs.miami.edu               129.171.32.5    homebrew, constitution,
worm,
 mthvax.cs.miami.edu                               elm, nn
 mthvax.cs.miami.edu               08/22/90  4
anonymous/odin@pilot.njin.net
mtsg.ubc.ca                       137.82.27.1     msdos, unix, amiga, os2
 mtsg.ubc.ca                       08/22/90  4
anonymous/odin@pilot.njin.net
mungarra.asis.unimelb.edu.au      128.250.150.2   unknown
 mungarra.asis.unimelb.edu.au      01/17/91  -12
anonymous/odin@pilot.njin.net
munnari.oz.au                     128.250.1.21    graphics progs (vogle,
vopl,
 munnari.oz.au                     192.43.207.1    vort), cap, multigate
 munnari.oz.au                                     archive,
comp.sources.unix,
 munnari.oz.au                                     RFCs
 munnari.oz.au                     08/31/90  -10
anonymous/odin@pilot.njin.net
mvb.saic.com                      139.121.19.1    unknown
 mvb.saic.com                      09/30/91  7
anonymous/odin@pilot.njin.net
n1dmm.cs.washington.edu           128.95.1.28     unknown
 n1dmm.cs.washington.edu           03/31/91  7
anonymous/odin@pilot.njin.net
nada.kth.se                       130.237.222.71  unknown
 nada.kth.se                       08/22/90  -2
```

```
anonymous/odin@pilot.njin.net
ncbi.nlm.nih.gov                130.14.20.1     unknown
 ncbi.nlm.nih.gov               10/09/90  4
anonymous/odin@pilot.njin.net
ncifcrf.gov                     129.43.1.11     xtrek5.4
 ncifcrf.gov                    12/31/90  4
anonymous/odin@pilot.njin.net
ncnoc.concert.net               128.109.193.1   misc local network info
 ncnoc.concert.net              192.101.21.1
 ncnoc.concert.net              05/15/90  4
anonymous/odin@pilot.njin.net
nebula.systemsz.cs.yale.edu     128.36.13.1     haskell
 nebula.systemsz.cs.yale.edu    05/31/90  4
anonymous/odin@pilot.njin.net
neon.stanford.edu               36.28.0.92      unknown
 neon.stanford.edu              01/17/91  7
anonymous/odin@pilot.njin.net
nervm.nerdc.ufl.edu             128.227.212.10  VM tcpip mods, VM/SP VM/XA
 nervm.nerdc.ufl.edu                            real time monitor
 nervm.nerdc.ufl.edu            08/22/90  4
anonymous/odin@pilot.njin.net
netlab.usu.edu                  129.123.1.11    netwatch, PC/IP
 netlab.usu.edu                 08/22/90  6
anonymous/odin@pilot.njin.net
network.ucsd.edu                128.54.16.3     anime gifs, anime stuff,
 network.ucsd.edu                               columbia appletalk package
 network.ucsd.edu               12/24/90  7
anonymous/odin@pilot.njin.net
newell.arc.nasa.gov             128.102.25.43   unknown
 newell.arc.nasa.gov            08/22/90  7
anonymous/odin@pilot.njin.net
next.com                        129.18.1.2      unknown
 next.com                       08/22/90  7
anonymous/odin@pilot.njin.net
nexus.yorku.ca                  130.63.9.66     unknown
 nexus.yorku.ca                 09/30/91  4
anonymous/odin@pilot.njin.net
nic.cerf.net                    192.102.249.3   CERFnet connectivity maps
 nic.cerf.net                   08/22/90  7
anonymous/odin@pilot.njin.net
nic.ddn.mil                     192.112.36.5    netinfo, RFCs, IEN, IETF
 nic.ddn.mil                    08/22/90  7
anonymous/odin@pilot.njin.net
nic.funet.fi                    128.214.6.100   GNU, X11, networking,
msdos,
 nic.funet.fi                                   mac, amiga, atari,
security
 nic.funet.fi                                   docs and software,
 nic.funet.fi                                   cryptography stuff, sony
news
 nic.funet.fi                                   software
 nic.funet.fi                   08/22/90  -3
anonymous/odin@pilot.njin.net
nic.mr.net                      137.192.240.5   Minnesota Regional Net
 nic.mr.net                                     traffic data
 nic.mr.net                     08/22/90  5
anonymous/odin@pilot.njin.net
```

```
nic.near.net                        192.52.71.4     nearnet info (docs forms)
 nic.near.net                       05/31/90  4
anonymous/odin@pilot.njin.net
nic.switch.ch                       130.59.1.40     news archive, GNU (swiss
ftp
 nic.switch.ch                                      server)
 nic.switch.ch                      05/15/90  -2
anonymous/odin@pilot.njin.net
niord.shsu.edu                      192.92.115.8    unknown
 niord.shsu.edu                     09/30/91  5
anonymous/odin@pilot.njin.net
nis.nsf.net                         35.1.1.48       Merit info, NSFnet Link
 nis.nsf.net                                        Letter
 nis.nsf.net                        08/22/90  4     anonymous/guest
nisc.jvnc.net                       128.121.50.7    misc info
 nisc.jvnc.net                      05/31/90  4
anonymous/odin@pilot.njin.net
nisca.ircc.ohio-state.edu           128.146.1.7     alt.fax
 nisca.ircc.ohio-state.edu          05/15/90  4
anonymous/odin@pilot.njin.net
nnsc.nsf.net                        192.31.103.6    Network Info, Internet
 nnsc.nsf.net                       128.89.1.178    Resource Guide
 nnsc.nsf.net                       08/22/90  4
anonymous/odin@pilot.njin.net
noc.byu.edu                         128.187.7.2     unknown
 noc.byu.edu                        09/15/91  7
anonymous/odin@pilot.njin.net
noc.sura.net                        192.80.214.100  various network maps
 noc.sura.net                       08/03/90  4
anonymous/odin@pilot.njin.net
nova.cc.purdue.edu                  128.210.7.22    Next archives
 nova.cc.purdue.edu                 11/02/90  4
anonymous/odin@pilot.njin.net
novell.macc.wisc.edu                128.104.30.31   MOKE (kanji/kana editor
for
 novell.macc.wisc.edu                               msdos)
 novell.macc.wisc.edu               08/22/90  5
anonymous/odin@pilot.njin.net
nro.cs.athabascau.ca                131.232.1.1     unknown
 nro.cs.athabascau.ca               131.232.6.1
 nro.cs.athabascau.ca               05/25/91  6
anonymous/odin@pilot.njin.net
ns.nic.yorku.ca                     130.63.7.3      unknown
 ns.nic.yorku.ca                    10/09/90  4
anonymous/odin@pilot.njin.net
nssdca.gsfc.nasa.gov                128.183.36.23   hubble space telescope
images
 nssdca.gsfc.nasa.gov               12/23/90  -5
anonymous/odin@pilot.njin.net
nuri.inria.fr                       128.93.1.26     x11r5, gnu
 nuri.inria.fr                      09/20/91  -2
anonymous/odin@pilot.njin.net
nymphaea.maths.uwa.oz.au            130.95.16.16    nothing
 nymphaea.maths.uwa.oz.au           09/26/91  -8
anonymous/odin@pilot.njin.net
nyu.edu                             128.122.128.2   mod.sources
 nyu.edu                            01/02/91  4
```

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anonymous/odin@pilot.njin.net
nz20.rz.uni-karlsruhe.de          192.67.194.193  unknown
 nz20.rz.uni-karlsruhe.de         09/30/91  -2
anonymous/odin@pilot.njin.net
ocf.berkeley.edu                  128.32.184.254  OCF, Apollo software,
Hello
 ocf.berkeley.edu                                 World archive
 ocf.berkeley.edu                 08/22/90  7
anonymous/odin@pilot.njin.net
oddjob.uchicago.edu               128.135.4.2     NNTP, Sendmail, utils,
 oddjob.uchicago.edu              128.135.4.32    Ethernet stuff
 oddjob.uchicago.edu              08/22/90  5
anonymous/odin@pilot.njin.net
oddput.efd.lth.se                 130.235.48.4    xps (postscript previewer)
 oddput.efd.lth.se                05/15/90  -2
anonymous/odin@pilot.njin.net
oersted.ltf.dth.dk                129.142.66.16   movietools, mail-list
 oersted.ltf.dth.dk               09/14/91  -2
anonymous/odin@pilot.njin.net
ogre.cica.indiana.edu             129.79.21.178   lpd
 ogre.cica.indiana.edu            08/13/90  5
anonymous/odin@pilot.njin.net
okeeffe.berkeley.edu              128.32.130.3    nothing
 okeeffe.berkeley.edu             08/22/90  7
anonymous/odin@pilot.njin.net
okeeffe.cs.berkeley.edu           128.32.130.3    unknown
 okeeffe.cs.berkeley.edu          09/15/91  5
anonymous/odin@pilot.njin.net
olearia.maths.uwa.oz.au           130.95.16.10    nothing
 olearia.maths.uwa.oz.au          09/30/91  -8
anonymous/odin@pilot.njin.net
omnigate.clarkson.edu             128.153.4.2     PS maps of DNS, Clarkson
NCSA
 omnigate.clarkson.edu                            telnet
 omnigate.clarkson.edu            05/15/90  4
anonymous/odin@pilot.njin.net
orc.olivetti.com                  129.189.192.20  msdos fax netinfo rfc
 orc.olivetti.com                 05/31/90  7
anonymous/odin@pilot.njin.net
oregon.uoregon.edu                128.223.20.2    unknown
 oregon.uoregon.edu               128.223.32.18
 oregon.uoregon.edu               08/22/90  7
anonymous/odin@pilot.njin.net
orion.arc.nasa.gov                128.102.18.10   nothing
 orion.arc.nasa.gov               128.102.128.2
 orion.arc.nasa.gov               05/31/90  7
anonymous/odin@pilot.njin.net
osi.ncsl.nist.gov                 129.6.48.100    misc OSI info
 osi.ncsl.nist.gov                05/15/90  4
anonymous/odin@pilot.njin.net
osi3.ncsl.nist.gov                129.6.51.1      GOSIP
 osi3.ncsl.nist.gov               129.6.55.3
 osi3.ncsl.nist.gov               05/15/90  4
anonymous/odin@pilot.njin.net
osprey.telcom.arizona.edu         128.196.128.232 unknown
 osprey.telcom.arizona.edu        10/25/90  7
anonymous/odin@pilot.njin.net
```

```
oswego.oswego.edu                129.3.1.1       GNU, mac, kermit
 oswego.oswego.edu               08/22/90  4
anonymous/odin@pilot.njin.net
otax.tky.hut.fi                  130.233.32.32   Mikkar accounting program
 otax.tky.hut.fi                 05/15/90  -3
anonymous/odin@pilot.njin.net
otis.stanford.edu                36.22.0.201     SELF language docs
 otis.stanford.edu               01/17/91  7
anonymous/odin@pilot.njin.net
ouchem.chem.oakland.edu          141.210.108.5   unknown
 ouchem.chem.oakland.edu         02/23/91  4
anonymous/odin@pilot.njin.net
oxy.edu                          134.69.1.2      unknown
 oxy.edu                         09/30/91  7
anonymous/odin@pilot.njin.net
p6xje.ldc.lu.se                  130.235.133.7   NCSA telnet 2.2ds, PC
 p6xje.ldc.lu.se                                 networking etc.
 p6xje.ldc.lu.se                 08/22/90  -2
anonymous/odin@pilot.njin.net
pacific.mps.ohio-state.edu       128.146.37.18   dvi2ps
 pacific.mps.ohio-state.edu      05/15/90  4
anonymous/odin@pilot.njin.net
paul.rutgers.edu                 128.6.5.60      omega
 paul.rutgers.edu                128.6.13.27
 paul.rutgers.edu                05/15/90  4
anonymous/odin@pilot.njin.net
pc.usl.edu                       130.70.40.3     pbmplus for amiga
 pc.usl.edu                      07/08/90  5
anonymous/odin@pilot.njin.net
peace.waikato.ac.nz              130.217.64.62   anu-news gnu msdos mac
ncsa
 peace.waikato.ac.nz                             x11r4
 peace.waikato.ac.nz             08/22/90  -1
anonymous/odin@pilot.njin.net
pearl.tufts.edu                  130.64.1.41     VMS goodies
 pearl.tufts.edu                 130.64.174.2
 pearl.tufts.edu                 03/26/91  4
anonymous/odin@pilot.njin.net
pemrac.space.swri.edu            129.162.150.4   convex users group
 pemrac.space.swri.edu           08/22/90  5
anonymous/odin@pilot.njin.net
peoplesparc.berkeley.edu         128.32.131.14   unknown
 peoplesparc.berkeley.edu        01/22/91  7
anonymous/odin@pilot.njin.net
perelandra.cms.udel.edu          128.175.74.1    unknown
 perelandra.cms.udel.edu         01/17/91  4
anonymous/odin@pilot.njin.net
pgd.adp.wisc.edu                 128.104.198.22  unknown
 pgd.adp.wisc.edu                08/22/90  5
anonymous/odin@pilot.njin.net
phoebus.nisc.sri.com             192.33.33.22    unknown
 phoebus.nisc.sri.com            04/24/91  7
anonymous/odin@pilot.njin.net
phoibos.cs.kun.nl                131.174.81.1    ToalTex, rail, glammar,
glass
 phoibos.cs.kun.nl               131.174.32.1
 phoibos.cs.kun.nl               02/21/91  -2
```

```
anonymous/odin@pilot.njin.net
piggy.cs.chalmers.se              129.16.2.25     unknown
 piggy.cs.chalmers.se             03/31/91  -3
anonymous/odin@pilot.njin.net
piggy.ucsb.edu                    128.111.72.50   coherent
 piggy.ucsb.edu                   09/01/90  6
anonymous/odin@pilot.njin.net
pilot.njin.net                    128.6.7.38      Original distribution
point
 pilot.njin.net                   128.6.18.38     of this ftp list
 pilot.njin.net                                   (pub/ftp-list)
 pilot.njin.net                   06/10/90  4
anonymous/odin@pilot.njin.net
pine.circa.ufl.edu                128.227.8.7     this list, RFCs, Internet
 pine.circa.ufl.edu                               Worm reports
 pine.circa.ufl.edu               08/22/90  4
anonymous/odin@pilot.njin.net
pion.lcs.mit.edu                  18.26.0.64      clu
 pion.lcs.mit.edu                 05/31/90  4
anonymous/odin@pilot.njin.net
pisa.citi.umich.edu               141.211.128.223 unknown
 pisa.citi.umich.edu              09/30/91  5
anonymous/odin@pilot.njin.net
pit-manager.mit.edu               18.72.1.58      stories (Alice's PDP-10,
Mel
 pit-manager.mit.edu                              and the drum memory),
humor,
 pit-manager.mit.edu                              firearms discussion (RKBA
 pit-manager.mit.edu                              articles)
 pit-manager.mit.edu              03/26/91  4
anonymous/odin@pilot.njin.net
pitt.edu                          130.49.254.251  local nameserver source,
 pitt.edu                                         local decnet database,
 pitt.edu                                         National Institute of
Health
 pitt.edu                                         Guide Online, RFCs, local
 pitt.edu                                         network docs
 pitt.edu                         08/22/90  4
anonymous/odin@pilot.njin.net
pittslug.sug.org                  192.58.107.150  unknown
 pittslug.sug.org                 09/30/91  4
anonymous/odin@pilot.njin.net
plains.nodak.edu                  134.129.111.64  apple, msdos, mac, amiga,
 plains.nodak.edu                                 ascii pics,
 plains.nodak.edu                                 comp.sys.handhelds, hp-28
 plains.nodak.edu                                 list archives
 plains.nodak.edu                 05/15/90  5
anonymous/odin@pilot.njin.net
poincare.geom.umn.edu             128.101.25.31   Differential Geometry
Stuff
 poincare.geom.umn.edu            06/01/90  5
anonymous/odin@pilot.njin.net
polaris.cc.utu.fi                 130.232.1.1     unknown
 polaris.cc.utu.fi                09/15/91  7
anonymous/odin@pilot.njin.net
polaris.cognet.ucla.edu           128.97.50.3     unknown
 polaris.cognet.ucla.edu          04/24/91  7
```

```
anonymous/odin@pilot.njin.net
polaris.llnl.gov                128.115.14.19   alt.archives, rfc
 polaris.llnl.gov               05/31/90  7
anonymous/odin@pilot.njin.net
polaris.utu.fi                  130.232.1.1     CLU sources
 polaris.utu.fi                 08/22/90  -3
anonymous/odin@pilot.njin.net
pollux.lu.se                    130.235.132.89  ftp-sites, graphics, mac,
 pollux.lu.se                                   network
 pollux.lu.se                   08/22/90  -2
anonymous/odin@pilot.njin.net
polyslo.calpoly.edu             129.65.17.1     xtrek, top 2.0, spaceout,
 polyslo.calpoly.edu                            cnews, nethack, nntp,
uucp,
 polyslo.calpoly.edu                            hosts, TR, RFCs, Conquer
 polyslo.calpoly.edu                            Docs, usenix tape files,
 polyslo.calpoly.edu                            short usenix files,
 polyslo.calpoly.edu                            Hitchhikers guide to the
 polyslo.calpoly.edu                            Internet, Internet Email
list
 polyslo.calpoly.edu            05/15/90  7
anonymous/odin@pilot.njin.net
pomona.claremont.edu            134.173.4.160   vms utils
 pomona.claremont.edu           08/22/90  7
anonymous/odin@pilot.njin.net
portnoy.cs.buffalo.edu          128.205.34.106  FSF
 portnoy.cs.buffalo.edu         07/09/90  4
anonymous/odin@pilot.njin.net
postgres.berkeley.edu           128.32.149.1    University INGRES
 postgres.berkeley.edu          08/22/90  7
anonymous/odin@pilot.njin.net
potemkin.cs.pdx.edu             131.252.20.145  Dylan, League for
Programming
 potemkin.cs.pdx.edu                            Freedom, Parker Lewis
archive
 potemkin.cs.pdx.edu            03/01/91  7
anonymous/odin@pilot.njin.net
pprg.eece.unm.edu               129.24.24.10    unknown
 pprg.eece.unm.edu              192.31.154.1
 pprg.eece.unm.edu              09/15/91  7
anonymous/odin@pilot.njin.net
pprg.unm.edu                    129.24.13.10    bitmaps
 pprg.unm.edu                   192.31.154.1
 pprg.unm.edu                   05/16/90  6
anonymous/odin@pilot.njin.net
primost.cs.wisc.edu             128.105.2.115   comp.compilers
 primost.cs.wisc.edu            05/15/90  5
anonymous/odin@pilot.njin.net
princeton.edu                   128.112.128.1   web, standard ML
 princeton.edu                  07/19/90  4
anonymous/odin@pilot.njin.net
procyon.cis.ksu.edu             129.130.10.80   sun fixes, old xbbs, old
 procyon.cis.ksu.edu                            citadel, u3g toolkit, old
 procyon.cis.ksu.edu                            unix-pc, pd modula2,
msdos,
 procyon.cis.ksu.edu                            mac, amiga, misc
 procyon.cis.ksu.edu            11/25/90  5
```

```
anonymous/odin@pilot.njin.net
puppsr.princeton.edu              128.112.128.165 unknown
 puppsr.princeton.edu             03/17/91  4
anonymous/odin@pilot.njin.net
pyrite.rutgers.edu                128.6.4.15      Security mailing list
 pyrite.rutgers.edu               128.6.60.15     archives
 pyrite.rutgers.edu               05/15/90  4
anonymous/odin@pilot.njin.net
qed.rice.edu                      128.42.4.38     GNU, X11R3, plot2ps
sources
 qed.rice.edu                     05/15/90  5
anonymous/odin@pilot.njin.net
qiclab.scn.rain.com               147.28.0.97     gnu, usenet, SunOS
patches,
 qiclab.scn.rain.com                              xview, X11, games,
graphics,
 qiclab.scn.rain.com                              RFC, security, prog utils,
 qiclab.scn.rain.com                              Sun, networking, huge
misc,
 qiclab.scn.rain.com                              NeWS, text proc,
benchmarks
 qiclab.scn.rain.com              09/29/91  7
anonymous/odin@pilot.njin.net
qualup.maths.uwa.oz.au            130.95.16.18    nothing
 qualup.maths.uwa.oz.au           09/26/91  -8
anonymous/odin@pilot.njin.net
quartz.rutgers.edu                128.6.4.8       unknown
 quartz.rutgers.edu               05/19/90  4
anonymous/odin@pilot.njin.net
quiche.cs.mcgill.ca               132.206.2.3     recursive listing of all
ftp
 quiche.cs.mcgill.ca                              sites, msdos, bible,
Hubble
 quiche.cs.mcgill.ca                              GIF images
 quiche.cs.mcgill.ca              06/16/90  4
anonymous/odin@pilot.njin.net
ra.nrl.navy.mil                   128.60.0.21     mac engineering and
science
 ra.nrl.navy.mil                                  shareware
 ra.nrl.navy.mil                  04/02/91  4
anonymous/odin@pilot.njin.net
rand.org                          192.5.14.33     some esperanto
 rand.org                         07/10/90  7
anonymous/odin@pilot.njin.net
rascal.ics.utexas.edu             128.83.138.20   KCL, AKCL (full common
lisp
 rascal.ics.utexas.edu                            implementation)
 rascal.ics.utexas.edu            10/04/90  5
anonymous/odin@pilot.njin.net
rata.vuw.ac.nz                    130.195.2.11    mac, sun, robodoc
 rata.vuw.ac.nz                   02/05/91  -1
anonymous/odin@pilot.njin.net
regelia.maths.uwa.oz.au           130.95.16.15    nothing
 regelia.maths.uwa.oz.au          09/30/91  -8
anonymous/odin@pilot.njin.net
relay.cdnnet.ca                   192.73.5.1      CA domain registrations,
 relay.cdnnet.ca                                  fonts, MuTeX, raster
```

```
files,
 relay.cdnnet.ca                                RFCs, sun and usenet utils
 relay.cdnnet.ca                08/20/90  7
anonymous/odin@pilot.njin.net
research.att.com                192.20.225.2    TeX, gcc, ghostscript, f2c
 research.att.com               08/22/90  4
anonymous/odin@pilot.njin.net
retina.chem.psu.edu             128.118.30.113  mopac
 retina.chem.psu.edu            06/02/90  4
anonymous/odin@pilot.njin.net
riacs.edu                       128.102.16.8    unknown
 riacs.edu                      09/30/91  7
anonymous/odin@pilot.njin.net
rigel.efd.lth.se                130.235.48.3    VMS emacs, decwindows
diffs
 rigel.efd.lth.se               08/22/90  -2
anonymous/odin@pilot.njin.net
ringo.rutgers.edu               128.6.5.77      Omega sources
 ringo.rutgers.edu              128.6.13.6
 ringo.rutgers.edu              05/15/90  4
anonymous/odin@pilot.njin.net
risc.ua.edu                     130.160.4.7     bitmaps, gif, games
 risc.ua.edu                    09/22/91  5
anonymous/odin@pilot.njin.net
rml2.sri.com                    128.18.22.20    VMS gnu awk
 rml2.sri.com                   08/22/90  7
anonymous/odin@pilot.njin.net
rogue.llnl.gov                  128.115.2.99    DECnet security tools
 rogue.llnl.gov                 08/22/90  7
anonymous/odin@pilot.njin.net
rohini.telecomm.umn.edu         128.101.55.1    UMN hostables
 rohini.telecomm.umn.edu        128.101.54.232
 rohini.telecomm.umn.edu        08/22/90  5
anonymous/odin@pilot.njin.net
roope.cs.hut.fi                 130.233.192.32  unknown
 roope.cs.hut.fi                09/15/91  5
anonymous/odin@pilot.njin.net
roope.hut.fi                    130.233.192.32  bib : dash, mosix, treads
 roope.hut.fi                   08/22/90  -3
anonymous/odin@pilot.njin.net
rover.umd.edu                   128.8.2.73      unknown
 rover.umd.edu                  05/15/90  4
anonymous/odin@pilot.njin.net
rrivax.rri.uwo.ca               129.100.7.2     unknown
 rrivax.rri.uwo.ca              09/30/91  5
anonymous/odin@pilot.njin.net
rsa.com                         192.80.211.13   unknown
 rsa.com                        02/23/91  7
anonymous/odin@pilot.njin.net
ruby.tufts.edu                  130.64.1.8      mirror of pearl.tufts.edu
 ruby.tufts.edu                 03/26/91  4
anonymous/odin@pilot.njin.net
rusmv1.rus.uni-stuttgart.de     129.69.1.12     RFCs, X11, atari, amiga,
 rusmv1.rus.uni-stuttgart.de                    msdos, unix, mathematics
 rusmv1.rus.uni-stuttgart.de                    (Fortran)
 rusmv1.rus.uni-stuttgart.de    05/15/90  -2
anonymous/odin@pilot.njin.net
```

```
rutgers.edu                          128.6.21.9      comp.sources.sun
 rutgers.edu                         05/15/90  4
anonymous/odin@pilot.njin.net
rye.cs.ucla.edu                      131.179.192.79  tgif
 rye.cs.ucla.edu                     06/02/90  7
anonymous/odin@pilot.njin.net
rzsun2.informatik.uni-hamburg.de     134.100.4.42    unknown
 rzsun2.informatik.uni-hamburg.de    188.1.20.32
 rzsun2.informatik.uni-hamburg.de    09/30/91  -1
anonymous/odin@pilot.njin.net
sa.cacs.usl.edu                      130.70.40.11    Socket interface
 sa.cacs.usl.edu                     08/22/90  7
anonymous/odin@pilot.njin.net
sachiko.acc.stolaf.edu               130.71.192.17   g++
 sachiko.acc.stolaf.edu              07/09/90  5
anonymous/odin@pilot.njin.net
sail.stanford.edu                    36.28.0.130     unknown
 sail.stanford.edu                   10/05/91  4
anonymous/odin@pilot.njin.net
samba.acs.unc.edu                    128.109.157.30  unknown
 samba.acs.unc.edu                   04/24/91  4
anonymous/odin@pilot.njin.net
santra.hut.fi                        130.233.224.1   unknown
 santra.hut.fi                       09/15/91  7
anonymous/odin@pilot.njin.net
sao.aarnet.edu.au                    130.56.5.21     VMS nntp server
 sao.aarnet.edu.au                   08/22/90  -11
anonymous/odin@pilot.njin.net
saqqara.cis.ohio-state.edu           128.146.8.98    SLIP sw, some NeWS
 saqqara.cis.ohio-state.edu          12/24/90  4
anonymous/odin@pilot.njin.net
sauna.cs.hut.fi                      130.233.192.1   unknown
 sauna.cs.hut.fi                     09/15/91  4
anonymous/odin@pilot.njin.net
sauna.hut.fi                         130.233.192.1   unix, athena docs, some
FTP
 sauna.hut.fi                        130.233.200.1   dirs from US, elm, nntp,
news
 sauna.hut.fi                        08/05/90  -3
anonymous/odin@pilot.njin.net
sayshell.umd.edu                     128.8.2.88      version of KA9Q
 sayshell.umd.edu                    05/15/90  4
anonymous/odin@pilot.njin.net
sbcs.sunysb.edu                      130.245.1.15    sun raster tools
 sbcs.sunysb.edu                     05/15/90  4
anonymous/odin@pilot.njin.net
scam.berkeley.edu                    128.32.138.1    X sources,
 scam.berkeley.edu                                   rec.arts.startrek.info
 scam.berkeley.edu                                   archives, tk, tcl
 scam.berkeley.edu                   05/25/91  7
anonymous/odin@pilot.njin.net
schizo.samsung.com                   134.228.1.2     alt.sources,
 schizo.samsung.com                                  comp.sources.games,
 schizo.samsung.com                                  comp.sources.misc,
 schizo.samsung.com                                  comp.sources.sun,
 schizo.samsung.com                                  comp.sources.unix,
 schizo.samsung.com                                  comp.sources.x, GNU,
```

usenet
 schizo.samsung.com   news sw, unix mail sw,
 schizo.samsung.com   networking sw, msdos,
gifs,
 schizo.samsung.com   RFCs
 schizo.samsung.com   09/22/90 4
anonymous/odin@pilot.njin.net
science.utah.edu   128.110.192.2   TeX things, Hershey
(tenex)
 science.utah.edu   08/22/90 6
anonymous/odin@pilot.njin.net
sciences.sdsu.edu   130.191.224.2   SS-1 sounds
 sciences.sdsu.edu   10/04/90 7
anonymous/odin@pilot.njin.net
sdcsvax.ucsd.edu   132.239.51.2   prep-p, GAucsd, LML
 sdcsvax.ucsd.edu   03/22/91 7
anonymous/odin@pilot.njin.net
sds.sdsc.edu   132.249.20.22   supercomputer center info
 sds.sdsc.edu   08/22/90 7
anonymous/odin@pilot.njin.net
seq.uncwil.edu   128.109.221.20   hp48 archives
 seq.uncwil.edu   05/26/91 4
anonymous/odin@pilot.njin.net
serv1.cl.msu.edu   35.8.2.41   msu hosts files
 serv1.cl.msu.edu   08/22/90 4
anonymous/odin@pilot.njin.net
sessilis.maths.uwa.oz.au   130.95.16.9   unknown
 sessilis.maths.uwa.oz.au   09/22/91 -8
anonymous/odin@pilot.njin.net
sgi.com   192.48.153.1   IRIS stuff
 sgi.com   05/15/90 7
anonymous/odin@pilot.njin.net
sh.cs.net   192.31.103.3   NetLists, NetMaps, RFCs,
etc.
 sh.cs.net   128.89.0.92
 sh.cs.net   08/22/90 4
anonymous/odin@pilot.njin.net
shape.mps.ohio-state.edu   128.146.7.200   unknown
 shape.mps.ohio-state.edu   05/16/90 4
anonymous/odin@pilot.njin.net
shark.mel.dit.csiro.au   144.110.16.11   ISODE, PP, telebit
 shark.mel.dit.csiro.au   trailblazer setup, recipes
 shark.mel.dit.csiro.au   09/22/91 -10
anonymous/odin@pilot.njin.net
shasta.scl.cwru.edu   129.22.32.7   smail/pc, msdos, gif,
packet
 shasta.scl.cwru.edu   drivers, gnu-c 386, ka9q,
 shasta.scl.cwru.edu   pc/ip, ncsa, pc/tex,
uemacs,
 shasta.scl.cwru.edu   p2c, rn, dvi2ps, uupc
 shasta.scl.cwru.edu   04/24/91 4
anonymous/odin@pilot.njin.net
shemp.cs.ucla.edu   131.179.128.34   XWIP
 shemp.cs.ucla.edu   05/15/90 7
anonymous/odin@pilot.njin.net
shiva.com   192.80.57.1   unknown
 shiva.com   10/09/90 4

```
anonymous/odin@pilot.njin.net
shorty.cs.wisc.edu                128.105.2.8     Condor, cslip for Ultrix
4.0,
 shorty.cs.wisc.edu                                lj2ps, xgremlin, xproof
 shorty.cs.wisc.edu               08/21/90  5
anonymous/odin@pilot.njin.net
shrimp.cs.washington.edu          128.95.1.99     unknown
 shrimp.cs.washington.edu         05/25/91  7
anonymous/odin@pilot.njin.net
siam.unibe.ch                     130.92.66.11    benchmark, c++, comm,
 siam.unibe.ch                                    databases, gnu, graphics,
 siam.unibe.ch                                    images, interviews,
 siam.unibe.ch                                    languages, mathematica,
 siam.unibe.ch                                    postscript, suntools,
 siam.unibe.ch                                    systemtools, tex, usenet,
 siam.unibe.ch                                    X11, emacs, ftp.list,
games,
 siam.unibe.ch                                    sound
 siam.unibe.ch                    01/11/91  -2
anonymous/odin@pilot.njin.net
sics.se                           192.16.123.90   calc, ft1, gated,
interviews,
 sics.se                                          isode, mh, packet radio,
 sics.se                                          ping, pmake, printmail,
sps,
 sics.se                                          Poskanzer bitmaps (runs
whois
 sics.se                                          server)
 sics.se                          05/16/90  -2
anonymous/odin@pilot.njin.net
sierra.stanford.edu               36.2.0.98       unknown
 sierra.stanford.edu              05/04/91  4
anonymous/odin@pilot.njin.net
sirius.ucs.adelaide.edu.au        129.127.40.3    X11R4, bsd stuff, CERT,
 sirius.ucs.adelaide.edu.au                       modula 3, msdos,
aus.aarnet
 sirius.ucs.adelaide.edu.au                       archive, URT (Utah RLE
 sirius.ucs.adelaide.edu.au                       toolkit)
 sirius.ucs.adelaide.edu.au       04/02/91  -9
anonymous/odin@pilot.njin.net
skippy.umiacs.umd.edu             128.8.120.23    sun-nets archive
 skippy.umiacs.umd.edu            05/15/90  4
anonymous/odin@pilot.njin.net
skutt.cs.chalmers.se              129.16.2.7      some Constructive Type
Theory
 skutt.cs.chalmers.se                             stuff, LML v0.97, xlpmud,
 skutt.cs.chalmers.se                             some Constructive Type
Theory
 skutt.cs.chalmers.se                             stuff, LML v0.97, xlpmud
 skutt.cs.chalmers.se             06/06/90  -2
anonymous/odin@pilot.njin.net
slc2.ins.cwru.edu                 129.22.8.104    bash
 slc2.ins.cwru.edu                04/24/91  4
anonymous/odin@pilot.njin.net
slopoke.mlb.semi.harris.com       132.158.82.36   unknown
 slopoke.mlb.semi.harris.com      03/31/91  4
anonymous/odin@pilot.njin.net
```

```
smaug.cs.hope.edu                35.197.146.1    unknown
 smaug.cs.hope.edu               03/17/91  4
anonymous/odin@pilot.njin.net
smilodon.cs.wisc.edu             128.105.1.214   os9 68k and 6809 software
 smilodon.cs.wisc.edu            12/24/90  5
anonymous/odin@pilot.njin.net
sn01.sncc.lsu.edu                130.39.128.20   unknown
 sn01.sncc.lsu.edu               12/31/90  5
anonymous/odin@pilot.njin.net
snake.cs.utah.edu                128.110.4.58    unknown
 snake.cs.utah.edu               10/12/91  5
anonymous/odin@pilot.njin.net
snake.utah.edu                   128.110.4.58    skill/snice
 snake.utah.edu                  06/02/90  6
anonymous/odin@pilot.njin.net
snow.white.toronto.edu           128.100.2.160   mg
 snow.white.toronto.edu          05/15/90  4
anonymous/odin@pilot.njin.net
soda.berkeley.edu                128.32.131.179  unknown
 soda.berkeley.edu               09/30/91  7
anonymous/odin@pilot.njin.net
sol.cs.ruu.nl                    131.211.80.5    atari, GNU, HP-UX, TeX,
Perl,
 sol.cs.ruu.nl                                   UMFT, elm
 sol.cs.ruu.nl                   08/01/90  -2
anonymous/odin@pilot.njin.net
sol.ctr.columbia.edu             128.59.64.40    Lots of networking
programs +
 sol.ctr.columbia.edu                            background, DES, sun
 sol.ctr.columbia.edu                            checkpoint
 sol.ctr.columbia.edu            05/15/90  4
anonymous/odin@pilot.njin.net
sol.deakin.oz.au                 128.184.1.1     simtel20 and garbo shadows
 sol.deakin.oz.au                04/02/91  -11
anonymous/odin@pilot.njin.net
solar.stanford.edu               36.10.0.4       local Stanford info
 solar.stanford.edu              05/15/90  7
anonymous/odin@pilot.njin.net
solbourne.solbourne.com          141.138.2.2     unknown
 solbourne.solbourne.com         05/25/91
anonymous/odin@pilot.njin.net
sollya.maths.uwa.oz.au           130.95.16.11    nothing
 sollya.maths.uwa.oz.au          09/26/91  -8
anonymous/odin@pilot.njin.net
sonata.cc.purdue.edu             128.210.15.30   Next archives
 sonata.cc.purdue.edu            11/02/90  3
anonymous/odin@pilot.njin.net
sparky2.esd.mun.ca               134.153.11.101  NewPet and QuikPlot msdos
 sparky2.esd.mun.ca                              geological software
 sparky2.esd.mun.ca              04/24/91  2
anonymous/odin@pilot.njin.net
sparkyfs.erg.sri.com             128.18.3.39     Improving the Security of
 sparkyfs.erg.sri.com            128.18.4.39     your Unix system
 sparkyfs.erg.sri.com            128.18.5.39
 sparkyfs.erg.sri.com            10/13/90  7
anonymous/odin@pilot.njin.net
sparta.spartacus.com             192.8.0.7       router items of interest,
```

```
 sparta.spartacus.com                                knet info
 sparta.spartacus.com              01/03/91  4
anonymous/odin@pilot.njin.net
spdcc.com                         140.186.80.3    unknown
 spdcc.com                        05/02/91  4
anonymous/odin@pilot.njin.net
speedy.cs.uiuc.edu                128.174.241.10  smalltalk archives
 speedy.cs.uiuc.edu               09/14/91  5
anonymous/odin@pilot.njin.net
sperm.ocean.washington.edu        128.95.252.7    RWVector, gcc, gdb,
kermit,
 sperm.ocean.washington.edu                       libg++, liblinpack,
liboops,
 sperm.ocean.washington.edu                       oopsV2R2+, plot5, spinup,
 sperm.ocean.washington.edu                       sungraph, superfilters,
 sperm.ocean.washington.edu                       xmodem, xyplot
 sperm.ocean.washington.edu       05/15/90  7
anonymous/odin@pilot.njin.net
splicer.cba.hawaii.edu            128.171.17.7    novell, comm sw, ncsa,
telnet
 splicer.cba.hawaii.edu                           mac, utilities
 splicer.cba.hawaii.edu           09/30/91  8
anonymous/odin@pilot.njin.net
spot.colorado.edu                 128.138.129.2   netinfo: stuff, RFCs
 spot.colorado.edu                05/15/90  6
anonymous/odin@pilot.njin.net
squid.cs.ucla.edu                 131.179.96.44   medical documentation
 squid.cs.ucla.edu                08/22/90  7
anonymous/odin@pilot.njin.net
ssyx.ucsc.edu                     128.114.133.1   some mac
 ssyx.ucsc.edu                    08/22/90  7
anonymous/odin@pilot.njin.net
stag.math.lsa.umich.edu           141.211.64.23   unknown
 stag.math.lsa.umich.edu          05/16/90  4
anonymous/odin@pilot.njin.net
star.cs.vu.nl                     130.37.24.6     amoeba, minix demo, CVS,
 star.cs.vu.nl                    192.31.231.42   idraw, magtape, Xserver,
 star.cs.vu.nl                                    atari
 star.cs.vu.nl                    09/15/91  -2
anonymous/odin@pilot.njin.net
stat.wisc.edu                     128.105.5.1     FACT, Statbib, S functions
 stat.wisc.edu                    128.105.2.250
 stat.wisc.edu                    05/15/90  5
anonymous/odin@pilot.njin.net
stolaf.edu                        130.71.128.8    news, anime, bitmaps,
amiga,
 stolaf.edu                       130.71.192.8    msods, mud, tex, dvi,
 stolaf.edu                                       net_spellbook, postscipt
 stolaf.edu                                       utils
 stolaf.edu                       07/16/90  5
anonymous/odin@pilot.njin.net
stout.atd.ucar.edu                128.117.80.30   unknown
 stout.atd.ucar.edu               05/15/90  6
anonymous/odin@pilot.njin.net
stsci.edu                         130.167.1.2     hubble space telescope
stuff
 stsci.edu                        09/20/91  4
```

```
anonymous/odin@pilot.njin.net
sumex-aim.stanford.edu          36.44.0.6       mac archives, Mycin
(sun4),
 sumex-aim.stanford.edu                         imap
 sumex-aim.stanford.edu         05/15/90  7
anonymous/odin@pilot.njin.net
sun.cnuce.cnr.it                192.12.192.4    atalk, ka9q, GNU
 sun.cnuce.cnr.it               08/22/90  -2
anonymous/odin@pilot.njin.net
sun.soe.clarkson.edu            128.153.12.3    Packet Driver, X11 fonts,
 sun.soe.clarkson.edu                           TeX, PCIP, Freemacs, LaTeX
 sun.soe.clarkson.edu                           styles
 sun.soe.clarkson.edu           05/15/90  4
anonymous/odin@pilot.njin.net
sun1.ruf.uni-freiburg.de        132.230.1.1     unknown
 sun1.ruf.uni-freiburg.de       05/15/90  -2
anonymous/odin@pilot.njin.net
sun8.ruf.uni-freiburg.de        132.230.1.56    unknown
 sun8.ruf.uni-freiburg.de       09/30/91  -1
anonymous/odin@pilot.njin.net
suna.mqcc.mq.oz.au              137.111.161.1   unknown
 suna.mqcc.mq.oz.au             01/17/91  -12
anonymous/odin@pilot.njin.net
suna.osc.edu                    128.146.1.4     ape (animation production
 suna.osc.edu                                   environment)
 suna.osc.edu                   05/15/90  4
anonymous/odin@pilot.njin.net
sunapo.lrz-muenchen.de          129.187.10.26   unknown
 sunapo.lrz-muenchen.de         09/30/91  -1
anonymous/odin@pilot.njin.net
sunbane.engrg.uwo.ca            129.100.100.12  Traveller mailing list
 sunbane.engrg.uwo.ca                           archive, FrameMaker
 sunbane.engrg.uwo.ca                           programs/utils
 sunbane.engrg.uwo.ca           04/24/91  4
anonymous/odin@pilot.njin.net
suned.zoo.cs.yale.edu           128.36.21.1     games, utils, other hacks
 suned.zoo.cs.yale.edu          05/15/90  4
anonymous/odin@pilot.njin.net
sunee.uwaterloo.ca              129.97.128.196  unknown
 sunee.uwaterloo.ca             129.97.56.1
 sunee.uwaterloo.ca             04/24/91  4
anonymous/odin@pilot.njin.net
sunic.sunet.se                  192.36.125.2    RFCs, nntp, news,
sendmail,
 sunic.sunet.se                 130.237.216.2   ntp, comp.sources.unix,
 sunic.sunet.se                                 comp.sources.games,
 sunic.sunet.se                                 comp.sources.misc,
 sunic.sunet.se                                 alt.sources, GNU
 sunic.sunet.se                 05/15/90  -2
anonymous/odin@pilot.njin.net
sutro.sfsu.edu                  130.212.15.230  NeXT-related files,
mazewar
 sutro.sfsu.edu                 05/15/90  7
anonymous/odin@pilot.njin.net
svax.cs.cornell.edu             128.84.254.2    TransFig, Fig-FS, NetHack
 svax.cs.cornell.edu            05/15/90  4
anonymous/odin@pilot.njin.net
```

```
svin02.info.win.tue.nl              131.155.70.100  unknown
 svin02.info.win.tue.nl             12/31/90  -2
anonymous/odin@pilot.njin.net
syn-gate-gw.synoptics.com           134.177.32.116  unknown
 syn-gate-gw.synoptics.com          10/09/90  7
anonymous/odin@pilot.njin.net
szechuan.ncsc.org                   128.109.178.3   marching cubes surface
tiler
 szechuan.ncsc.org                  06/02/90  4
anonymous/odin@pilot.njin.net
tacky.cs.olemiss.edu                130.74.96.13    unknown
 tacky.cs.olemiss.edu               04/24/91  5
anonymous/odin@pilot.njin.net
tandem.com                          130.252.10.8    ham radio
 tandem.com                         05/15/90  7
anonymous/odin@pilot.njin.net
tasman.cc.utas.edu.au               131.217.10.1    mac net news reader
 tasman.cc.utas.edu.au              07/19/90  -10
anonymous/odin@pilot.njin.net
tau.sm.luth.se                      130.240.0.3     comp.binaries.ibm.pc
 tau.sm.luth.se                     05/16/90  -2
anonymous/odin@pilot.njin.net
taunivm.tau.ac.il                   132.66.32.4     PLP (Public line printer)
 taunivm.tau.ac.il                  08/22/90  5
anonymous/odin@pilot.njin.net
taylor.gsfc.nasa.gov                128.183.39.21   unknown
 taylor.gsfc.nasa.gov               05/04/91  4
anonymous/odin@pilot.njin.net
tesla.ee.cornell.edu                128.84.253.11   tcsh
 tesla.ee.cornell.edu               128.84.224.11
 tesla.ee.cornell.edu               08/13/90  4
anonymous/odin@pilot.njin.net
tgv.com                             192.41.228.65   multinet
 tgv.com                            192.41.228.70
 tgv.com                            08/22/90  4
anonymous/odin@pilot.njin.net
thalamus.sans.kth.se                130.237.219.100 unknown
 thalamus.sans.kth.se               05/25/91  -2
anonymous/odin@pilot.njin.net
theory.tc.cornell.edu               128.84.181.1    unknown
 theory.tc.cornell.edu              05/18/91  4
anonymous/odin@pilot.njin.net
think.com                           131.239.2.1     pmdc, X11.2 Interviews 3d,
 think.com                          131.239.16.251  lisp simulator
 think.com                          08/06/90  4
anonymous/odin@pilot.njin.net
thor.acc.stolaf.edu                 130.71.192.1    fj newsgroups, bible, GNU,
 thor.acc.stolaf.edu                                some ps, etc.
 thor.acc.stolaf.edu                08/22/90  5
anonymous/odin@pilot.njin.net
thor.atd.ucar.edu                   128.117.81.51   unknown
 thor.atd.ucar.edu                  05/15/90  6
anonymous/odin@pilot.njin.net
thor.oar.net                        131.187.1.135   unknown
 thor.oar.net                       05/26/91  4
anonymous/odin@pilot.njin.net
thumper.bellcore.com                128.96.41.1     unknown
```

```
 thumper.bellcore.com              09/20/91  4
anonymous/odin@pilot.njin.net
ti.com                            192.94.94.1     Explorer compress & en,
CLUE,
 ti.com                                           CLX
 ti.com                           05/15/90  5
anonymous/odin@pilot.njin.net
ticsys.tamu.edu                   128.194.43.66   gif, lpmud
 ticsys.tamu.edu                  08/31/90  5
anonymous/odin@pilot.njin.net
titan.cc.tut.fi                   130.230.23.9    supercomputing, benchmark,
 titan.cc.tut.fi                                  batch processing
 titan.cc.tut.fi                  12/23/90  -2
anonymous/odin@pilot.njin.net
titan.ksc.nasa.gov                128.159.1.1     amiga (gcc)
 titan.ksc.nasa.gov               128.159.4.20
 titan.ksc.nasa.gov               09/30/91  4
anonymous/odin@pilot.njin.net
titan.rice.edu                    128.42.1.30     sun-spots, amiga, ispell,
 titan.rice.edu                                   ofiles
 titan.rice.edu                   08/06/90  5
anonymous/odin@pilot.njin.net
titania.mathematik.uni-ulm.de     134.60.66.21    oberon, modula-2
 titania.mathematik.uni-ulm.de    08/22/90  -3
anonymous/odin@pilot.njin.net
tmc.edu                           128.249.1.1     FUBBS bbs list
 tmc.edu                          05/15/90  5
anonymous/odin@pilot.njin.net
tomcat.gsfc.nasa.gov              128.183.10.100  G8BPQ, desqview
 tomcat.gsfc.nasa.gov             03/15/91  7
anonymous/odin@pilot.njin.net
topgun.agps.lanl.gov              192.12.184.72   Khoros, astro, scheme,
NeWS,
 topgun.agps.lanl.gov                             etc.
 topgun.agps.lanl.gov             01/11/91  6
anonymous/odin@pilot.njin.net
trantor.harris-atd.com            26.13.0.98      unknown
 trantor.harris-atd.com           05/15/90  4
anonymous/odin@pilot.njin.net
trantor.umd.edu                   128.8.10.14     NTP
 trantor.umd.edu                  09/22/90  4
anonymous/odin@pilot.njin.net
trident.arc.nasa.gov              128.102.18.13   vms-nntp, trek73
 trident.arc.nasa.gov             128.102.128.3
 trident.arc.nasa.gov             05/15/90  7
anonymous/odin@pilot.njin.net
trix.ai.mit.edu                   128.52.32.6     supdup, t3.1, tX11,
series,
 trix.ai.mit.edu                  128.52.38.6     express windows, ftplist,
 trix.ai.mit.edu                                  g++, pdp8 lovers archive,
 trix.ai.mit.edu                                  The, xp, zmodem
 trix.ai.mit.edu                  05/15/90  4
anonymous/odin@pilot.njin.net
trout.nosc.mil                    128.49.16.7     X11R3, benchmarks, popd,
GNU
 trout.nosc.mil                   132.249.16.12   emacs
 trout.nosc.mil                   05/15/90  7
```

```
anonymous/odin@pilot.njin.net
trwind.trw.com                    129.4.16.70     NNStat, cisco, ibmpc,
isode,
 trwind.trw.com                                   ka9q, mac, named,
sendmail,
 trwind.trw.com                                   sun-utils, traceroute,
 trwind.trw.com                                   unix-utils
 trwind.trw.com                   05/15/90  7
anonymous/odin@pilot.njin.net
tupac-amaru.informatik.rwth-aachen.de137.226.112.31  unknown
 tupac-amaru.informatik.rwth-aachen.de134.130.52.1
 tupac-amaru.informatik.rwth-aachen.de09/30/91  -1
anonymous/odin@pilot.njin.net
turbo.bio.net                     134.172.2.69    news.announce.newgroups
 turbo.bio.net                    134.172.3.69    archive
 turbo.bio.net                    08/06/90  7
anonymous/odin@pilot.njin.net
tut.cis.ohio-state.edu            128.146.8.60    GNU, tcsh, perl scripts
 tut.cis.ohio-state.edu           06/02/90  4
anonymous/odin@pilot.njin.net
tut.fi                            130.230.4.2     Images, lots of misc. unix
 tut.fi                           05/15/90  -3
anonymous/odin@pilot.njin.net
tybalt.caltech.edu                131.215.139.100 GraphWidget
 tybalt.caltech.edu               131.215.48.100
 tybalt.caltech.edu               05/15/90  7
anonymous/odin@pilot.njin.net
uafcseg.uark.edu                  130.184.64.202  (login bbs. telnetable)
 uafcseg.uark.edu                 08/22/90  4
anonymous/odin@pilot.njin.net
uars.acd.ucar.edu                 128.117.32.2    nethack sources
 uars.acd.ucar.edu                09/01/90  6
anonymous/odin@pilot.njin.net
ub.cc.umich.edu                   35.1.1.47       unknown
 ub.cc.umich.edu                  12/31/90  5
anonymous/odin@pilot.njin.net
uc.msc.edu                        137.66.1.3      unknown
 uc.msc.edu                       137.66.11.3
 uc.msc.edu                       10/09/90  5
anonymous/odin@pilot.njin.net
ucbarpa.berkeley.edu              128.32.130.11   tn3270, pub/4.3, Exntended
 ucbarpa.berkeley.edu                             DCG Prolog
 ucbarpa.berkeley.edu             05/15/90  7
anonymous/odin@pilot.njin.net
ucbvax.berkeley.edu               128.32.137.3    nntp, gnews, awm, empire
 ucbvax.berkeley.edu              128.32.133.1
 ucbvax.berkeley.edu              05/15/90  7
anonymous/odin@pilot.njin.net
ucdavis.ucdavis.edu               128.120.2.1     POP2, NetHop, UCDwhois,
 ucdavis.ucdavis.edu                              UCDMail, IETF-PPP records
 ucdavis.ucdavis.edu              03/22/91  7
anonymous/odin@pilot.njin.net
uceng.uc.edu                      129.137.33.1    VLSI Hardware Description
 uceng.uc.edu                                     Language
 uceng.uc.edu                     08/22/90  7
anonymous/odin@pilot.njin.net
ucrmath.ucr.edu                   138.23.146.1    unknown
```

```
 ucrmath.ucr.edu                 03/22/91  7
anonymous/odin@pilot.njin.net
ucs_wcc.ucs.indiana.edu         129.79.16.96    unknown
 ucs_wcc.ucs.indiana.edu        09/15/91  7
anonymous/odin@pilot.njin.net
ucsd.edu                        128.54.16.1     graphics programs and
images,
 ucsd.edu                       132.239.1.1     ham radio stuff, MIDI
 ucsd.edu                                       programs and data, sound
 ucsd.edu                                       bites for Sparcstation,
 ucsd.edu                                       usenet sources
 ucsd.edu                       05/15/90  7
anonymous/odin@pilot.njin.net
ucselx.sdsu.edu                 130.191.1.10    network docs and programs
 ucselx.sdsu.edu                09/20/91  7
anonymous/odin@pilot.njin.net
ugle.unit.no                    129.241.1.97    GNU, Epoch, X11R4, other X
 ugle.unit.no                                   stuff, InterViews, msdos,
 ugle.unit.no                                   os2, mac, TeX, RFCs, unix
 ugle.unit.no                                   stuff and more
 ugle.unit.no                   09/28/91  -2
anonymous/odin@pilot.njin.net
uhccux.uhcc.hawaii.edu          128.171.7.2     unknown
 uhccux.uhcc.hawaii.edu         128.171.1.101
 uhccux.uhcc.hawaii.edu         08/22/90  8
anonymous/odin@pilot.njin.net
uhecs.helsinki.fi               128.214.4.1     unknown
 uhecs.helsinki.fi              08/22/90  -2
anonymous/odin@pilot.njin.net
uicbert.eecs.uic.edu            128.248.166.25  AT&T stuff, unix-pc
 uicbert.eecs.uic.edu           05/15/90  5
anonymous/odin@pilot.njin.net
uicvm.uic.edu                   128.248.2.50    sas archive
 uicvm.uic.edu                  08/22/90  5
anonymous/odin@pilot.njin.net
um.cc.umich.edu                 35.1.1.43       msdos, mac, apple, atari
 um.cc.umich.edu                10/15/90  4
anonymous/odin@pilot.njin.net
umaxc.weeg.uiowa.edu            128.255.56.80   NCSA telnet, sendmail
 umaxc.weeg.uiowa.edu           128.255.57.80
 umaxc.weeg.uiowa.edu           05/15/90  5
anonymous/odin@pilot.njin.net
umd5.umd.edu                    128.8.10.5      NeXT
 umd5.umd.edu                   05/15/90  4
anonymous/odin@pilot.njin.net
umigw.miami.edu                 129.171.97.1    unknown
 umigw.miami.edu                05/15/90  4
anonymous/odin@pilot.njin.net
umn-cs.cs.umn.edu               128.101.224.1   misc GNU, hypertext, news,
 umn-cs.cs.umn.edu                              japanese
 umn-cs.cs.umn.edu              05/15/90  5
anonymous/odin@pilot.njin.net
umnstat.stat.umn.edu            128.101.51.1    XlispStat, S Bayes
 umnstat.stat.umn.edu           05/15/90  5
anonymous/odin@pilot.njin.net
umrisca.isc.umr.edu             131.151.8.1     unknown
 umrisca.isc.umr.edu            05/16/90  5
```

```
anonymous/odin@pilot.njin.net
unibi.hrz.uni-bielefeld.de          129.70.4.128    unknown
 unibi.hrz.uni-bielefeld.de         09/30/91  -1
anonymous/odin@pilot.njin.net
unicorn.cc.wwu.edu                  140.160.240.10  GNU dbm
 unicorn.cc.wwu.edu                 11/03/90  4
anonymous/odin@pilot.njin.net
unidata.ucar.edu                    128.117.140.3   unknown
 unidata.ucar.edu                   12/26/90  6
anonymous/odin@pilot.njin.net
uniwa.uwa.oz.au                     130.95.128.1    RFC, sendmail, gnu, mac,
 uniwa.uwa.oz.au                                    network docs, cnews, nn,
unix
 uniwa.uwa.oz.au                                    utils
 uniwa.uwa.oz.au                    09/30/91  -8
anonymous/odin@pilot.njin.net
unix.secs.oakland.edu               141.210.180.2   gcc, gas, gdb, and kermit
for
 unix.secs.oakland.edu                              xenix
 unix.secs.oakland.edu              11/18/90  4
anonymous/odin@pilot.njin.net
unix2.macc.wisc.edu                 128.104.30.1    hosts.txt
 unix2.macc.wisc.edu                08/22/90  5
anonymous/odin@pilot.njin.net
unmvax.cs.unm.edu                   129.24.16.1     getmaps
 unmvax.cs.unm.edu                  05/15/90  6
anonymous/odin@pilot.njin.net
unsvax.nevada.edu                   131.216.1.11    ftp-list, autoftp, virus
 unsvax.nevada.edu                                  stuff, las vegas bbs list
 unsvax.nevada.edu                  12/26/90  7
anonymous/odin@pilot.njin.net
unx.ucc.okstate.edu                 139.78.1.1      unknown
 unx.ucc.okstate.edu                02/23/91  5
anonymous/odin@pilot.njin.net
uop.uop.edu                         138.9.200.1     bnews, nn, irc
 uop.uop.edu                        08/22/90  7
anonymous/odin@pilot.njin.net
urth.acsu.buffalo.edu               128.205.7.9     trn
 urth.acsu.buffalo.edu              08/06/90  4
anonymous/odin@pilot.njin.net
usc.edu                             128.125.1.45    amd (automounter), decus
TECO
 usc.edu                            128.125.253.136
 usc.edu                            01/17/91  7
anonymous/odin@pilot.njin.net
ut-chem.cm.utexas.edu               128.83.163.15   Ampac chemistry code for
 ut-chem.cm.utexas.edu                              unix/cray
 ut-chem.cm.utexas.edu              01/17/91  3
anonymous/odin@pilot.njin.net
utadnx.cc.utexas.edu                128.83.185.100  VMS sources (zetaps,
laser,
 utadnx.cc.utexas.edu                               sxlps)
 utadnx.cc.utexas.edu               08/22/90  5
anonymous/odin@pilot.njin.net
utnetw.utoledo.edu                  131.183.1.1     VMSTPC
 utnetw.utoledo.edu                 09/30/91  4
anonymous/odin@pilot.njin.net
```

```
utsun.s.u-tokyo.ac.jp              133.11.11.11    japanese/kanji software,
 utsun.s.u-tokyo.ac.jp                             tron, gnu, info-mac, tex,
x,
 utsun.s.u-tokyo.ac.jp                             network-related stuff
 utsun.s.u-tokyo.ac.jp             05/07/91  -9
anonymous/odin@pilot.njin.net
uu.psi.com                         136.161.128.3   GNU Emacs, others,
Nysernet,
 uu.psi.com                                        IETF, GOSIP
 uu.psi.com                        05/15/90  4
anonymous/odin@pilot.njin.net
uunet.uu.net                       137.39.1.2      X, GNU, athena, bsd-
sources,
 uunet.uu.net                      192.48.96.2     comp.sources.3b1,
opinions,
 uunet.uu.net                                      comp.sources.amiga,
nutshell,
 uunet.uu.net                                      comp.sources.games, faces,
 uunet.uu.net                                      comp.sources.misc, mach,
sco,
 uunet.uu.net                                      comp.sources.reviewed,
news,
 uunet.uu.net                                      comp.sources.unix, sun-
fixes,
 uunet.uu.net                                      comp.sources.x, internet
 uunet.uu.net                                      docs, comp.std.unix,
uumap,
 uunet.uu.net                                      networking galore, much
more
 uunet.uu.net                      05/07/91  4
anonymous/odin@pilot.njin.net
uvaarpa.virginia.edu               128.143.2.7     u3g, whoisd, VERnet,
uvapc,
 uvaarpa.virginia.edu                              net docs and RFCs, misc
net,
 uvaarpa.virginia.edu                              etc.
 uvaarpa.virginia.edu              06/04/90  4
anonymous/odin@pilot.njin.net
uvacs.cs.virginia.edu              128.143.8.29    unknown
 uvacs.cs.virginia.edu             128.143.136.10
 uvacs.cs.virginia.edu             05/26/91  4
anonymous/odin@pilot.njin.net
uwasa.fi                           128.214.12.3    pc, ts-programs, unix, vms
 uwasa.fi                          12/23/90  -2
anonymous/odin@pilot.njin.net
ux.acs.umn.edu                     128.101.63.2    unknown
 ux.acs.umn.edu                    05/15/90  5
anonymous/odin@pilot.njin.net
ux1.cso.uiuc.edu                   128.174.5.59    amiga, fish, amicus, cucug
 ux1.cso.uiuc.edu                  02/05/91  5
anonymous/odin@pilot.njin.net
uxc.cso.uiuc.edu                   128.174.5.50    games, HitchHiker's Guide
to
 uxc.cso.uiuc.edu                                  the Internet, recipes,
GIF,
 uxc.cso.uiuc.edu                                  GNU, RFC, IEN, and more
 uxc.cso.uiuc.edu                  06/01/90  5
```

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anonymous/odin@pilot.njin.net
vacs.uwp.wisc.edu                131.210.1.1     discographies, eclectic
music
 vacs.uwp.wisc.edu                                newsletter and tangerine
 vacs.uwp.wisc.edu                                dream mailing list
archive,
 vacs.uwp.wisc.edu                                other music stuff
 vacs.uwp.wisc.edu               09/22/90  5
anonymous/odin@pilot.njin.net
valhalla.ee.rochester.edu        128.151.160.11  RFCs, Network load
balancer
 valhalla.ee.rochester.edu       05/15/90  4
anonymous/odin@pilot.njin.net
vax.cs.pitt.edu                  130.49.2.1      ka9q
 vax.cs.pitt.edu                 05/15/90  4
anonymous/odin@pilot.njin.net
vax.eedsp.gatech.edu             130.207.226.2   unknown
 vax.eedsp.gatech.edu            05/26/91  4
anonymous/odin@pilot.njin.net
vax.ftp.com                      128.127.2.100   FTP software, inc.
 vax.ftp.com                     05/15/90  4
anonymous/odin@pilot.njin.net
vax.ph-cip.uni-koeln.de          134.95.64.1     unknown
 vax.ph-cip.uni-koeln.de         09/30/91  -2
anonymous/odin@pilot.njin.net
vax1.cs.umass.edu                128.119.40.1    unknown
 vax1.cs.umass.edu               08/22/90  4
anonymous/odin@pilot.njin.net
vax1.umkc.edu                    134.193.1.1     network information
 vax1.umkc.edu                   08/22/90  5
anonymous/odin@pilot.njin.net
vax2.cs.umass.edu                128.119.40.2    unknown
 vax2.cs.umass.edu               08/22/90  4
anonymous/odin@pilot.njin.net
vaxa.isi.edu                     128.9.0.33      clf-act, X, db
 vaxa.isi.edu                    05/15/90  7
anonymous/odin@pilot.njin.net
vaxb.acs.unt.edu                 129.120.1.4     vms, internet libraries
list,
 vaxb.acs.unt.edu                                msdos, amiga, midi,
network
 vaxb.acs.unt.edu                                info, articles
 vaxb.acs.unt.edu                08/22/90  5
anonymous/odin@pilot.njin.net
vega.hut.fi                      130.233.200.42  msdos, mac, Kermit, fusion
 vega.hut.fi                                     docs, food recipes (alt.
 vega.hut.fi                                     gourmand), SF author
lists,
 vega.hut.fi                                     os2
 vega.hut.fi                     05/15/90  -3
anonymous/odin@pilot.njin.net
vela.acs.oakland.edu             141.210.10.2    unknown
 vela.acs.oakland.edu            01/17/91  4
anonymous/odin@pilot.njin.net
venera.isi.edu                   128.9.0.32      statspy (NNstat), GNU
Chess
 venera.isi.edu                  05/15/90  7
```

```
anonymous/odin@pilot.njin.net
venus.ycc.yale.edu                  130.132.1.5     SBTeX
 venus.ycc.yale.edu                 08/22/90  4
anonymous/odin@pilot.njin.net
vesta.sunquest.com                  192.12.52.42    vms cryptodisk and virtual
 vesta.sunquest.com                 149.138.1.42    disk driver
 vesta.sunquest.com                 08/22/90  7
anonymous/odin@pilot.njin.net
vision.mqcc.mq.oz.au                137.111.160.5   unknown
 vision.mqcc.mq.oz.au               03/25/91  -11
anonymous/odin@pilot.njin.net
vlsi.cs.umn.edu                     128.101.230.15  PLP (Public line printer)
 vlsi.cs.umn.edu                    08/22/90  5
anonymous/odin@pilot.njin.net
vm.tcs.tulane.edu                   129.81.128.1    rfc, terminfo
 vm.tcs.tulane.edu                  08/22/90  5
anonymous/odin@pilot.njin.net
vm.utdallas.edu                     129.110.102.2   lipphe ibm tcp/ip bit and
 vm.utdallas.edu                                    k200 drivers
 vm.utdallas.edu                    08/22/90  5
anonymous/odin@pilot.njin.net
vm1.nodak.edu                       134.129.111.1   fixes minix, fixes ev1188,
 vm1.nodak.edu                                      QNS, medical newsletter
 vm1.nodak.edu                      08/22/90  5
anonymous/odin@pilot.njin.net
vmd.cso.uiuc.edu                    128.174.5.98    weather sattelite gifs
 vmd.cso.uiuc.edu                   12/24/90  5
anonymous/odin@pilot.njin.net
vms.ecs.rpi.edu                     128.113.5.15    Message Exchange
 vms.ecs.rpi.edu                    08/22/90  4
anonymous/odin@pilot.njin.net
vms.huji.ac.il                      128.139.4.3     unknown
 vms.huji.ac.il                     09/30/91  -2
anonymous/odin@pilot.njin.net
vms2.ecs.rpi.edu                    128.113.5.14    NEWSRDR
 vms2.ecs.rpi.edu                   08/22/90  4
anonymous/odin@pilot.njin.net
vmsa.oac.uci.edu                    128.200.9.5     VMS make, tar
 vmsa.oac.uci.edu                   02/21/91  7
anonymous/odin@pilot.njin.net
vmsa.technion.ac.il                 132.68.1.40     unknown
 vmsa.technion.ac.il                09/30/91  -2
anonymous/odin@pilot.njin.net
vmsd.oac.uci.edu                    128.200.15.2    VMS stuff
 vmsd.oac.uci.edu                   08/22/90  7
anonymous/odin@pilot.njin.net
vmtecmex.cem.itesm.mx               132.254.1.4     amiga, msdos, gif
 vmtecmex.cem.itesm.mx              02/08/91
anonymous/odin@pilot.njin.net
vuwcom.vuw.ac.nz                    130.195.2.10    kermit, mac, msdos, vms
 vuwcom.vuw.ac.nz                   09/30/91  -11
anonymous/odin@pilot.njin.net
walhalla.informatik.uni-dortmund.de129.217.64.63    unknown
 walhalla.informatik.uni-dortmund.de09/30/91  -2
anonymous/odin@pilot.njin.net
watcgl.waterloo.edu                 129.97.140.64   unknown
 watcgl.waterloo.edu                10/09/90  4
```

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anonymous/odin@pilot.njin.net
watmath.waterloo.edu            129.97.140.144  lots of stuff
 watmath.waterloo.edu           129.97.216.42
 watmath.waterloo.edu           05/15/90  4
anonymous/odin@pilot.njin.net
watmsg.waterloo.edu             129.97.141.9    GNU, pd BSD, uSystem docs,
 watmsg.waterloo.edu                            virus, cryptography
 watmsg.waterloo.edu            05/15/90  4
anonymous/odin@pilot.njin.net
watnxt2.ucr.edu                 192.31.146.189  unknown
 watnxt2.ucr.edu                10/09/90  7
anonymous/odin@pilot.njin.net
watserv1.waterloo.edu           129.97.129.140  unknown
 watserv1.waterloo.edu          08/22/90  4
anonymous/odin@pilot.njin.net
watsun.cc.columbia.edu          128.59.39.2     kermit
 watsun.cc.columbia.edu         05/15/90  4
anonymous/odin@pilot.njin.net
wayback.cs.cornell.edu          128.84.254.7    unknown
 wayback.cs.cornell.edu         04/24/91  4
anonymous/odin@pilot.njin.net
weedeater.math.yale.edu         130.132.23.17   rayshade, misc. raytracing
 weedeater.math.yale.edu                        goodies
 weedeater.math.yale.edu        05/15/90  4
anonymous/odin@pilot.njin.net
white.cerritos.edu              130.150.200.22  rec.motorcycles.pictures
 white.cerritos.edu             09/30/91  7
anonymous/odin@pilot.njin.net
wilbur.stanford.edu             36.14.0.30      unknown
 wilbur.stanford.edu            12/26/90  7
anonymous/odin@pilot.njin.net
willow.cs.wwu.edu               140.160.140.153 unknown
 willow.cs.wwu.edu              03/22/91
anonymous/odin@pilot.njin.net
wilma.cs.brown.edu              128.148.31.66   Brown CS Field and Thread
 wilma.cs.brown.edu                             packages, comp.robotics,
xmx
 wilma.cs.brown.edu             09/19/91  4
anonymous/odin@pilot.njin.net
winnie.princeton.edu            128.112.128.180 music software (unix &
NeXT)
 winnie.princeton.edu           08/22/90  4
anonymous/odin@pilot.njin.net
wlv.imsd.contel.com             26.5.0.103      unknown
 wlv.imsd.contel.com            192.26.147.1
 wlv.imsd.contel.com            05/26/91  7
anonymous/odin@pilot.njin.net
wolfen.cc.uow.edu.au            130.130.68.4    unknown
 wolfen.cc.uow.edu.au           01/17/91  -10
anonymous/odin@pilot.njin.net
woodstock.andrew.cmu.edu        128.2.30.38     oopc
 woodstock.andrew.cmu.edu       07/08/90  4
anonymous/odin@pilot.njin.net
world-gw.lysator.liu.se         130.236.23.254  unknown
 world-gw.lysator.liu.se        130.236.254.1
 world-gw.lysator.liu.se        09/15/91  4
anonymous/odin@pilot.njin.net
```

```
wpi.wpi.edu                     130.215.24.1    dspl, anime, fusion, mac,
 wpi.wpi.edu                                    GNU, ash, DES, misc Unix,
 wpi.wpi.edu                                    TeX_DS3100, TeX_Umax, misc
X
 wpi.wpi.edu                    05/15/90  4
anonymous/odin@pilot.njin.net
wsmr-simtel20.army.mil          192.88.110.20   msdos, unix, cpm, mac
(tenex)
 wsmr-simtel20.army.mil         08/22/90  6
anonymous/odin@pilot.njin.net
wuarchive.wustl.edu             128.252.135.4   GNU, X.11R3, GIF, IEN,
RFCs,
 wuarchive.wustl.edu                            TeX, UUPC, info-mac,
 wuarchive.wustl.edu                            4.3BSD-Tahoe,
 wuarchive.wustl.edu                            comp.binaries.amiga,
 wuarchive.wustl.edu                            comp.binaries.apple2,
 wuarchive.wustl.edu                            comp.binaries.atari.st,
 wuarchive.wustl.edu                            comp.binaries.ibm.pc,
 wuarchive.wustl.edu                            comp.sources.amiga,
 wuarchive.wustl.edu                            comp.sources.atari.st,
 wuarchive.wustl.edu                            comp.sources.games,
 wuarchive.wustl.edu                            comp.sources.misc,
 wuarchive.wustl.edu                            comp.sources.sun,
 wuarchive.wustl.edu                            comp.sources.unix,
 wuarchive.wustl.edu                            comp.sources.x, msdos,
 wuarchive.wustl.edu                            simtel20, elm (24
hours/day)
 wuarchive.wustl.edu            08/22/90  5
anonymous/odin@pilot.njin.net
xanth.cs.odu.edu                128.82.8.1      comp.sources.x,
 xanth.cs.odu.edu               128.82.4.1      comp.sources.unix,
 xanth.cs.odu.edu                               comp.sources.misc,
 xanth.cs.odu.edu                               comp.sources.games, X10R4
 xanth.cs.odu.edu               08/01/90  4
anonymous/odin@pilot.njin.net
xanthorrhoea.maths.uwa.oz.au    130.95.16.13    nothing
 xanthorrhoea.maths.uwa.oz.au   09/26/91  -8
anonymous/odin@pilot.njin.net
xview.ucdavis.edu               128.120.1.150   xview
 xview.ucdavis.edu              07/19/90  7
anonymous/odin@pilot.njin.net
yalevm.ycc.yale.edu             130.132.1.4     unknown
 yalevm.ycc.yale.edu            08/22/90  4
anonymous/odin@pilot.njin.net
yallara.cs.rmit.oz.au           131.170.24.42   unknown
 yallara.cs.rmit.oz.au          192.55.190.42
 yallara.cs.rmit.oz.au          01/17/91  -12
anonymous/odin@pilot.njin.net
ymir.claremont.edu              134.173.4.23    lots of VMS, TeX-for-VMS,
 ymir.claremont.edu             134.173.20.23   mainz fonts
 ymir.claremont.edu             134.173.21.23
 ymir.claremont.edu             08/22/90  7
anonymous/odin@pilot.njin.net
z.andrew.cmu.edu                128.2.30.8      bugfixar + div
 z.andrew.cmu.edu               05/15/90  4
anonymous/odin@pilot.njin.net
zap.mit.edu                     18.72.0.126     Clue docs, Yow
```

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 zap.mit.edu                          08/22/90  4
anonymous/odin@pilot.njin.net
zaphod.lanl.gov                      128.165.44.202  unknown
 zaphod.lanl.gov                     02/23/91  6
anonymous/odin@pilot.njin.net
zaphod.ncsa.uiuc.edu                 141.142.20.50   mac X programs, ncsa
telnet,
 zaphod.ncsa.uiuc.edu                                Heirarchical Data File
 zaphod.ncsa.uiuc.edu                                system, misc graphics &
 zaphod.ncsa.uiuc.edu                                scientific formats
 zaphod.ncsa.uiuc.edu                08/13/90  5
anonymous/odin@pilot.njin.net
zariski.harvard.edu                  128.103.28.10   macaulay
 zariski.harvard.edu                 05/15/90  4
anonymous/odin@pilot.njin.net
zerkalo.harvard.edu                  128.103.42.201  traceroute
 zerkalo.harvard.edu                 05/15/90  4
anonymous/odin@pilot.njin.net
zeus.cs.umu.se                       130.239.1.101   unknown
 zeus.cs.umu.se                      130.239.105.2
 zeus.cs.umu.se                      05/26/91  -2
anonymous/odin@pilot.njin.net
zeus.mgmt.purdue.edu                 128.210.1.3     unknown
 zeus.mgmt.purdue.edu                05/15/90  5
anonymous/odin@pilot.njin.net
zeus.unomaha.edu                     137.48.1.1      cedit - column editor
 zeus.unomaha.edu                    02/21/91  5
anonymous/odin@pilot.njin.net
zurich.ai.mit.edu                    18.26.0.176     liar, scheme, gif, fx
 zurich.ai.mit.edu                   18.43.0.176
 zurich.ai.mit.edu                   08/22/90  4
anonymous/odin@pilot.njin.net
================================================================================
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Okay, I'm back. People have asked me to continue this list but I just don't have the time and I think the new age of information tools like archie fit the need much better than this list does. I plan on stopping by the end of this year (Dec. 1991) so if there are any changes to be made be sure to mail me before then. Of course, anyone who wants to can take over the maintenance of this list. However, I feel that if that time were put into creating and working with current tools like archie, it would be for the best.

So what is archie? archie is a neat interactive database of anonymous ftp sites available via telnet and mail. There is a file called "archie" on pilot that is also available via the mail server. Take a look at that if you

want to know more about archie.

If you have any questions, comments, or anything else feel free to mail me, but please read the rest of this header first!

This is my list of Internet sites accepting anonymous ftp. It is distributed automatically once each month.

If you are sending this on to someone or in any other way providing this for someone else, please leave this header intact. Otherwise I get many questions which this would have answered. Feel free to make this list available anywhere you like, as we all benefit from a freer flow of information.

This list is posted to comp.misc, and comp.sources.wanted, on Usenet and is distributed via anonymous FTP from pilot.njin.net (128.6.7.38) as well as being available from several other FTP sites (see list). I am also running a simple mail-server from my account on pilot. For more information about the server, mail odin@pilot.njin.net with a subject of "listserv-request" and a message body of "send help". Please make sure that you spell the subject correctly or it bounces to my personal mail box. Rather than requesting the latest list from me by mail, simply send the request to the listserv. If you send me a request for the latest list, I will send you the help file for the listserv.

Special thanks goes to Edward Vielmetti for all the work he does posting new archive information to comp.archives, to David Katinsky, who allows me to work on this list from pilot, and to the guys working on all those nifty new tools so that I don't have to do this anymore.

If there are any corrections/updates/etc to be made please mail me at odin@pilot.njin.net. That also goes for descriptions of the archives. I don't have time to personally check each and every site so if you use a site regularly and can put together a better description, please tell me so I can update this list. This is especially true for sites described as "unknown" or with vague descriptions. Also, if you are providing updates, it is

easi-
 est on me if you either state "add/remove <whatever>" or simply supply
me
 with a complete new description of the site. This makes it easier for me
to
 make the changes without any errors, especially in the case of archives
being
 moved to different sites.

      The last line for each site contains the date of last modification,
and
 the login and password in the form <login>/<password>. For the sites
that
 have "odin@pilot.njin.net" for the password, substitute your own mail
address
 (user@host.domain).   It is suggested that you use your mail address as
the
 password wherever possible, even if it isn't required to let sites
keep
 better track of who is using their site.

      For those unfortunates who do not have ftp but do have mail, I
can't
 help you.   bitftp from Princeton is no longer working and I have not
been
 able to locate another mail ftp site.

      Thanks,
         Jon Granrose
         October 19, 1991
+=+=+=

Databases and Bibliographies

AAtDB: An Arabidopsis thaliana Data Base
Bank of England Quarterly Bulletin Time Series Data
BLAISE-LINE (British Library's On-Line Service)
British Library Document Supply Centre
Central Statistical Office Macro-Economic Time Series Data
CONSER database (journal/serial/periodical indexes)
Constitutional Documents (USA)
Court of Appeals of Ohio, Eighth District, County of Cuyahoga
Dartmouth Dante Project
Earth Images Catalogue LEDA
Earth observation satellite data inventory service
Einstein On-Line Service
Environmental Education Database
ERIC (Educational Resources Information Center Documents)
General Accounting Office Documents
Global Land Information System
Government Publications (USA)
IAMSLIC/CYAMUS Union List of Serials
Library of Congress Cataloging (DRA)
Magazine Index
Martin Luther King Jr. Bibliography at Stanford University
MEDLINE
Meeman Archive of environmental journalism
National Nuclear Data Center
National Radio Astronomy Observatory
NPTN/USA Today Headline News
ONLINE newsletter & ONLINE libraries and microcomputers
ORCID: Online Retrieval of Cartographic Data
PINET: American Institute of Physics
Project Hermes (Supreme Court Decisions)
RAPID: ESRC database of Research Abstracts and Products
Rutgers University Press: Titles in Print
Social Sciences Data Archive, Hebrew University
Software & Courseware On-line Reviews
South East Florida AIDS Information Network
State of Hawaii Data Book
UnCover (Periodicals information)
World Bank socio-economic data

BLAISE-LINE

TELNET SUN.NSF.AC.UK.
At the login: prompt, enter janet.
At the hostname prompt, enter UK.BL.BLAISE

BLAISE-LINE is the British Library's on-line service, which provides access to bibliographic records in many databases, covering all subject areas. This system requires registeration. The application form may be obtained by sending mail to B.KEFFORD@GEC-B.RL.AC.UK.

British Library Document Supply Centre

TELNET SUN.NSF.AC.UK
At the login: prompt, enter janet
At the hostname prompt, enter uk.bl.arttel

This service requires registration. You can get details by sending mail to BLDSC@GEC-B.RL.AC.UK.

CONSER database

This database is available at CARL

Select menu item 55

SELECTED DATABASE: CONSER

The CONSER file is a subset of the authenticated MARC CONSER file. It contains approximately 220,000 bibliographic records for serials that were coded c (current) in byte 6 of the 008 field. Update tapes containing new records and changes are processed monthly. The records are cataloged using the same indexing rules that are applied to the CARL bibliographic files. Libraries may access this file for downloading bibliographic records through CARL Serials Control.

Constitutional Documents (USA)

Available on the Cleveland FREE-NET

Enter go shrine at the Your choice prompt

PRE-CONSTITUTION DOCUMENTS
1 1215 - The Magna Carta
2 1390 - The Constitution of the Iroquois Nations
3 1620 - The Mayflower Compact
4 1639 - The Fundamantal Orders of 1639
5 1676 - First Thanksgiving Proclamation
6 1775 - The Charlotte Town Resolves
7 1775 - Declaration of the Causes... of Taking up Arms
8 1776 - The Declaration of Independence
9 1776 - The Virginia Declaration of Rights
10 1777 - The Articles of Confederation
11 1777 - Declaration and Resolves of the 1st Cont. Congress
12 1783 - The Paris Peace Treaty
13 1786 - The Annapolis Convention

POST-CONSTITUTION DOCUMENTS
1 1787 - The Northwest Ordinance
2 1789 - French Declaration of Rights
3 1793 - The Proclamation of Neutrality
4 1795 - The Treaty of Greenville
5 1796 - Washington's Farewell Address
6 1801 - Jefferson's First Inaugural Address
7 1823 - The Monroe Doctrine
8 1862 - The Emancipation Proclamation
9 1863 - The Gettysburg Address
10 1865 - Lincoln's Second Inaugural Address
11 1945 - German Surrender Documents
12 1945 - Japanese Surrender Documents
13 1963 - M.L. King's: "I have a dream" Speech

THE CONSTITUTION
1 1787 - The Constitutional Transmittal Letter
2 1787 - The Constitution of the United States
3 1791 - The Bill of Rights
4 1791 - 1971 All Amendments

Court of Appeals of Ohio, Eighth District, County of Cuyahoga

Available on the Cleveland FREE-NET

At the Your Choice==> prompt type go mercury

This area contains the written decisions of the Court of Appeals of Ohio, Eight District, Cuyahoga County. This project will be used to distribute the decisions of the Court as soon as they are distributed to Free-Net by the Court. The decisions will be posted on the opinions bulletin board in this area. They are also available through the Internet via anonymous FTP from ftp.cwru.edu in the directory "mercury".

Dartmouth Dante Project

Available at The Dartmouth College Library Online System

Once connected to Dartmouth type connect dante
Select vt100 terminal emulation

Preparation of this database was made possible in part by a grant from
THE NATIONAL ENDOWMENT FOR THE HUMANITIES
and through the generosity of
Dartmouth College, Princeton University, The Dante Society of America,
La Societ@a Dantesca Italiana, The Mellon Foundation, Apple Computer
Digital Equipment Corporation, AT&T Foundation and
The David and Lucile Packard Foundation

Conceived and directed by Prof. Robert Hollander of Princeton University.

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Environmental Education database

This database is available at CARL
Select menu item 62

SELECTED DATABASE: Environmental Educ.

The Directory of Environmental Education Resources (DEER) is a joint project of the Colorado Alliance for Environmental Education and the Colorado Department of Education. DEER includes Colorado and regional agencies, organizations, companies, groups, and individuals who disseminate environmental education resources. Please contact the organizations listed for more information about their programs.

Syracuse University (PRISM)

```
TELNET ACSNET.SYR.EDU or 128.230.1.21
login with suvm
ENTER TERMINAL TYPE: vt100
At USERID ===> suinfo
Type suinfo once more

      Welcome to SUINFO! You will now be able to perform online searches
      on all publicly available databases currently carried by PRISM.
      Before proceeding, the following may be noted:

      *  This account may be used for PRISM searches only.
      *  Certain databases cannot be searched because of licensing
restrictions.
         You may search these databases by logging into SUVM the regular way.
      *  PRINTing, SENDing to a userid or the WRITEing to a computer file
         of your search result(s) has been disabled.
         Numerous error messages will be encountered if attempted!
      *  You must type LOGOFF to EXIT PRISM

                            Welcome to Prism
 File selection                                                33 files
available

 Select a file or service by typing its name below,
    or, press the Return key to see a list of all files,
    or, type a category number to see a list of files in that category:

    1.  General Interest
    2.  CWIS: Campus Wide Info. System (includes SCIS, Job Ops)
    3.  WOT: Network Accessible Resources
    4.  Demonstration
    5.  Application Development
    6.  Testing New Applications

                            Welcome to ERIC
     This file contains bibliographic  information  and abstracts for a
     variety of  EDUCATIONAL  documents  from the Educational Resources
     Information Center (ERIC).  The file contains all the ERIC data from
     1984 through the first quarter of 1991 (approximately 208507 records).

     You can search for items using one or more keywords from a variety of
     fields such as title, author, or abstract.

    *-------------------------------------------------------------------*
    |  For help call the ERIC Clearinghouse at 443-3640.                |
    |  To report technical problems contact: Jhychun Wang [JINWANG@SUVM]   |
    |                                        x-2143                     |
    *-------------------------------------------------------------------*
```

General Accounting Office Documents

Available on the Cleveland FREE-NET

GAO REPORTS

The following U.S. General Accounting Office (GAO) reports are available over the Internet as part of a test to determine whether there is sufficient interest within this community to warrant making all GAO reports available over the Internet.

1. COMPUTER SECURITY: Governmentwide Planning Process Had Limited Impact, GAO/IMTEC-90-48, May 1990. Assesses the governmentwide computer security planning process and extent to which security plans were implemented for 22 systems at 10 civilian agencies. (This report is is 55,062 bytes or 1,190 lines long.)

2. DRUG-EXPOSED INFANTS: A Generation at Risk, GAO/HRD-90-138, June 1990. Discusses health effects and medical costs of infants born to mothers using drugs, impact on the nation's health and welfare systems, and availability of drug-treatment and prenatal care to drug-addicted pregnant women. (This report is 113,916 bytes or 2,421 lines long.)

[This is just a sample of two reports]

Government Publications (USA)

Available at the University of Hawaii

Select number 5

```
                SELECTED DATABASE:  Government Publication

          The computer can find items by NAME or by WORD
          NAMES can be authors, editors, or names of
          persons or institutions written about in the book
          WORDS can be words from the title, or subjects,
          concepts, ideas, dates etc.
          You may also BROWSE by TITLE, CALL NUMBER, or SERIES.
          Enter   N   for  NAME search
                  W   for  WORD search
                  B   to   BROWSE by title, call number, or series
                  S   to   STOP or SWITCH to another database
          Type the letter for the search you want.
           and press [RETURN],   or type  ?  for [HELP]
```

Data Research Associates

Library of Congress Cataloging Records

1. TELNET DRA.COM

To exit, type EX

Data Research Associates has made the 3+ million cataloging records from the Library of Congress available. Only two guest users are allowed access between 8 a.m. and 5 p.m. (Central time). This database is not the same as the Library of Congress card catalog and may not be used for cataloging or competative purposes. Access from outside the US may require prior arrangements.

Magazine Index

Available at the Maricopa Community Colleges

```
               1       >>MCCCD Magazine Index (1987-1991)
               2       >>MCCCD Magazine Index (1991 only)
               3       >>ASU Online library catalog
               4       >>Library hours and addresses
               5       >>Access other systems
               0       >>return to MCCCD catalog

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
||                                                                        ||
||              Welcome to Maricopa Colleges online                       ||
||                       Magazine Index                                   ||
||    This database includes information for the current year,            ||
||          and contains information on 46,261  articles.                ||
||                    (update 15-AUG-1991)                                ||
||                                                                        ||
||       from Information Access Company (IAC), a division of             ||
||                  ZIFF Communications Company.                          ||
||                                                                        ||
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
```

Martin Luther King Jr. Bibliography at Stanford University

Telnet FORSYTHETN.STANFORD.EDU or 36.54.0.12
At the Account? prompt type socrates
At the Type of terminal? prompt type VT100
At the Your Response prompt type select mlk
Type END to logoff

The MLK Bibliography lists approximately 2700 bibliographic citations to works by or about Martin Luther King, Jr., and the civil rights movement. This Bibliography was compiled by staff of the Martin Luther King, Jr., Papers Project, as a first step in preparing to publish King's works. It is intended to help both the student and the scholar traverse the rich and varied terrain of primary and secondary historical, sociological, and journalistic sources on King and the Black freedom struggle. (For more information on the Project, type HELP MLK PAPERS PROJECT.)

A printed version of this Bibliography, called "A Guide to Research on Martin Luther King, Jr., and the Black Freedom Struggle", is available in Green Library. Though the Guide is not comprehensive, it surveys a selection of the most important contemporary and scholarly resources on King and the struggle.

Project staff are still verifying the citations in the Bibliography, so you may encounter some errors. Please use the SUGGEST command to send comments, corrections, or questions, or call the Project staff at 723-2093 (ask for Pete).

Meeman Archive of environmental journalism

```
Telnet HERMES.MERIT.EDU or 35.1.48.149
Which Host? mirlyn
Hit return for vt100 emulation
At the Database Selection menu type MEEM

                INTRODUCTION TO THE MEEMAN ARCHIVE

The Meeman Archive is a database covering environmental journalism. The
Archive has over 1,000 entries and grows yearly. Established by the
Scripps-Howard News Service in 1982, MEEM contains articles from 1980 to
the present.  In addition to the articles indexed in MEEM, the Meeman
Archive contains clippings from the Ann Arbor News, several
environmental periodicals, and the National Park Service's publication,
"Feedback".

The Meeman Archive is located in UM's School of Natural Resources, 2036
Dana Building. All articles are located there and can be copied for five
cents per page. Please allow 24 hours for copying. Archive staff can be
contacted by calling (313) 763-5327 or by visiting the archive. Please
bring the item call number, which is found on the first line of each
item record.

        To search by:   TITLE:              t=
                        AUTHOR:             a=
                        SUBJECT:            s=
                        KEYWORD:            k=
        Enter NEWS [return] for more information on searching MEEM
```

National Nuclear Data Center

Telnet TID.BNL.GOV or 130.199.129.45
At the Username: prompt, enter Brookhaven
Select 6 from the main menu.

To exit, type Q from the main menu

NNDC ONLINE SERVICE

DATA BASES	UTILITIES	FILES
NSR	NEWS	DIRECTORY
ENSDF	SAMPLE	TYPE
NUDAT	MAIL	SEND
CINDA	NEW_FEATURES	DELETE
CSISRS	CUSTOMIZE	DONE
ENDF	ADDRESS	LOGOUT
XRAY	PHYSCO	
MIRD	PLOT	
DONE	DONE	
LOGOUT	LOGOUT	

NPTN/USA TODAY HEADLINE NEWS

Available on the Cleveland FREE-NET
and the Youngstown FREE-NET

USA TODAY Headline News is brought to you by the hundreds of Cleveland Free-Net users who have joined the National Public Telecomputing Network (NPTN). As part of the NPTN membership plan, 15% of all full-member dues are rebated back to the user's home system to bring you features such as this. (For more information on NPTN membership type: go nptn at any arrow prompt.)

Finally, this news service is being viewed as an experiment. Both NPTN and USA TODAY would like to know what you think about it and how you think it could be improved to better meet your information needs. (Send your thoughts and ideas to aa583 - NPTN Cybercasting Services.)

It is also a part of a larger program by NPTN to develop the whole area of online news delivery. If you would like to be a part of that program, AND HAVE SUBSTANTIVE EXPERIENCE in either the print, radio, or television news media, please contact NPTN via e.mail at aa622.

ONLINE newsletter & ONLINE libraries and microcomputers

This database is available at CARL
Select menu item 56

SELECTED DATABASE: Online Libraries

ONLINE NEWSLETTER and ONLINE LIBRARIES AND MICROCOMPUTERS are full text publications that comprise the world's foremost news service in the Online and CD-ROM field. The print edition of these publications is distributed in over 70 countries. This database presents articles from Online Libraries and Microcomputers (9/83 to date), Online Newsletter (1980-81 and 1988 to date), and Online Hotline (1982-1987). Published by Information Intelli- gence Inc., Phoenix, Arizona. (602-996-2283)

PINET: American Institute of Physics

```
Telnet PINET.AIP.ORG or 192.58.150.2
At the login: prompt, type new
At the Password: prompt type new

PINET is an online information database and electronic mail service
developed and administered by the American Institute of Physics on
behalf of its Member Societies.
Please select the topic you are interested in -- there is NO CHARGE
while viewing these messages; however, you will be automatically logged
off after 15 minutes.

    1.  Register on PINET
        (Select this choice only when you are ready to register)
    2.  About PINET's Information Services
    3.  Features of Electronic Mail
    4.  Usage Costs
    5.  Hours of Operation
    6.  Payment by Credit Card
    7.  Setting up a Group Account
    8.  Categories of Membership
    0.  Exit
```

U.S. SUPREME COURT ONLINE DISSEMINATION OF OPINIONS

Available on the Cleveland FREE-NET
Type go hermes at the Your choice prompt

On May 11th, 1990 the United States Supreme Court announced that it was beginning a two-year experimental program called "Project Hermes." The objective of this project is to rapidly provide copies of the Court's opinions in electronic form to as wide an audience as possible.

Twenty organizations applied to be a part of this project, 12 were accepted; and one of the successful applicants was a noncommercial, nonprofit, consortium composed of Case Western Reserve University (CWRU), EDUCOM, and the National Public Telecomputing Network (NPTN). What this means for YOU is that you will now be able to receive electronically the full text of the Court's opinions within minutes of their release--FREE.

It will work like this...

When the Court decides to release an opinion or set of opinions, a computer at the Supreme Court Building will open-up 12 telephone lines and simultaneously send copies to its primary distributors. In our case, it will be received by a CWRU computer here in Cleveland where a special program will clear out the various printer codes from the document. Two things will then occur. First, a copy of each of the "clean" documents will be sent electronically to the EDUCOM offices in Washington D.C. EDUCOM will then place the files on both the Internet and BITNET networks for distribution to the academic and research community. Second, and at the same time, copies will be distributed across all NPTN affiliated community computer systems.

You may have the Court's opinions sent directly to you if you have access to either a BITNET or Internet computer (many, if not most, major universities are connected to one service or the other); or you may download the files directly from any NPTN community computer system. There is no charge to receive this service beyond whatever fees your university computing center might have, or the cost of a telephone call to an NPTN affiliate.

This NPTN service is brought to you in part by a grant from the law firm of PORTER, WRIGHT, MORRIS & ARTHUR, with offices in Cleveland, OH; Columbus, OH; Cincinnati, OH; Dayton, OH; Naples, FL; and Washington D.C.

To receive more information on how to sign-up for the BITNET/Internet service, or if you would like to know more about accessing these files on an NPTN community computer, please send your name, organization or firm, address, city, state, and zip, to: PROJECT HERMES, CWRU COMMUNITY TELECOMPUTING LAB, 319 WICKENDEN BUILDING, CLEVELAND, OHIO 44106.

For general information about Project Hermes or about the National Public Telecomputing Network, please contact: Tom Grundner at the above address or at (216) 368-2733.

You can also contact Project Hermes electronically via:

Internet: aa584@cleveland.freenet.edu
BITNET: aa584%cleveland.freenet.edu@cunyvm

Social Sciences Data Archive

Hebrew University, Mount Scopus Libraries

```
Telnet HAR1.HUJI.AC.IL or 132.64.176.2
Username: SSDA
At the Function selection menu, select 2

  *-------------------------------------------------------------------*
  *    S O C I A L   S C I E N C E S    D A T A    A R C H I V E     *
  *-------------------------------------------------------------------*
  The Data Archive catalogue describes, in the English language, all
  data sets held in the Archive.  For data orders and/or further
  information, please call tel. 883181, use Bitnet MAGAR1@HUJIVMS
  or Fax. no. (972)-2-322545.
                   S E A R C H    C O D E S
         Data set level:              Variable level:
         FN - File number             VS - Variable list
         TL - File titles             VN - Variable name
         AU - File author
         SH - Subjects
  TO BEGIN SEARCH, TYPE ONE OF THE ABOVE CODES/TEXT AND PRESS ENTER.
  M1 = Data-set search explanation      M3 = Subject list A-I
  M2 = Variable level explanation       M4 = Subject list J-Z
  To return to this screen, type SE and press ENTER.

A  L  E  P  H
Automated Library Expandable Program
HEBREW UNIVERSITY OF JERUSALEM

The conversation between you and the computer can be conducted in HEBrew
or in ENGlish.
Type "ENG" if you want ENGlish conversation.
Type "HEB" if you want HEBrew conversation.
After typing press the "ENTER" key.
```

State of Hawaii Data Book

Available at the University of Hawaii

Select number 20

SELECTED DATABASE: Hawaii Statistics

The STATE OF HAWAII DATA BOOK : A Statistical Abstract is the standard official summary of statistics on the social, economic, and political organizations of our island state. This database is provided through the courtesy of the Department of Business and Economic Development, Research and Economic Analysis Division.

Enter W for WORD search
B to BROWSE tables alphabetically by title
S to STOP or SWITCH to another database
Type the letter for the kind of search you want,
and end each line you type by pressing [RETURN]

UnCover (Periodicals information)

UnCover gives you access to the tables of contents of currently published journals. Many citations contain brief abstracts.

Available at the following sites

Earth Images Catalogue LEDA

The ESA/Earthnet Database of Space Bourne Earth Observation Imagery

```
Telnet GLIS.CR.USGS.GOV or 152.61.192.54
Enter your last name, GUEST, or EXIT and press Return.
Select vt100 terminal emulation
Select 7 (REMOTE) from main menu
Select 4 from (REMOTE) Menu
At the Username: prompt, enter CATALOGUE

        Catalogue Selection Menu

        LA = Landsat Imagery Catalogue
        TI = AVHRR/SHARP Imagery Catalogue
        MO = MOS-1 Imagery Catalogue
        NI = NIMBUS CZCS Imagery Catalogue
```

Earth observation satellite data inventory service

```
Telnet GLIS.CR.USGS.GOV or 152.61.192.54
Enter your last name, GUEST, or EXIT and press Return.
Select vt100 terminal emulation
Select 7 (REMOTE) from main menu
Select 5 from (REMOTE) Menu
Enter NASDASIN at the username prompt.

                          --- MAIN  MENU ---

   ( 1 ) .... M O S - 1/1b  MESSER/VTIR/MSR  DATA SEARCH
   ( 2 ) .... LANDSAT 1,2,3  MSS/RBV  DATA SEARCH
   ( 3 ) .... LANDSAT 4,5  MSS/TM   DATA SEARCH
   ( 4 ) .... S P O T  HRV-XS/HRV-P  DATA SEARCH
   ( 5 ) .... J E R S  SAR/OPS/OVN  DATA SEARCH
   ( 6 ) .... E E R S  AMI  DATA SEARCH
   ( 7 ) .... N O A A  HRP/AVH  DATA SEARCH
   ( X ) .... EXIT
```

Global Land Information System

```
Telnet GLIS.CR.USGS.GOV or 152.61.192.54
Enter your last name, GUEST, or EXIT and press Return.
Select vt100 terminal emulation

                            GLIS MAIN MENU

                  Global Land Information System - Ver. 1.0

                    PRIMARY Options
 1.OVERVIEW        System Overview
 2.DIRECTORY       Summary Information of Data Sets
 3.GUIDE           Detailed Information of Data Sets
 4.INVENTORY       Individual Items within Data Sets
 5.ORDER           Order Verification

                    ANCILLARY Options
 6.NEWS            General News
 7.REMOTE          Access to Remote Systems
 8.USERINFO        User Specific Information

 9.EXIT_GLIS       Exit the GLIS System
```

Software & Courseware On-line Reviews

Telnet CC.CURTIN.EDU.AU or 134.7.70.1
Username: GUEST
Select vt100 terminal emulation
Select C) SCOR database from maim menu
Select 2 SOFTWARE & COURSEWARE ONLINE REVIEWS from videotext menu

SCOR or Software & Courseware On-line Reviews is a database of information about software and courseware and reviews of the same. It incorporates the Schools Computing On-line Resources database which is a database of information about all aspects of the use of computers in schools. The database includes information about all types of software including application, educational and system software, curriculum materials and professional development for teachers. The database of educational software is built on the catalogue of software held at the WA Non-Government Schools Computing Centre and currently includes mainly software for the Apple II, BBC and Microbee microcomputers. Information about software for other microcomputers is in the process of being added.

A number of pages have been included as examples of information about hardware, professional development and curriculum materials in the field of schools computing.

The database was initially developed by the Western Australian Educational Computing Consortium at the Curtin University of Technology (formerly the Western Australian Institute of Technology) as part of a project funded by the Commonwealth Curriculum Development Centre to examine the feasibility of establishing a national software clearinghouse. The database has been considerably expanded and updated since then.

Feedback and comments regarding SCOR are welcomed and should be addressed to:
John A Winship, Acting Director,
Computing Centre,
Curtin University of Technology,
Kent St.,
Bentley WA 6102, (09) 350 5959.

RAPID

The ESRC database of Research Abstracts and Products

TELNET ERCVAX.ED.AC.UK or 129.215.128.30
Username: RAPID
Password: RAPID

RAPID - the ESRC's Research Activity and Publications Information Database - plays a key role in the Council's task of demonstrating the contribution its funds and activities make to scholarship and to an understanding of the economic and social world at large. The database is managed at the University of Edinburgh on one of its mainframe computers, and holds information on research partly or wholly funded by the ESRC and on the various outcomes of this funded activity.

RAPID combines information previously issued through the publications "ESRC Research Supported" and the "ESRC Newsletter"; it contains details of ESRC awards current at April 1985 or made since 1986, along with references to several thousands of publications arising from those awards. Entry into RAPID of information on research awards made since 1988 is scheduled for Summer 1992. Thereafter the information on awards will be updated approximately every three months. Inevitably there is a lag between the start of a research award and the publication of results. Similarly, there will be some delay between the date of publication and the entry of the bibliographic description in RAPID.

M A I N M E N U

Search Awards	: 1
Search Publications/Products	: 2
Re-display/Review Sets	: 3
Change Menu Options	: 4
Combine Document Sets	: 5
News (last updated 09 Jul 1991)	: N
Quit system	: Q
Help	: ?

Central Statistical Office

Macro-Economic Time Series Data

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.swurcc
Username: press [SEND]
Which Service: PMAC
Select 1 from menu

A search and extraction system for the Central Statistical Office's
Macro-Economic Time Series data.
```

World Bank socio-economic data

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.swurcc
Username: press [SEND]
Which Service: PMAC
Select 2 from menu

Interactive access to the World Bank socio-economic data: 126 countries,
117 indicators, covering 1960-1986

SEARCH_WB allows access to the World Tables of economic and social
indicators provided by the World Bank. The data consists of time series
of these indicators for countries throughout the world.
```

Bank of England

Quarterly Bulletin Time Series Data

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.swurcc
Username: press [SEND]
Which Service: PMAC
Select 3 from menu
```

The system allows the latest issue of the Bank of England Quarterly Bulletin Time Series data to be searched for the series required.

ORCID: Online Retrieval of Cartographic Data

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.swurcc
Username: press [SEND]
Which Service: PMAC
Select 4 from menu
```

ORCID has been developed to allow rapid access to large datafiles containing digitised boundary data. It has been written by Bath University Computing Services (BUCS) on behalf of the ESRC Wales and South West Regional Research Laboratory.

Using ORCID it is possible to extract boundaries from one of several datasets and write them out to a file in a form suitable for input into a mapping package. The boundaries may be drawn if a graphics terminal is used to log on to BUCS.

Einstein On-Line Service

Smithsonian Astrophysical Observatory

```
TELNET CFA204.HARVARD.EDU or 128.103.40.204
login: einline

SOME GENERAL INFORMATION ABOUT EINLINE:

* For help, type "help" anywhere.  As a start, try typing "help eols".
  "help" files are stored in the "How-to" subdir of DOC.

* To download results of queries from EINLINE, on your home computer
  type "ftp einline.harvard.edu".  Type "help download" in EINLINE for
  more detailed info.

* To logout from EINLINE, type "logout" from Main Menu. Typing "main
  logout" will usually get you out from most menus in EINLINE.

EINLINE Main Menu:
        COM     Communication (system news, mail)
        DOC     Access text documents, EOLS/EINLINE documentation.
        DB      Access numerical databases (e.g.., 2E Catalog, ROSAT, etc.).
        DP      Access data products (e.g., CDs, FITS files, photon lists).
        TOOLS   Access various useful utility programs.
        UNIX    Enter a restricted Unix shell (you're on your own!)
        LOGOUT  Logout from EINLINE.
```

National Radio Astronomy Observatory

```
TELNET ZIA.AOC.NRAO.EDU or 146.88.1.4
login: vlais

             Welcome to the NRAO/Socorro Information System
                    TOP or MAIN Section Directory
              GEN      General Information
              SCHED    Official VLA, VLBA and VLBI NUG Schedules
              SUBVLBA  Subset of VLBA Info. for Observers/Observing
              VLA      VLA Specific Information
              VLBA     VLBA Specific Information
              INTRO    Brief Introduction to this system (Infosys)
              MAILIT   How to e-mail information to yourself
              HELP     Description of Internal commands
              IS       Return to this screen
```

AAtDB: An Arabidopsis thaliana Data Base

```
TELNET 132.183.190.21 7001
Type ? for a list of options

AAtDB is funded by the U. S. Department of Agriculture Plant Genome
Research Program through the National Agricultural Library and is
maintained by a group at the Massachusetts General Hospital and Harvard
Medical School.
```

MEDLINE

TELNET MEDLARS.NLM.NIH.GOV or 130.14.10.200

Account needed to access MEDLINE.

The following is a list of services provided by the National Library of Medicine:

MEDLINE	Provides access to the MEDLINE Library Service.
TSO	Provides access to the MEDLARS Library Service.
PROFS	Provides access to E-MAIL Service.

For assistance please Call NLM Customer Service: 703-555-1212

Information about establishing an account can be obtained from the Grateful Med BBS at 800-525-5756 or by calling the MEDLARS Management Section at the National Library of Medicine at 800-638-8480.

E-mail help for establishing accounts and answering questions may be available at gmhelp@gmedserv.nlm.nih.gov.

Rutgers University Press: Titles in Print

Telnet INFO.RUTGERS.EDU or 128.6.26.25
No login required

Select University from Main Menu
Select UPress from University menu

South East Florida AIDS Information Network

```
TELNET CALLCAT.MED.MIAMI.EDU or 129.171.78.1
login: library
Select L on main menu
Select 1 on next menu

                          SEFAIN Database
      You may search for AIDS Information by any of the following:

                           P > PERSON/ORG/RESEARCH
                           O > Organization TYPE
                           M > MEDICAL Specialty
                           R > Research SITE
                           T > Research TYPE
                           A > Res ELIGIBILITY
                           H > HEALTH&SOCIAL Serv
                           B > Mental HEALTH Serv
                           E > EDUC & Info Serv
                           Q > QUIT

 This project is sponsored in part by the National Library of Medicine
```

IAMSLIC/CYAMUS Union List of Serials

TELNET SCILIBX.UCSC.EDU or 128.114.143.4
login: iamslic
Password: cyamus

Welcome to the IAMSLIC/CYAMUS Union List of Serials

This is a test file of serials holdings from several institutions, some of whose records were downloaded from the Melvyl Library System without explicit permission for their inclusion, so please treat this only as a sample, not as an authoritative listing.

As of June 1, 1992, the test database contains about 15,700 records from the following institutions:

- Bodega Marine Laboratory, University of California
- California Academy of Sciences (CAS)
- California State University campuses (CSU)
- DSIR Marine and Freshwater, New Zealand
- Guin Library, Hatfield Marine Science Center, Oregon State University
- Stanford University -- Falconer Biology and Hopkins Marine Lab
- University of California, Santa Barbara (UCSB)
- University of California, Santa Cruz (UCSC)
- University of Hawaii
- University of Oregon, Ocean and Coastal Law Center Library
- University of Southern California (USC)
- University of Washington, Fisheries/Oceanography Library (UW)
- University of Washington, Friday Harbor Library

The search interface runs on a software package called PixTex and is very uneven in its ease of use. Before you can search a file, you first must select an "index" that includes the union list database. The default search protocols use fuzzy matching rather than normal indexing to retrieve records, which means that many of your usual boolean search habits may not apply.

Please send comments and feedback regarding this test version to either:
watkins@ucsce.ucsc.edu (Steve Watkins, UC Santa Cruz) or
wible@krypton.stanford.edu (Joe Wible, Stanford University)

We are particularly interested in hearing from you whether this format and interface are acceptable as a means of distributing access to unedited holdings information from a variety of libraries.

Updated 6/1/92

Germany

Universitaet des Saarlandes
Universitaet Heidelberg
Universitaetsbibliothek Erlangen-Nuernberg
University of Karlsruhe
University of Konstanz

University of Konstanz

TELNET POLYDOS.UNI-KONSTANZ.DE 775 or 134.34.3.5 775

POLYDOS.UNI-KONSTANZ.DE is the machine of Univ. Konstanz' library, running KOALA, a proprietary online cataloging/database software. KOALA may be used to scan the library's inventory of about 1.4 million volumes (no journals yet) for a given volume, using (combinations of) about a dozen different search criteria, such as ISBN, ISSN, authors' names, title etc.
The user interface is TTY-like and KEPT ENTIRELY IN GERMAN. It features an online help system, and a rudimentary message handling facility to contact the database managers.
There are a few technical limitations to using KOALA: - the machine is quite slow (and suffers from overload) - the number of KOALA sessions running in parallel is limited (currently to 9)

Contact:

Guenther Rau
Bibliothek der Univ. Konstanz,
EDV-Abteilung Postfach 5560 D-7750 Konstanz FRoG
Tel.: 49 7531 88 2840 FAX : 49 7531 88 2809 E-M.: (via KOALA only)

Universitaetsbibliothek Erlangen-Nuernberg

TELNET FAUI43.INFORMATIK.UNI-ERLANGEN.DE or 131.188.31.3
At the login prompt, enter gi.
At TERM=, type VT100.

To exit, hit the TELNET escape key.

Universitaet des Saarlandes

```
Telnet UNISB.RZ.UNI-SB.DE or 134.96.5.1
At the first "/" prompt type .a logon ub,ub

To exit, type 0
```

University of Karlsruhe

```
TELNET NZ20.RZ.UNI-KARLSRUHE.DE or 129.13.96.2
Select 1 from the menu.
Press RETURN to select the default application.
At the enter userid prompt, enter RA10, RA11, ... , or RA14.
Hit RETURN.

or

TN3270 IBM3090.RZ.UNI-KARLSRUHE.DE
Hit RETURN.
At the enter userid prompt, enter RA10, RA11, ... , or RA14.
Hit RETURN.

Note: some TN3270 packages do not want to connect to Karlsruhe.  To work
around this problem simply set the rwin parameter in your TCP
configuration to 512.  If you do not know how to do this, contact your
system manager.

To exit, hit the TN3270 or Telnet escape key.
```

Universitaet Heidelberg

```
TN3270 VM.URZ.UNI-HEIDELBERG.DE.
On the VM/SP screen, hit TAB twice.
Type D VTAM on the command line.
On the Bitte waehlen Sie screen, type cicsub.

To exit, hit the TN3270 escape key.
```

GLOSSARY OF TERMS FOR INTERNET RESOURCES

Anonymous FTP (File Transfer Protocol) -- The procedure of connecting to a remote computer, as an anonymous or guest user, in order to transfer public files back to your local computer. (See also: FTP and Protocols)

BITNET -- A cooperative computer network interconnecting over 2,300 academic and research institutions in 32 countries. Originally based on IBM's RSCS networking protocol, BITNET supports mail, mailing lists, and file transfer. Now merging with CSNET and running the RSCS protocol over TCP/IP protocol (BITNET II), the network will be called Computer Research and Education Network (CREN).

Client-Server Interface -- A program that provides an interface to remote programs (called clients), most commonly across a network, in order to provide these clients with access to some service such as databases, printing, etc. In general, the clients act on behalf of a human end-user (perhaps indirectly).

CREN -- Computer Research and Education Network is the new name for the merged computer networks, BITNET and Computer Science Network (CSNET). It supports electronic mail and file transfer.

Domain Name System (DNS) -- The Internet naming scheme which consists of a hierarchical sequence of names, from the most specific to the most general (left to right), separated by dots, for example nic.ddn.mil. (See also: IP address)

Downloading -- The electronic transfer of information from one computer to another, generally from a larger computer to a smaller one, such as a microcomputer.

Electronic Bulletin Board -- A shared file where users can enter information for other users to read or download. Many bulletin boards are set up according to general topics and are accessable throughout a network.

FTP -- File Transfer Protocol allows a user to transfer files electronically from remote computers back to the user's computer. Part of the TCP/IP/TELNET software suite.

Gateway -- Used in different senses (e.g., Mail Gateway, IP Gateway), but most generally, a computer that forwards and routes data between two or more networks of any size.

Host Computer -- In the context of networks, a computer that directly provides service to a user. In contrast to a network server, which provides services to a user through an intermediary host computer.

Internet -- The series of interconnected networks that includes local area, regional, and national backbone networks. Networks in the Internet use the same telecommunications protocol (TCP/IP) and provide electronic mail, remote login, and file transfer services.

IP (Internet protocol) -- The Internet standard protocol that provides a

common layer over dissimilar networks, used to move packets among host computers and through gateways if necessary.

IP Address -- The numeric address of a computer connected to the Internet; also called Internet address.

Listserv Lists (or listservers) -- Electronic discussion of technical and nontechnical issues conducted by electronic mail over BITNET using LISTSERV protocols. Similar lists, often using the UNIX readnews or rn facilty, are available exclusively on the Internet. Internet users may subscribe to BITNET listservers. Participants subscribe via a central service, and lists often have a moderator who manages the information flow and content.

NIC (Network Information Center) -- A NIC provides administrative support, user support, and information services for a network.

NREN -- The National Research and Education Network is a proposed national computer network to be built upon the foundation of the NSF backbone network, NSFnet. NREN would provide high speed interconnection between other national and regional networks. SB 1067 is the legislative bill proposing NREN.

OPAC -- Online Public Access Catalog, a term used to describe any type of computerized library catalog.

OSI (Open Systems Interconnection) -- This is the evolving international standard under development at ISO (International Standards Organization) for the interconnection of cooperative computer systems. An open system is one that conforms to OSI standards in its communications with other systems.

Protocol -- A mutually determined set of formats and procedures governing the exchange of information between systems.

Remote Access -- The ability to access a computer from outside a building in which it is housed, or outside the library. Remote access requires communications hardware, software, and actual physical links, although this can be as simple as common carrier (telephone) lines or as complex as Telnet login to another computer across the Internet.

Shareware -- Microcomputer software, distributed through public domain channels, for which the author expects to receive compensation.

TCP/IP -- Transmission Control Protocol/Internet Protocol is a combined set of protocols that performs the transfer of data between two computers. TCP monitors and ensures correct transfer of data. IP receives the data from TCP, breaks it up into packets, and ships it off to a network within the Internet. TCP/IP is also used as a name for a protocol suite that incorporates these functions and others.

TELNET -- A portion of the TCP/IP suite of software protocols that handles terminals. Among other functions, it allows a user to log in to a remote computer from the user's local computer.

Terminal Emulation -- Most communications software packages will permit your personal computer or workstation to communicate with another

computer or network as if it were a specific type of terminal directly connected to that computer or network.

Terminal Server -- A machine that connects terminals to a network by providing host TELNET service.

TN3270 -- A version of TELNET providing IBM full-screen support.

Z39.50 Protocol -- Name of the national standard developed by the National Information Standards Organization (NISO) that defines an applications level protocol by which one computer can query another computer and transfer result records, using a canonical format. This protocol provides the framework for OPAC users to search remote catalogs on the Internet using the commands of their own local systems. Projects are now in development to provide Z39.50 support for catalogs on the Internet. SR (Search and Retrieval), ISO Draft International Standard 10162/10163 is the international version of Z39.50.

Internet Gophers and Pandas

Australian National University
Cornell Law School
Hyper-G, hypermedia information system of
the Technical University of Graz, Austria
Nova Scotia Technology Network
O'Reilly & Associates, Inc.
PANDA University of Iowa Pan-Campus Data Access Network
Pontificia Universidad Catolica de Chile
SUNET Gopher, Sweden
University of Bradford Information Service
University of Illinois, Urbana-Champaign
University of Maryland
University of Michigan Library's Gopher System
University of Minnesota
University of North Texas
University of Virginia Grounds-Wide Information Server
University of Waterloo Information Network
Valdosta State College
Yale University

Hyper-G, the hypermedia information system of

the Technical University of Graz, Austria

Telnet FINFO.TU-GRAZ.AC.AT or 129.27.2.4
login: info
For English interface type sprache englisch

Hyper-G offers both a hierarchical view and hyperlinks, as well as sophisticated queries.

Please direct any comments to fkappe@iicm.tu-graz.ac.at.

PANDA: University of Iowa Pan-Campus Data Access network

Telnet PANDA.UIOWA.EDU or 128.255.40.201
No login required.

Panda is an easy-to-use computer service that offers a wealth of information about local events, University and Iowa City information, and general reference materials, as well as providing access to other services already available over the network. It provides a simple, menu-driven interface to a huge amount of pertinent data.

This is currently an experimental service. Comments, questions, or bugs should be reported to isca@umaxc.weeg.uiowa.edu.

Internet Gopher at SUNET, Sweden

Telnet SUNIC.SUNET.SE or 192.36.125.2
login: gopher
Needs vt100 emulation

1. Info about this Gopher Server.
2. Nordic Information Services/
3. BASUN, The SUNET Info Server/
4. CARL [TEL]
5. CCITT Blue Book/
6. Databases via telnet/
7. Ebone Information/
8. Electronic Newsletters & Journals (unt.edu)/
9. Infoservers in European Countries/
10. International Library Services/
11. Library of Congress [TEL]
12. Nordic Internet Libraries/
13. Other Gopher and Information Servers/
14. PD Software FTP Archive/
15. Phone Books and E-Mail addresses/
16. Requests for Comments (RFC)/
17. Subject Tree/
18. Trivia/

The University of Michigan Library's Gopher System

```
TELNET UNA.HH.LIB.UMICH.EDU or 141.211.190.102
login: gopher
                          -- ULibrary --
      The University of Michigan Library's Gopher System

The University Library has implemented a software tool, Gopher,
developed by the University of Minnesota for navigating and accessing
information and systems available via electronic networks. The Library's
Gopher system, called "ULibrary", makes these resources easier to find
and use, provides a user-friendly interface, and runs on most
microcomputers. The Library is providing experimental access to a number
of resources via ULibrary.  These resources are described in greater
detail below, and include:

 * connections to online library catalogs worldwide
 * US Census Data for Michigan
 * US Commerce Department's Economic Bulletin Board data
 * UPI Newswire data
 * contents of numerous electronic journals.
```

Internet Gopher at the University of Minnesota

Telnet CONSULTANT.MICRO.UMN.EDU or 134.84.132.4
login as: gopher

At TERM = (vt100) hit RETURN

Allows remote login to many other Internet sites with LIBTEL.COM. Has RFCs on-line, campus information, weather service, phone books, connections to other "gophers", "electronic" books, etc.

The Gopher menu is updated fairly often so it is not shown here. When using the Gopher hit ? for help.

Nova Scotia Technology Network

```
TELNET NSTN.NS.CA or 137.186.128.11
login: fred
```

1. About Gopher/
2. Canadian Weather Forecasts/
3. Internet Resources/
4. NSTN Information/
5. New Stuff/
6. Newsletters/
7. Other Information/
8. Other gophers/
9. White Pages/

Australian National University

TELNET INFO.ANU.EDU.AU or 150.203.84.20
login: info

Australian National University Campus Information System

Tony Barry
tony@library.anu.edu.au 7/6/92

This information system is a joint project of the ANU Library and the Computer Services Centre. It is an prototype installation, and therefore subject to rapid change.

It is based on 'Gopher' software developed in the public domain by the University of Minnesota and now used by over 70 institutions to deliver their electronic information services. The top level of this server runs on info.anu.edu.au in the Library but it links to many hundreds of other servers across the network.

This server can be accessed via client software on Macintosh, PC, X-Windows and Unix machines.

A cut down version of the Unix client can be accessed via telnet to info.anu.edu.au and login to 'info'. No password is needed for this service. For help with available commands, type a question mark (?). On some terminals, you may need to use the CTRL-N and CTRL-P keys to move the cursor, instead of the arrow keys.

The hierarchy of menus you see provides access to information and network services at ANU, Elsewhere in Australia and Overseas.

The services offered include

ANU Campus Administrative Information
This area is reserved for the proposed Campus Administrative Information System

ANU Computer Services
Information about computing services offered at the ANU campus.

ANU Databases & Information Servers
Details and/or access to databases maintained at ANU.

ANU Library Services
Services provided by the ANU Library

ANU News & Announcements
This area is reserved for the proposed campus staff newsletter and other material of an informing nature.

Canberra Libraries
Access to other Libraries in Canberra

Australian Services

Linkages to information services provided at other sites on AARNet.

Other Libraries
Linkages to libraries and similar services across the internet.

Other Services
Access to services outside Australia.

The Electronic Library
Access to a range of services grouped by subject which deliver information of potential interest to the teaching and research needs of the campus community.

If you have suggestions for alterations, additional databases that could be mounted or any comments whatsoever please send them to me

Tony Barry Library, R.G.Menzies Building
phone x4632
Fax x4063
email tony@library.anu.edu.au
Tony_Barry@anu.edu.au
tony@info.anu.edu.au

University of Illinois, Urbana-Champaign

```
TELNET GOPHER.UIUC.EDU or 128.174.33.160
login: gopher
```

University of North Texas

```
TELNET GOPHER.UNT.EDU or 129.120.1.42
login: gopher
Password: gopher
```

University of Virginia Grounds-Wide Information Server

```
TELNET GOPHER.VIRGINIA.EDU or 128.143.22.36
login: gwis
Enter terminal type
(default is vt100; specify 'X' for X Windows version):

1.  About this Service/
2.  UVa Calendar/
3.  UVa Publications/
4.  UVa Library Services/
5.  UVa Administrative Information (under construction)/
6.  UVa Departments, Organizations, and Services/
7.  Search for UVa Faculty, Staff, or Students [?]
8.  Central Virginia Weather.
9.  Worldwide Internet Services (i.e., non-UVa services)/
```

University of Bradford Information Service

```
TELNET INFO.BRAD.AC.UK or 143.53.2.5
login: info

                    Internet Gopher Information Client v1.02
                     Root gopher server: gopher.brad.ac.uk
      1.  About the Bradford Information Service.
      2.  The University of Bradford/
      3.  Computer Centre/
      4.  Connect to Bradford Library TEL
      5.  Departments/
      6.  Miscellaneous/
      7.  Networks/
      8.  Other Gopher and Information Services/
      9.  Personnal Computers/
      10. Testing/
      11. U of Bradford FTP Archives/
```

Pontificia Universidad Catolica de Chile

```
TELNET TOLTEN.PUC.CL or 146.155.1.16
login: gopher

            Servicio de Informacion de Internet-CHILE (Gopher v1.02)

1.  Acerca de Gopher Chile.
2.  Coneccion a servidor de gopher USACH/
3.  SECICO On-Line (Agosto-1992)/
4.  Hytelnet (ayuda) (login: hytelnet) TEL
5.  Coneccion a servidor de gopher internacional/
6.  Informaciones varias Universidad Catolica/
7.  Informaciones varias Universidad Catolica de Valparaiso/
8.  Informaciones varias Universidad de Santiago de Chile/
9.  Servicios Internacionales Varios/
10. Servicios Nacionales Varios/
11. Servidores de FTP anonimo/
```

University of Waterloo Information Network

```
TELNET UWINFO.UWATERLOO.CA or 129.97.128.100
login: uwinfo
                                    UWinfo
          1.  About UWinfo/
          2.  About the University of Waterloo/
          3.  Official University Documents/
          4.  Facilities & Services/
          5.  Departments, Faculties, Associations, Student Groups/
          6.  Courses and Timetables (experimental)/
          7.  UWDIR ... Directory of Staff and Faculty (phone, email) [CSO]
          8.  Events, News and Weather/
          9.  Other Servers (FTP, Archie, CWIS, Databases, etc.)/
          10. {Index of Document Contents, this server only} [?]
          11. {Index of Menu Items, all UWinfo servers} [?]
          12. {Table of Contents}.
```

Valdosta State College

```
TELNET GRITS.VALDOSTA.PEACHNET.EDU or 131.144.8.206
Login: gopher
                    Internet Gopher Information Client v1.03

      1.  About this Gopher Server.
      2.  FTP File Search (Archie)/
      3.  Gopher Information/
      4.  Interesting Gopher Servers/
      5.  Libraries/
      6.  Network Services (Conferences, Electronic Journals)/
      7.  Valdosta State College Information/
      8.  World Wide Gopher Information Servers/
```

O'Reilly & Associates, Inc.

```
TELNET GOPHER.ORA.COM or 140.186.66.1
login: gopher

                    Internet Gopher Information Client v1.03

      1.  Computer Security/
      2.  Distributed Computing Environment (DCE)/
      3.  New Books and Editions/
      4.  Pick/
      5.  System Administration/
      6.  UNIX & C Programming/
      7.  Using UNIX/
      8.  X Resource/
      9.  X Window System/
      10. Textual Search on all catalog entries [?]
```

University of Maryland

TELNET INFO.UMD.EDU or 128.8.10.29
login: gopher

Welcome to the University of Maryland Information Service

The Information Revolution is here! There is a great deal of electronic information out there on nearly every topic under the sun that, until now, was inaccessible to the general public. From medical breakthroughs to the current weather conditions, forecasts, and weather satellite pictures to USA Today articles, the resources are nearly infinite. Now they are easily accessible to anyone with a PC, Macintosh, Unix, or NeXT machine and access to the Internet network via WAIS, Gopher, Archie, Hytelnet and World Wide Web.

As you explore this service, you will be experiencing first-hand the beginning phases of the "information revolution". The UofM Information Service is your connection to computing sites around the country and indeed around the world.

This system provides "gateways" via Gopher to such information retrieval services as WAIS, INFO, Hytelnet, Archie, and WWW as well as a number of other information services. Each of these systems operate quite differently so please view the "About..." items listed in this directory, for further information on Gopher, WAIS, Hytelnet, Archie, and WWW.

Clearly, the UofM bears no responsibility for the quality of data at other sites. The interfaces to the data are also, for the most part, beyond our direct control. Help may be available by entering a "?". Usually, the arrow keys will function, and generally, using "q", "Q", or"quit" will let you leave the outside service. Again, we urge you to review the information in the "About..." files which describe in more detail the peculiarities of the various services.

We hope that you find this service useful. At any time, if there is some information which you wish to make available on this system, please contact the Consulting Lab and make the suggestion.

Comments, Questions, and Suggestions:
Should be directed to the Consulting Lab at the
Computer Science Center, (301) 405-1500 or consult@umail.umd.edu.

Yale University

```
TELNET GOPHER.YCC.YALE.EDU or 130.132.21.250
login: gopher
                 Gopher/Enterprise Coordination

Gopher is an experimental extension of Enterprise services.  All the
data present in Enterprise is supposed to be in near-perfect
synchronization with the data in Gopher.  When a file is updated on
Enterprise, it is automatically sent to Gopher.  Every hour, Gopher
wakes up, checks for new files, translates the Enterprise format to the
plain ASCII it prefers, and stores the file in its proper place. So
there should never be more than 2 hours lag in data update between
Enterprise and Gopher.

Every night at 4am, past events in some selected files (like the Weekly
Bulletin and Movies) are stripped away.  The whole database is
re-indexed then, so even though the data may be current the index is
only as current as the previous day.

If you notice gross disparity in data, which remains over a couple of
days, please notify Mitch Block (2-6599, MSBLOCK@YALEVM).

The only significant difference you will find between Gopher and
Enterprise is under the 'Libraries' heading:  direct connections to both
Orbis and Nexis are provided.
```

Cornell Law School

```
TELNET FATTY.LAW.CORNELL.EDU or 132.236.108.5
login: gopher

                    Internet Gopher Information Client v1.02

      1.  About This Site (Cornell Law School).
      2.  Cornell Law School Information/
      3.  Directory of Legal Academia/
      4.  Discussions and Listserv Archives/
      5.  Foreign and Other Law-related Documents/
      6.  Government Documents/
      7.  Information services: academic institutions/
      8.  Internet (FTP sources, listserv directory, etc.)/
      9.  Library Resources (online catalogues)/
      10. Locators (where to find people and things)/
      11. Miscellaneous/
      12. Other Gophers and Information Services/
      13. Periodicals, News, and Journals/
      14. WAIS-based information/
```

High weirdness by email v2.0

send info and errata to: mporter@nyx.cs.du.edu

This version *supersedes* previous "editions"; they may safely be deleted without loss of important information.

Warning: Despite the new format - classificiation of resorces by topic - certain parts of this listing are in a chaotic state. This has to do with the circumstances of its compilation. Basically, to access the net I have to sneak
into a university lab and telnet to one of my legitimate accounts. I have been
"caught" twice so far and so it's getting a little difficult to maintain the volume of activity that I'd like to. I have my one opportunity to put things on an ftp site coming up in a few hours and so I want to "get out" what information I have *now*, in case I lose any form of access altogether.
SO IF YOU ARE GOING TO ARCHIVE THIS OR REPRODUCE IT, FEEL FREE TO EDIT IT FOR COMPREHENSIBILITY, RELEVANCE, ETC.

The lIsted topics are:

OFFBEAT BUT ORDINARY RELIGIONS AND "SPIRITUALITY"
PAGANISM AND MAGICK, OCCULTISM, SATANISM
WEIRD RELIGIONS
UFOS AND PARANORMAL PHENOMENA
STRANGE INDIVIDUALS
PHILOSOPHY, THINKING ABOUT THINKING, ETC
SCIENCE AND TECHNOLOGY
WEIRD SCIENCE AND TECHNOLOGY
ONLINE ETEXT PROJ'S, ETC
SOME FTP SITES
FORUMS FOR WEIRDNESS ON INTERNET BBS'S
INFORMATION SERVICES
DRUGS MAN!
HACKING INFO
WEIRD POLITICS AND CONSPIRACY
ZINE REVIEWS
CYBERPUNK AND THE "NEW EDGE"
MISCELLANEOUS ZINES
TASTELESS AND DISGUSTING THINGS
COPYRIGHT VIOLATIONS
MU*S
IRC
ROLE-PLAYING GAMES
CULT CLASSICS
POPULAR (AND NOT-SO-POPULAR) MUSIC
RAVES

MISCELLANEOUS, AND UNFINISHED BUSINESS
SOME FILES RECENTLY UPLOADED TO FTP SITES
SCOTT YANOFF'S LISTING

In places I hav cannibalized both Scott Yanoff's listing of internet resources
[reproduced in full at the end] and a list of mailing lists which appeared on news.lists, I think.

*** OFFBEAT BUT ORDINARY RELIGIONS AND "SPIRITUALITY" ***

worldwide church of god - if youre a member- mailing list
drew@cs.anu.edu.au

bahai-faith
    Contact: bahai-faith-request@oneworld.wa.com (Charles W. Cooper II)

    Purpose: a non-threatening forum for discussing and sharing
    information about the tenets, history, and texts of the Baha'i
    Faith. This mailing list is gatewayed into the Usenet newsgroup
    soc.religion.bahai.

Buddha-l   lisserv@ulkyvm.bitnet   "scholarly" in orientation
Forum on Indian and Buddhist studies [listname BUDDHIST?]
listserv@jpntuvm0.bitnet

lds
    Contact: lds-request@decwrl.dec.com   -or-   decwrl!lds-request

    Purpose: a forum for members of The Church of Jesus Christ of
    Latter-day Saints (mormons) to discuss church doctrine, mormon
    culture and life in general. Non-members are welcome to join, but
    we're not interested in flame wars.

coombs.anu.edu.au
/coombspapers/otherwork/electronic-buddhist-archives
subdirectories: buddhism-gen, -tib, -viet, -zen; shamanism; taoism.
look at /buddhism-zen/zen-email-directory.txt; email addresses of several
dozen individuals or organizations interested in zen, all around the world.

SDAnet
    Contact: st0o+SDA@andrew.cmu.edu (Steve Timm)

    Purpose: SDAnet is a list for and about Seventh-day Adventists.
    It is a moderated list. Anyone may post or subscribe.

Secular Humanist Group
    Contact: secular-humanist-request@sugar.neosoft.com (Jim Thompson)

    Purpose: to provide a moderated forum for the discussion of secular
    lifestyles and philosophies among atheists, agnostics, and secular
    humanists. Theists may join the list; however, proselytizing and
    debates over God and religion will be referred to more appropriate
    forums.

jim@hsf.uab.edu - starting biblical studies over email

"The Religious Studies Publications Journal - CONTENTS is an electronic
journal that disseminates table of contents, abstracts, reviews and
ordering information on new and recent print and electronic publications
of relevance to Religious Studies.
  "Electronic subscriptions are free; to subscribe, send a mail message to
Listserv@uottawa or listserv@acadvm1.uottawa.ca with the text:
SUBSCRIBE CONTENTS your name."

Inquires regarding the CONTENTS project should be sent to the project director: Michael Strangelove <441495@Uottawa> or <441495@Acadvm1.Uottawa.CA>

The first edition of Michael Strangelove's _The Electric Mystic's Guide to the Internet: A Complete Bibliography of Networked Electronic Documents Online Conferences, Serials, Software and Archives Relevant to Religious Studies_, is now available via FTP as a Postscript, WordPerfect and low ascii file (also available via Listserv). Volume One is 64 pages Volumes Two and Three will be released between October and December. This bibliography is freely available via the international academic networks (BITNET/Internet) from the CONTENTS Project fileserver via FTP from the node panda1.uottawa.ca (137.122.6.16) in the directory /pub/religion/ as the files [in PostScript, WP5.1, "low ascii" forms"]
It is also available as a low ascii text via the CONTENTS Project Listserv fileserver as MYSTICS V1-TXT from Listserv@uottawa or Listserv@acadvm1.uottawa.ca

Right_Use_of_Will@kether.webo.dg.com, will@kether.webo.dg.com
books of Ceanne DeRohan, dictated by god - help save the universe (not seen by me) - low traffic lst

URANTIAL listserv%UAFSYSB.bitnet@cunyvm.cuny.edu - sub urantial your_name
the urantia book - available at better occult bookstores everywhere

zendo-request@lysator.liu.se **
applied Zen Buddhism

*** PAGANISM AND MAGICK, OCCULTISM, SATANISM ***

GRASS
Contact: grass-server@wharton.upenn.edu

Purpose: The GRASS (Generic Religions and Secret Societies) mailing list is a forum for the development of religions and secret societies for use in role-playing games. Both real-world and fictional religions and secret societies are covered. GRASS is an erratic volume, high signal-to-noise, mailing list.

To subscribe, send mail to the CONTACT address with a subject of SUBSCRIBE Charlie Bucket. (Use your own name instead of Charlie's though!)

pagan
Contact: pagan-request@drycas.club.cc.cmu.edu (Stacey Greenstein)

Purpose: To discuss the religions, philosophy, etc. of paganism.

gcnext.gac.peachnet.edu /pub/wicca

Tagi@cup.portal.com appears to be organizing a weekly online magickal group.
[excerpt from a post on alt.magick ...]
>Note: This was originally posted to alt.magick and alt.cyberpunk about
>a month or two ago (perhaps more). I will repost this every so often
>so as to address attrition rates in our group. We are currently meeting
>every Thursday (3:00 PST/6:00 EST/9:00 Brit.) and would enjoy new

>members. Email me for the exact MUD address to which you'd connect.
[there follows a long speculative discussion on fantasy and its
expression in various mediums of communication and interaction, and the
specific possibilities the net offers for "Cyber Ritual". probably best to
look for the original post before you ask to join, IMNSHO!]

pagan-request@drycas.club.cc.cmu.edu (not seen by me)

grind.isca.uiowa.edu (128.255.19.233)
you can telnet to this ftp site, login iscabbs - file descriptions appear
whenever you list the directory contents.
        /info/misc [contains files Wicca1, Wicca2, kama (sutra)]

morose.cc.purdue.edu
/pub/topy-online Temple ov Psychick Youth
(submitted by timbomb@cs.uq.oz.au)

nic.funet.fi / ftp.funet.fi
  /pub/doc/occult - Necronomicon - voynich

slopoke.mlb.semi.harris.com
         comments by Anon of Ibid:
            * This site has lots of Crowley texts and gifs, including the
            complete texts of the Book of Lies, Book of the Law, Book 4,
            Magick in Theory and Practice, Magick Without Tears, and some
            (or all) copies of the Equinox. (Crowley's magickal journal/
            zine/publication type thing) All this stuff is in directory
             /pub/magick/incoming. But there's lots more than Crowley stuff.
            Check this site out.
[Back to me:]
Also worth perusing are wilson.on.cis, an online conference with RAWilson as
guest participant, and cybercraft, which contains an exposition of Leary's
8-circuit model. ALSO, copies of the Equinox are retailing where I live
for about $700 (for 10 vols.) at present. You could probably make yourself
same money, and do yourself a favor, and violate some sort of copyright law
by printing copies of the Equinox based on the slopoke material.
  In fact the whole slopoke site is just one of the best. They have an old
alt.slack archive (old*slack!), extensive Notes on Kabbala that you won't
find anywhere else, the Principia, and *best of all*: in /pub/incoming they
have the up-to-date version of the Scriptures of V\R (see above). Praise
Pippin!

*** WEIRD RELIGIONS ***

A historical document:

>From: hin9@tank.uchicago.edu (T. Rev)
Newsgroups: alt.slack
Subject: Re: Timelines
Date: 5 Jun 89 00:42:01 GMT
     Given that the SubGeniuses seem to have been corrupted and poisoned
by virtue of their long fight against the Conspiracy (e.g. $tang's 'selling
out', Bob Black's increasing spiritual violence, the martyrdom of St.
Reith, the slow disappearance of many of the church elders, and general
dissatisfaction in the ranks, as well as the predicted Age of the Crowned
and Conquering Bobbie), the time seems right for the appearance of another

mindless, soul-destroying cult. Since the Discordians came along in 1959, and the Subs in 1979, 1989 would seem to be the next proper time for a major cult (so that the geometric series will converge just _after_ the supposed arrival of the X-ists (giving us needed slack time, of course)).

In this light, and for research purposes only, not for sale or prescription at this time, I would like to ask of Mr. Parry a description of his doctrine of 'Kibology'--a Kibologist Manifesto, as it were.

So, Mr. Parry, what say you?

T. Rev

--

T. Rev -- Algebraic Theology
The Harlequinade -- University of Dobbstown, Math Dept.
Now now at -- hin9@tank.uchicago.edu

PRINCIPIA DISCORDIA - found all over the place and posted to alt.discordia every week or so, it seems - transcribed by Druel the Chaotic - send fanmail to MPYTHON@gnu.ai.mit.edu

Subgenius-request@mc.lcs.mit.edu **
your daily fix of slack

world.std.com
/pub/alt.religion.kibology - archives for the newsgroup
  ark.655.Z & kibo-for-prez look interesting, but i can't decompress them

Church of Spam
newcomers but ambitious - already setting up alt.spam

HailOtis@socpsy.sci.fau.edu
PURPS - The Purple Thunderbolt of Spode - the newsletter of the Otisians. An excellent compilation. Issue 45 coming out soon.
Contact the Pope, jstevens@world.std.com, for info on the Otisian directory. Also contact Mal@socpsy.sci.fau.edu for info on the "junk mail" list. Purps archived, quartz.rutgers.edu /pub/journals/Purps, from purps01 to purps44 although certain editions seem to be unreadable, eg purps09

SLACK@ncsu.edu - home of the Holy Temple of Mass Consumption - don't know if they send out copies of their (excellent) ezine on request, but it appears regularly on Usenet anyway, and is archived at quartz.rutgers.edu

houk@cs.athena.mit.edu - Moot News for Modern Man v1 and 2, subG stuff

request@fennec.sccsi.com - Worldview / Weltanschauung - weirdness, future tech, subgenius stuff - read about this in the future-culture FAQ (see mailing lists) but i have been unable to reach them - anyhow it is archived at ftp.eff.org, /pub/cud/wview

mullet.gu.uwa.edu.au
/pub/text/comment/scriptures.tar.Z
version 1, Travelling Scriptures of the Church of V/R

quartz.rutgers.edu /pub
  get the CONTENTS file to see how *much* there is on here! also, there's an automatic decompression thingy for any file ending .Z, so you can ftp-by-mail even *those* ones! /pub/subgenius contains a bob.gif, plus

lots of other SubG stuff; and of course they have the Principia Discordia. /pub/journals has *heaps* of stuff, FutureCulture, m00se Illuminati (for info on *them* mail dickson@hartford.bitnet), Purps (the Purple Thunderbolt of Spode, the Otisian newsletter (see above)), other stuff I forget right now.

*** UFOs AND PARANORMAL PHENOMENA ***

infopara-request@scicom.alphacdc.com - "Subscribe" in subject line - you will get info from Paranet Information Service

psi-l listserv%rpicicge@vm1.nodak.edu SUB PSI-l the_usual
contact bgeer%hampvms.bitnet@cunyvm.cuny.edu (not seen by me)

"Our research group is currently investigating reports and sightings of the animal known as "Bigfoot" or "Sasquatch".
o Leave a private message in electronic mail:
ai065@cleveland.Freenet.Edu (Thomas Hill)
Contact with us can be totally anonymous if you wish. We are especially interested in Ohio sightings but are by no means limited to investigations in that state. Please, serious responses only." [ie SubGenii: nothing about Tibetan Yetis from Atlantis] (from the alt.alien.visitors FAQ)

ASLJL@ACAD2.ALASKA.EDU
the Federation is making a starflight drive - email here for details

rutkows@ccu.umanitoba.ca (from the alt.alien.visitors FAQ)
available on an experimental basis by email - "The Swamp Gas Journal covers a variety of scientific UFO-related phenomena" - various reviews

gvb@acd4.acd.com
maintains a personal archive of alt.alien.visitors traffic since July 13, 1992 - portions available on request - *not* available via ftp as yet

grind.isca.uiowa.edu (128.255.19.233)
you can telnet to this ftp site, login iscabbs - file descriptions appear whenever you list the directory contents.
/info/paranet [UFO digests from Paranet Information Service]

skeptic%yorkvm1.bitnet@vm1.nodak.edu SUB SKEPTIC your_fullname
(not seen by me)

UFO-RELATED INFORMATION
from the alt.alien.visitors FAQ - an excellent document! possibly the best reference for ufo-info sources of its size ever prepared - comments here are from that FAQ

paul.rutgers.edu
The file is pub/UFO/bibliography.Z It has books by author, a second listing by date, and also the names of prominent authors in the field.
For more information contact: mcgrew@dropout.rutgers.edu (Charles Mcgrew)

phoenix.oulu.fi (130.231.240.17) /pub/ufo_and_space_pics
- phoenix UFO pics

NASA Pics Sites
NOTE: the material at these sites is exceedingly voluminous;

I'd strongly suggest just getting the CD-ROMs instead of attempting
to transfer scores of gigabytes of pix and other material.
To access the online catalog of NASA material, CD-ROMS, et cetera:
        telnet nssdca.gsfc.nasa.gov
        login as "NODIS"
        no password

Anonymous ftp sites (five):
nssdca.gsfc.nasa.gov [128.183.10.4]
        This is a VAX/VMS box, so you must ftp-login as "anonymous". To get
        a dir listing into a file on your system:
        ftp> dir [...] file_on_your_system
vab02.larc.nasa.gov
     lots of stuff, including Aliens of all colors, and UFO pix (though this
        seems to mirror a lot of what's at phoenix.oulu.fi and has some
        additional material).
ames.arc.nasa.gov
        online copies of what appears to be all NASA's CD-ROMs, and lots of
        GIFs, *.img and *.jpg from most (all?) space missions since Apollo.
iris1.ucis.dal.ca
        dunno; it appears to be down today (Saturday, 18-July-1992).
ummts.cc.umich.edu {changed to} archive.umich.edu
        apparently popular (and, hence, slow). Is supposed to have many
        NASA and Voyager data files.

at stycx.hacktic.nl (+31-3404-59551) there is a public account [login repm12,
passwd zebra] for the [anonymous]sharing of MJ12 information

130.231.240.7 /pub/ufo-and-space-pics/alen-47.jpg   Roswell alien doll

*** WEIRD PERSONALS AND OTHER UNCLASSIFIEDS ***
[unchanged from HWbE v1.1]

>From donnell@mermaid.micro.umn.edu Thu Oct 29 09:32:01 1992
Two guys here. Judex <Polybenevolent Omni-Father of Truth In Spandex>
worships
squids and spreads their "gospel". Your Heinous is a computer fiend and
headbanger extrodinaire. Trade your weirdness for theirs. B}
Judex is also a music and movie trivia buff, and a good source for such.

>From corleyj@GAS.uug.Arizona.EDU Wed Oct 28 11:31:29 1992
In Robert Anton Wilson's _Illuminatus! Trilogy_, he describes
a process used by Discordians, Erisians and Anarchists against
governments, corporations and in general, The Establishment.
This process involves sending many letters from different
parts of the country/world and is called Operation Mindfuck.
With the advent of e-mail, Operation Mindfucks are much more
easily coordinated. One such network can be joined by e-mailing
corleyj@gas.uug.arizona.edu. Networks are set up around
communal responsibility. Everyone agrees to participate in
everyone else's Mindfuck. If A helps B Fuck the IRS, then when
B wants to Fuck the Department of Defense, A is obliged to help.
Hail Eris! All Hail Discordia!

*** STRANGE INDIVIDUALS ***

from HWbE v1.1:
>From: The Saint of Self Abuse
   I dunno if it counts but we have a really vocal, extreme right-wing paranoid fundamentalist Christian who got a Bboard named after him out here at CMU. He frequently posts more than four posts in a day and we already have somebody at MIT mocking the guy and it may be a national thing because this guy is 100% all-American Christian fundie right wing nutso.....
    Anyway, the Bboard is assocs.collegerepublicans.intolerant_assholes @ andrew.cmu.edu and our "friend" is Dave Byler: db7n @ andrew.cmu.edu
    He may not be weird enough for this list, but he responds to EVERYTHING and claims such things as:
    1. There is an International Communist Conspiracy
    2. Sen. Macarthy was right
    3. Al Gore plans to save the earth by depopulating it
    4. Liberalism = Nazism
    5. You're all going to Hell
Maybe he is weird enough....

idealord@dorsai.com - home of IdEAl OrdEr Psychic TV
anyone know the home of nU wORLD oRDER Psychic Usenet?

carasso@inference.com - dfqfrby@shoes.BELL-ATL.COM, jecoleb@eos.ncsu.edu & millerje@CS.ColoState.EDU all have personal archives of some of the best of carasso, and probably the man himself does too

hplaa02.cern.ch
/netcel - Net celebrities archive

check out alt.net.personalities

*** PHILOSOPHY,THINKING ABOUT THINKING,ETC ***

 -Am. Philos. Assoc.   telnet atl.calstate.edu or telnet 130.150.102.33
   offers: BBS for APA. (Login: apa)

belief-l (not seen by me) - send subscribe belief-l your_name to
  listserv@brownvm.brown.edu
belief-l
  doubts.napoleon?? [if not enquire sci.skeptic] an 1819 article explaining why Napoleon might not have existed

derrida listserv@cfrvm.bitnet subscribe derrida full_name
(not seen by me)

fnord-l@UBVM.bitnet (I think - dont know internet address) - New Ways of Thinking List - created as forum to discuss the ideas of Wilson, Leary, Alli and the like, but to my mind it has degenerated somewhat (I'm not a subscriber, I just peruse it through the newsreader, so maybe something is going on that I don't know about) - these topics, if they're going to be discussed consistently anywhere, will come up most often on leri-l

lojban-list-request@snark.thyrsus.com (not seen by me)

why bother with esperanto?
lojban
    Contact: lojban-list-request@snark.thyrsus.com (John Cowan)

    Purpose: To use, discuss, and contribute to the development of the
    constructed human language called Lojban (known in earlier
    versions as Loglan). Lojban has a grammar based on predicate
    logic, and vocabulary built from the six most widely spoken human
    languages. It is intended as a tool for experimental linguistics,
    as a medium for communication with computers, and as a possible
    international auxiliary language.

    Lojban-list is an unmoderated mail reflector. New subscribers are
    asked to send their postal mailing addresses as well, so that they
    can be placed on the mailing list of The Logical Language Group,
    Inc., a non-profit organization. The postal mailing list provides
    materials that are useful in learning about the language.
    Lojban-list and LLG, Inc. are in no way affiliated with The Loglan
    Institute, Inc., or with James Cooke Brown, the founder of Loglan.

objectivism
    Contact: objectivism-request@vix.com (Paul Vixie)

    Purpose: A mailing list where students of Objectivism can discuss
    their ideas, concrete issues, exchange news, etc. Any issue that
    may have some relevance to Objectivists is appropriate here.
objectivism-request@vixie.sf.ca.us **
objectivism discussion list - seems to be fairly low traffic - to access the
archives mail objectivism-listserv@vix.com with the single-line msg 'help'

objectivism-philosophy
    Contact: objectivism-request@twwells.com (T. William Wells)

    Purpose: A mailing list for discussion of the philosophy of
    Objectivism. This is not a general Objectivism mailing list;
    discussions are restricted to the philosophy itself.

[also look for tal.philosophy.objectivism - the vote may still be going on in
news.groups as you read this]

pkd-list
    Contact: pkd-list-request@wang.com

    Purpose: The discussion of the works and life of Philip K. Dick
    (1928-1982), one of the world's most unusual science fiction writers.
    Topics include his books and stories, and books and stories about him
    and his life; however, discussion can (of necessity) branch out into
    the nature of reality, consciousness and religious experience.
not responding to my inquiries, unfortunately

PMC-TALK - discussion forum for PMC list (=postmodern culture?)
PMC@ncsuvm.cc.ncsu.edu is the editors' address
an incredible range of files: poetry, postmodern ecology, "stemmatics",
James Joyce, mail art, Gulf War, concepts of time, everyday aesthetics,
logs of 2 years' worth of discussions - just looking at the titles I
can't guess what some of them are about. Send for PMC-TALK GUIDE for

proper info.
"... if you need PMC-TALK GUIDE and don't know how to get it, send the following one-line mail message to LISTSERV@NCSUVM (on Bitnet) or to LISTSERV@NCSUVM.CC.NCSU.EDU (on Internet):
     GET PMC-TALK GUIDE PMC-TALK F=MAIL
Note that there should be no blank lines before this line, and no other text or lines in the message. The instructions you will receive are the same as those distributed to new subscribers of journal, and will enable you to retrieve files on your own."

*** SCIENCE AND TECHNOLOGY ***

alife
    Contact: alife-request@cognet.ucla.edu

    Purpose: The alife mailing list is for communications regarding artificial life, a formative interdisciplinary field involving computer science, the natural sciences, mathematics, medicine and others. The recent book _Artificial Life_, Christopher Langton, ed., Addison Wesley, 1989 introduces the scope of artificial life as a field of study. Alife was chartered in February 1990 at the Second Artificial Life Workshop, held in Santa Fe & organized by the Center for Nonlinear Studies at the Los Alamos National Laboratory and the Santa Fe Institute. The list is intended primarily for low-volume, high-content scientific correspondence and as a publically accessible forum for the interested members of the public. Membership as of July 1990 includes over 1,200 addresses on four continents. There is an FTP-accessible archives/repository of past traffic, software and papers. The list is maintained by the Artificial Life Research Group, Computer Science Department, Lindley Hall 101, Indiana University Bloomington, IN 47405. There are conditions on redistribution of the list in order to minimize any misunderstanding or exaggeration concerning this new area of study.

anneal-request@cs.ucla.edu (not seen by me) - simulated annealng
anneal
    Contact: anneal-request@cs.ucla.edu (Daniel R. Greening)

    Purpose: Discussion of simulated annealing techniques and analysis, as well as other related issues (stochastic optimization, Boltzmann machines, metricity of NP-complete move spaces, etc).

    Membership is restricted to those doing active research in simulated annealing or related areas. Current membership is international, and about half of the members are published authors. The list itself is unmoderated.

blackbird
    Contact: skunk-works-request@orchestra.ecn.purdue.edu

    Purpose: Discuss Lockheed special project planes, particular the Blackbird (A-12, YF-12 and SR-71) and U-2 programs.

cellular-automata-request@think.com (not seen by me)

CRYONICS list - contact kqb@whscad1.att.com
cryonics
    Contact: ...att!whscad1!kqb -or- kqb@whscad1.att.com   (Kevin Q. Brown)

    Purpose: Cryonic suspension is an experimental procedure whereby
    patients who can no longer be kept alive with today's medical
    abilities are preserved at low temperatures for treatment in the
    future. This list is a forum for topics related to cryonics,
    which include biochemistry of memory, low temperature biology,
    legal status of cryonics and cryonically suspended people,
    nanotechnology and cell repair machines, philosophy of identity,
    mass media coverage of cryonics, new research and publications,
    conferences, and local cryonics group meetings.

cybsys-l (not seen by me) - presumably cybernetic systems
listserv@bingvaxu.cr.birminghamton.edu - sub cybsys-l full_name

cypherpunks@toad.com - rapidly growing list on public key encryption
and related issues [also see alt.security.pgp]

extropians-request@gnu.ai.mit.edu **
serious discussion of extropian/upwing ideas such as physical immortality,
anarchocapitalism, postindustrial society etc
Extropians
    Contact: extropians-request@gnu.ai.mit.edu

    Purpose: The unifying characteristic of the list recipients is
    their latest interest in anarchocapitalist politics, techniques
    of life extension (including cryonics), the technological extension
    of human intelligence and perception, nanotechnology, spontaneous
    orders, memetics, and a number of other related ideas. If these
    topics seem to you to be naturally related and mutually consistent,
    you might already be an Extropian.

    All Extropians (and those who suspect that they are Extropians)
    are invited to join.

also bit.listserv.xtropy-l - longer essays on extropian themes
= exi-essay-request@gnu.ai.mit.edu

neuro-evolution-request@cse.ogi.edu

neuron
    Contact: neuron-request@cattell.psych.upenn.edu (Peter Marvit)

    Purpose: Neuron-Digest is a moderated list (in digest form)
    dealing with all aspects of neural networks (and any type of
    network or neuromorphic system). Topics include both
    connectionist models (artificial neural networks) and biological
    systems ("wetware"). Back issues and limited software is
    available via FTP from cattell.psych.upenn.edu. The Digest is
    gatewayed to USENET's comp.ai.neural-nets.
i've seen one copy - looks like a place where a number of the major
researchers can be found - eg first msg in the issue i read was from michael
arbib

physics
    Contact: physics-request@qedqcd.rye.ny.us (Mike Miskulin)

    Purpose: Physics is a newly created digest to cover current
    developments in theoretical and experimental physics. Typical
    topics might include particle physics, plasmaphysics,
    astrophysics. Discussions related to all branches (large and
    small) of physics are welcome.

- theoretical physics pre-print list
You can get papers on general relativity & quantum cosmology from gr-qc@xxx.lanl.gov, high energy physics [theoretical] from hep-th@xxx.lanl.gov. Send Subject: help. *I* think physics is weird enough to deserve a listing here. (Most papers written for people with TeX or LATeX, so be prepared for the equations to be even harder to understand than usual.) - mail gr-qc@xxx.lanl.gov with subject line "get 9210011" and explode your mailbox! this is a paper all about problems to do with time - technical and conceptual - in quantum gravity.

alife-request@cognet.ucla.edu
artificial life (not seen by me)

 -Genetics Bank   mail gene-server@bchs.uh.edu
                       +mail retrieve@ncbi.nlm.nih.gov
                       +mail blast@ncbi.nlm.nih.gov
   Subject: help Offers: genetic database/nucleic acid/protein sequence.

 -E-Math   telnet e-math.ams.com or 130.44.1.100
   offers: Am. Math. Soc. bbs w/ software and reviews. (Login/Password: e-math)

listserv@gitvm1.bitnet sub[frac-l

listserv@math.ufl.edu / FAQ settheory / eprints wavelets topology

HIT-L (Highly Imaginative Technology) contact xexeo@uxcern.decnet.cern.ch (not seen by me - and this address is no longer valid - however i have seen postings from G Xexeo on the net so he's out there somewhere - help anyone?)

listserv@orbital.demon.co.uk
subscribe satnews me me
fortnightly message on satellite tech & broadcasting

physics-request@unix.sri.com _or_ @mc.lcs.mit.edu (not seen by me)

space-investors-request@cs.cmu.edu - i subscribe but have yet to see any traffic after a week

technomads-request@bikelab.sun.com
the guy who nets from his bike

*** WEIRD SCIENCE AND TECHNOLOGY ***

nic.funet.fi / ftp.funet.fi
  /pub/pics/gif/pics/people/famous/*
an albert hofmann gif, and then next door is hanna-maria poropudas,
whose explanation of the structure of time, space potatoes etc is now
legendary - i predict that one day some astrophysicist who was a usenet
junkie as an undergrad will discover some cosmological feature and name it
a "space potato" in honor of hanna-maria and hannu - start with
/Hanna-Maria/README.Hanna-Maria

*** ONLINE ETEXT PROJ'S,ETC ***

TEXTARCHIVE.LIST Oxford Text archive@vaxox.ac.uk

mrcnext.cso.uiuc.edu /gutenberg
*** HOME OF PROJECT GUTENBERG ***
which is an attempt to build an online library of 10000 etexts by 2001
so far the weirdest thing they have is probably just the Book of Mormon
BUT!! if you have any anticopyright texts - whether UG Krishnamurti or
anarchist/Autonomedia classics - WHY NOT scan them in or transcribe
them, and send them to the project? email project director
hart@vmd.cso.uiuc.edu for instructions on how to submit a text - YOU
WILL HAVE TO CONTACT HIM TO GET THE PASSWD TO THE INCOMING DIRECTORY

network.ucsd.edu
        InterText   network.ucsd.edu:/intertext
        Athene   network.ucsd.edu:/intertext/Athene

obi.std.com
Online Book Initiative - /pub/obi
also found at world.std.com /obi - some subdirectories
    Ingar.Holst strange stuff
    DecWRL abstracts.index
    Anonymous   English.is.tough.stuff
    Soviet.Archives   README, & gifs
    Tracy.LaQuey   1990 net.directory - sounds very interesting

*** SOME FTP SITES ***

141.214.4.135 (The Site Which Must Not Be Named)
an up-and-coming home of online weirdness, by the look of it - an ftp site
of underworld industries - also info on 'alternative media / alternative
music' network in /proj/amam - try get repdir to see who you should contact
e-zine lunatic fringe and others stored, along with high weirdness by email,
a 'stream-of-consciusness' project - a lot of this stuff i couldn't access
properly owing to difficulties at MY end, but it all seems promising. some
words from the guy who runs it:
>welp, i would give you the alphabetic address/name of the site IF THERE
>WERE ONE! you see, we get a pool of about 30 (more if we need) IP
>addresses to do with as we please. the big boys upstairs (actually in
>another building) who are in charge of assigning names will only do so
>if they are "important" (mail servers, BIG machines). the pool we have
>are all SUPPOSED to just be for individual (DOS/mac) workstations.
>however, i skimmed one of and made it the "pirated" uwi ftp site!! voila!
>sorry!

>
>as for my blurb (by the nameless site!) you can include something like:
>underworld industries (uwi) is dedicated to exploring new (or old) and
>exciting experimental and [arguably] creative uses for technology. oh
>yeah, and we even like the old-fashioned experimental arts, too. (like
>underground press, graphic arts, video, etc.) check out the docs/uwi
>directory on the ftp site for more info....
>
>[sound ok?]
>-jon

_
Bill the Cat | kca@caen.engin.umich.edu | UnderWorld Ind. UWI001, P.O.Box
4060
Think freely | FINGER me for more info! | Ann Arbor, MI 48106-4060 USA
Earth

see also: red.css.itdumich.edu under "WEIRD POLITICS AND CONSPIRACY"
          quartz.rutgers.edu under "WEIRD RELIGIONS"
          slopoke.mlb.semi.harris.com under "PAGANISM etc"

*** FORUMS FOR WEIRDNESS ON INTERNET BBS'S ***

[as well as the topics listed, many bbs's have rooms dedicated to non sequiturs, free association, incongruous statements etc. since these rooms are changed frequently, I have not bothered to list them here - MP]
[this section not updated since HWbEmail v0.0]

Citadel BBSs

128.255.40.203   ISCABBS   login New to join
Spiritual Forum> Paganism And Magick> Philosophy> Cult Classics>
Amazing Stories and Urban Legends> Paraphenomena> Alternative Press>

hpx5.aid.no   Skynet   login skynet
Religion> Far Side of Computing> Predictions>

quartz.rutgers.edu   Quartz BBS   login bbs
Religion Issues> Witches Bew> Unexpl. Phenomena> Drugs>

Hotel BBSs

badboy.aue.com   Badboy's BBS   login bbs
Boards: Rob, Underground

chatsubo.nersc.gov   Chatsubo   login bbs
Boards: TheNet

jupiter.ee.msstate.edu Mars   login bbs

tiny.computing.csbsju.edu BBS / jodominik
monoadm@city.ac.uk 138.40.11/21/31/41.1

>From: "Alex R.N. Wetmore" <aw2t+@andrew.cmu.edu>
One more bbs with some wierdness on it:

yabbs - phred.pc.cc.cmu.edu - login as bbs or telnet to port 8888. We have some political and hacker oriented stuff on ftp as well. Also, note that redspread.css.itd.umich.edu also is running a bbs now (using the same software), so you might want to update your entry.

*** INFORMATION SERVICES ***

amixinfo@markets.amix.com - amix is american information exchange - they are apparently an online information market (!?)

archie@nic.funet.fi
for info on how archie works - mail with Subject: 'help'

Internet-drafts@nri.reston.va.us - send 'help' for information technical proposals for the future of the internet

chop.isca.uiowa.edu - lots and lots of stuff. endless menu selections. this is something called 'panda', which you probably know more about than i do

downwind.sprl.umich.edu 3000 - weather update

info.cern.ch - a node on the WorldWide Web, an attempt to build up an online hypertext reference work.

info.rutgers.edu - dictionary/thesaurus/familiar-quotations and a few other things. call up the 1991 world cia factbook and look at the entry for 'world'. they have the bible, koran, book of mormon organized so you can execute keyword / topic searches [any bets on how long it will be before they have the principia discordia?]

>From billy@sol.acs.unt.edu Sun Oct 25 07:10:53 1992
Submission: There is an effort to put all electronic journals, newsletters, zines, etc up in the Gopher system on the Internet. It can be found on the University of North Texas Gopher (gopher.unt.edu port 70).

Look at alt.internet.services for more.

usenet.hist@ucsd.edu
whois (-h nic.ddn.mil) un.org
whois (-h nic.ddn.mil) nic.ddn.mil
[some people will need the bits in brackets, others not]

A c10000-line list of mailing lists and their descriptions is available via ftp from coombs.anu.edu.au /coombspapers/interest-groups.9201.txt. (There *has* to be something shorter available; ftp-by-mail and watch your mailbox explode!) Some of the ones that follow aren't mentioned on that list however. UPDATE: A more up-to-date version of this list can be accessed via telnet through chop.isca.uiowa.edu - select online information, merit internet, other ifo servers, main gopher, ftp sites, popular ftp, interest group lists [that's my paraphrase of the necessary menu selections].

pit-manager.mit.edu /pub/usenet hundreds of directories with all sorts of things archived it seems, eg /news.answers has heaps of faqs, /alt.drugs a few alt.drugs regular postings

NEWSPOSTING by mail - Once upon a time apparently, you could post
to news by mailing ucbvax.berkeley.edu in the format
  favourite-newsgroup@ucbvax.etc
and the text of your message would be posted to favourite.newsgroup. That
service isn't working any more, *but* someone told me that the same thing
can now be done through cs.utexas.edu (I think).

acsnet.syr.edu SUMMIT

ftpmail@decwrl.dec.com - send message "help"
bitftp@pucc.princeton.edu

 -FTP Mail   mail bitftp@pucc.princeton.edu
   Body-of-letter: help or ftplist for a list of anon. ftp sites.

 -Archie   telnet archie.mcgill.ca or 132.206.2.3
(Canada)
                        telnet archie.funet.fi or 128.214.6.100
(Finland/Eur.)
                        telnet archie.au or 139.130.4.6
(Aussie/NZ)
                        telnet archie.cs.huji.ac.il or 132.65.6.5
(Israel)
                        telnet archie.doc.ic.ac.uk or 146.169.11.3
(UK/Ireland)
                        telnet archie.sura.net or 128.167.254.179   (USA
[MD])
                        telnet archie.unl.edu or 129.93.1.14   (USA
[NE])
                        telnet archie.ans.net or 147.225.1.2   (USA
[NY])
                        telnet archie.rutgers.edu or 128.6.18.15   (USA
[NJ])
                       +telnet archie.kuis.kyoto-u.ac.jp or 130.54.20.1
(JAPAN)
                       +telnet archie.nz or 130.195.9.4   (New
Zealand)
   offers: Searches all ftp sites for any program you want. (Login: archie)

 -Archie Mail Servers   mail archie@<INSERT ONE OF ABOVE ADDRESSES HERE>
   Subject: help Offers: alterative Archie access to those w/o ftp or
telnet.

 -CARL   telnet pac.carl.org or 192.54.81.128
   offers: Online database, book reviews, magazine fax delivery service.

 -CHAT   telnet debra.dgbt.doc.ca or telnet 142.92.36.15
   offers: Interactive AIDS document and simulated conversation (Login: chat)

 -FaxGate   mail FaxGate@elvis.sovusa.com
   offers: Send a Fax via computer. In body-of-message: help

Jargon File at ISCA [should go on WWW!]

fidonet z:n/f
=internet fn.ln@f.n.z.fidonet.org

*** DRUGS MAN! ***

ftp.u.washington.edu should have the alt.drugs archives somewhere, from memory

alt.drugs ??? DMT etc FAQ

soda.berkeley.edu /pub/sfraves/chemistry/probchild.Z
flubber.cs.umd.edu /other/tms/drug-politics

ecst.csuchico.edu /pub/geos/acidwarp.zip psychedelic graphics

nic.funet.fi / ftp.funet.fi
  /pub/pics/gif/pics/people/famous/*
an albert hofmann gif

leri archives [see elsewhere] have blotter gifs somewhere i think

*** HACKING INFO ***

Legion of Doom technical manual - ftp.eff.org /pub/cud/lod
RIPCO BBS 312-528-5020

grind.isca.uiowa.edu (128.255.19.233)
you can telnet to this ftp site, login iscabbs - file descriptions appear whenever you list the directory contents.
        /info/articles Academic papers and news articles about hacking
        /info/hacking   Quotations from "experts" about hackers and hacking
        /info/journals
                contains the following electronic journals: ane, ati,
                bootlegger, cud, hnet, lod, narc, nim, phantasy, phrack,
                phun, pirate, synd [and text file x - not a journal]

*** WEIRD POLITICS AND CONSPIRACY ***

activ-l@mizzou1.missouri.edu   activists' list

listserv@uvmvm.uvm.edu
sub 1-union yourname   - syndicalism

AYN-RAND@ua1vm.ua.edu - haven't checked up on this one, discovered it in a mail header

solan@math.uio.no - "non serviam, the radical newsletter devoted to the philosophy of Max Stirner" - just starting up - he also has the whole text of "The Ego and His Own" available

"Postmodern Society and Neoconservatism" ATEITTINEN@JYLK.JYU.FI
[this essay will be sent upon request]

Counterev-L
    Contact: ae852@yfn.ysu.edu (Jovan Weismiller)

    Purpose: This list is under the aegis of l'Alliance Monarchists
    and is dedicated to promoting the cause of traditional monarchy

and the Counter Revolution. We believe in government based on natural law principles, decentralization, subsidiarity, an economy based on the principles of distributive justice, and the defense of traditional Western values.

We believe in a Europe, United, Traditional, and Free from the Atlantic to the Urals, but we oppose the centralizing bureaucracy of the Maastricht treaty. While we are based in the US, we are affiliated with L'Alliance pour la maintenance de la France en Europe, and we have members, as well as fraternal relations with the monarchist organizations, in most Western European countries.

We work for the strengthening of existing monarchies, the restoration in those countries with a monarchist tradition, and the building up of an infrastructure appropriate to the instuaration of monarchy in those countries without a living monarchist tradition.

deja-vu.aiss.uiuc.edu JohnSwitzer's Rush Limbaugh summaries archived

9nov89-l@DBOTUI11.BITNET (not seen by me)
send SUB 9NOV89-L your_real_name to LISTSERV%DBOTU11.BITNET@VM1.NODAK.EDU

aforum@moose.uvm.edu - "arm the spirit" - ?anarchy/antiauthoritarians? - archived at ftp.css.itd.umich.edu - unseen

anarchy-l@cwi.nl **
anarchy; most subscribers are american

nic.funet.fi / ftp.funet.fi
/pub/doc/coup/val-l/ussr.22 from valentine smith's famous mailing list, notes on the '91 coup in the xussr

cardell@lysator.liu.se - in charge of subscription requests for practical @narchy online, which he coproduces with cmunson@macc.wisc.edu

grind.isca.uiowa.edu (128.255.19.233)
you can telnet to this ftp site, login iscabbs - file descriptions appear whenever you list the directory contents.
/info/jfk JFK conspiracy files, alt.conspiracy.jfk archives

kurt@eskimo.celestial.com
will send a copy of Bob Black's excellent noncopyright essay "The Abolition of Work" on request - also available via ftp from red.css.itd.umich.edu (see ftp listings)

libernet-request@dartmouth.edu - libertarianism/objectivism i guess
libernet
Contact: libernet-request@dartmouth.edu (Barry S. Fagin)

Purpose: Libernet is a Libertarian mailing list. The list is available in two modes: as a mail reflector and as a digest.

MASONIC list - contact ptrei@bistromath.mitre.org
Masonic Digest
Contact: ptrei@mitre.org (Peter Trei)

Purpose: The Masonic Digest is a moderated forum for discussion of Free Masonry, affiliated groups, and other fraternal orders. As moderator, I do not pass on ay message which contains or purports to contain material I am obliged to conceal, or which I believe members of other orders are obliged to conceal. Within that restriction, I am as liberal as possible. Postings from non-Masons are welcome. So is criticism, as long as it is reasoned and in good taste.

NativeNet
Contact: gst@gnosys.svle.ma.us (Gary S. Trujillo)

Purpose: To provide information about and to discuss issues relating to indigenous people around the world, and current threats to their cultures and habitats (e.g. rainforests).

objectivism-request@vixie.sf.ca.us **
objectivism discussion list - seems to be fairly low traffic - to access the archives mail objectivism-lissterv@vix.com with the single-line msg 'help'

[ftp] slopoke.mlb.semi.harris.com /pub/incoming/ronell
Transcript of an interview with radical feminist Avital Ronell, from Re/SEARCH
#13, "Angry Women". Fascinating ideas. May not last long at slopoke as it is a
copyright violation.

solan@math.uio.no - Max Stirner / radical individualism email digest
has "The Ego and His Own" on file

world.std.com
/obi/Rants Online Book Initiative eg the whole Principia Discordia, or
66.questions, your basic introduction to Holocaust Revisionism

red.css.itd.umich.edu (141.211.182.91) /
ftp.css.itd.umich.edu (141.211.182.6) /poli/*
This site contains, among other things:
Arm The Spirit (Autonome Forum) - The Disability Rag - Encyclopedia of Associations - Future Culture FAQ - INAC (US Sinn Fein documents) - Maoist Internationalist Movement - NativeNet Archives - Organized Thoughts - P_News Practical Anarchy - Scream Baby - Workers World - many essays by individual contributors

Comments from pauls@umich.edu who runs the site:
"...red.css.itd.umich.edu has a world-writable incoming directory for submissions, whereas the other site does not. Submissions may still be sent via email to pauls@umich.edu, although handling will be delayed relative to items uploaded via ftp.
"If you are an individual wishing to submit essays, you are guaranteed archival space (within reasonable space limits) for all politically-related non-copyrighted materials that you submit. If you represent an organization seeking ftp site space, please send me a message to arrange archival access.
"Furthermore, we now have a working mirror site of the Computer Underground Digest archives from the Electronic Frontier Foundation. Save EFF some bandwidth and visit our site! The CuD archives are _only_ on the red.css.itd.umich.edu site, and _not_ not the ftp.css.itd.umich.edu site.
"Please email all queries to pauls@umich.edu

"If you wish to submit items to the CuD archives, please contact their archivist at cudarch@eff.org"

*** ZINE REVIEWS ***

Some last-minute additions: pdm@ucrmath.ucr.edu maintains an "Electronic/Industrial/Etc zines list" (note, those are snail-mail zies) which has just been posted to alt.zines, alt.industrial and rec.music.industrial; and spingo@panix.com wants you to send him your ezine, I think for his BBS.

ftp.msen.com
/pub/newsletters/F5-E/* Factsheet Five Electric - zine reviews

au462@cleveland.freenet.edu
home of luigi - bob drake - editor/assembler of taproot, "a quarterly publication of independent, underground, and experimental language-centred arts..." who have put out over 40 collections of such - now taproot is experimentally going online with a collection of zine reviews. i have seen issue #0, part 1, which contains those reviews; i am not a zine person myself (i have my hands full with what i'm getting over the net!!) but some of the stuff reviewed looked really interesting. there's also reviews of poetry chapbooks (?) (unseen) and future issues will include mailart sections. [speaking of which, is there such a thing as internet mailart yet?] send a request and luigi-bob will mail you with whatever he has. worth getting. and say you liked it if you did (same applies to all these people); feedback is essential at this stage of development.

*** CYBERPUNK AND THE "NEW EDGE" ***

ftp.eff.org /pub/journals/ScreamBaby scream-baby.xxx92 {sep, oct, nov}
cs.dal.ca (129.173.4.5) /pub allegedly big cyberpunk archives can';t see em

bladex@wixer.cactus.org
home of scream baby ezine - archived at red.css.itd.umich.edu - very good but only three e-issues thus far [there's a paper zine I haven't seen]

ccappuc@caticsuf.csufresno.edu "CuD ripoff with different info" - CPSR press releases - Usenet reader respnses - sned message with body "Please add my E-mail address t the maling list" specify maximum number of bytes or lines you
can take

dfp-request@underg.ucf.org - digital free press, archived at EFF ftp.eff.org]

fluxu8@well.sf.ca.us, rderek@world.std.com - E-address of an unseen snailzine self-described as `Mondo devod of gloss' [mondo incidentally is mondo2k@well.sf.ca.us]

future-request@nyx.cs.du.edu **
andy hawks' famous FutureCulture list
the FAQ is a fantastic document - available via ftp from umich.edu

jagwire@wixer.cactus.org - will be running [probably *is* running, by the time
you see this] the AUtopia mailing list. FutureCulture subscribers will know

about AUtopia - the proposal for a technocolony/TAZ at sea, perhaps like the ?Grenadians in "Islands in the Net"
autoia-rquest@wixer.cactus.rg

leri-l@iscsvax.uni.edu **
leary - mckenna - the singularity. the electronic commune. thousands of lines of text everyday; guaranteed to crash lesser mailers.
>>>>>>>MVING SOON - contact moore7004@iscsvax.uni.edu for the new address

mind-l-request@asylum.sf.ca.us
mind machines - inquire and they'll send you a useful info list

[ftp] quartz.rutgers.edu /pub/subgenius/transhuman.Z
What this is doing in the subgenius directory I don't know - transcript of the
chapter from "Are You a Transhuman?" by FM2030 [formerly FM Esfandiary] in which he outlines the ideology he tentatively designates "Up-Wing" - pro-physical immortality, pro-space colonization, "telespheres", teledemocracy, "networks of intimacy" etc etc. also available via anon ftp from slopoke, /pub/incoming/upwinger. These ideas have a lot in common with Extropian ideas (see elsewhere) except that FM's slant is more collectivist in
its orientation I think.

request@fennec.sccsi.com - Worldview / Weltanschauung - weirdness, future tech, subgenius stuff - read about this in the future-culture FAQ (see mailing lists) but i have been unable to reach them - anyhow it is archived at ftp.eff.org, /pub/cud/wview

*** MISCELLANEOUS ZINES ***

sokay@mitre.org - home of 'Armadillo Culture", which also gets posted to usenet it seems - "being the excremeditation of a hyperactive armadillo's activities, opinions, and other stuff..." - still haven't *read* the damn thing

tibbetts@hsi.hsi.com - home of the Unplastic News, also archived by EFF Unplastic No 5 has just come out.

InterText
    Contact: intertxt@network.ucsd.edu (Jason Snell)

    Purpose: InterText is a bi-monthly fiction magazine with over 1000 subscribers worldwide. InterText publishes in two formats: straight ASCII and PostScript (for Postscript compatible laser printers). For more information, to ask about subscribing, or for submission guidelines, maili intertxt@network.ucsd.edu. Back issues may be FTPed from network.ucsd.edu, in the /intertext directory.

export.acs.cmu.edu /pub/quanta Quanta e-zine

network.ucsd.edu
        InterText   network.ucsd.edu:/intertext
        Athene   network.ucsd.edu:/intertext/Athene

*** TASTELESS AND DISGUSTING THINGS ***

bediger@nyx.cs.du.edu
KAKA SUTRA - Tasteless Sex Acts (from alt.tasteless FAQ)

case@diku.dk
  "Paul Spinrad (pspinrad@ads.com) once wrote a 'Bodily Functions Survey' with questions covering nasal hygiene, vomiting, urination, defecation and flatus expulsion. Send email with the header 'cancer cunt puke, I hate you I hate you!' to case@diku.dk." (from the alt.tasteless FAQ)
  - according to the FAQ case can also send you "Recycled Jokes Files" (necrophilia jokes, vomit synonyms, etc), various classic alt.tasteless stories (the gerbil-and-meat grinder story, Scrotum Self Repair), and the alt.tasteless theme song.

weird-l@brownvm.brown.edu
contact listserv@brownvm.brown.edu - sub l your_name

*** COPYRIGHT VIOLATIONS ***

coppinge8817@iscsvax.uni.edu
has copies of Monty Python scripts HOLY GRAIL, LIFE OF BRIAN, MEANING OF LIFE apparently lots of people on alt.fan.monty-python have these but like to withhold them from newbies. or some such. anyhow, i have an appeal for information: i'd like to keep a list of all copyright violations available on the net - transcribed texts that is. if you have any, or know where they can be found, contact me!

*** MU*S ***

MUD
    Contact: jwisdom@gnu.ai.mit.edu (Joseph Wisdom)

    Purpose: If you are new in the MUD world, or are simply looking for new places to get into, try subscribing to Internet Games MUD-List today! Make sure to include the string "mud list" in the subject header.

tinymuck-sloggers
    Contact: tinymuck-sloggers-request@piggy.ucsb.edu (Robert Earl)

    Purpose: Forum for programmers, wizards, and users of the extensible, programmable TinyMUD derivative known as TinyMUCK (current version: 2.2).

tinymush-programmers
    Contact: tinymush-programmers-request@cygnus.com

    Purpose: Discussion devoted to the programming language integral to the TinyMUSH subfamily of mud servers. (See the rec.games.mud FAQ for more general information about muds).

DragonMUD 134.114.64.6 4201

Trippy MUSH - 128.153.16.13 7567 - not a mud/mush/muck/moo fan myself

but this might be the one that gets me addicted. [well, not, as it turned out]
this is a really interesting place! others that have been recommended to me but which i have not seen are Cyberion City (michael.ai.mit.edu, dont know port
number) and Global MUSH (lancelot.cif.rochester.edu 4201). read rec.games.mud if you're interested in this sort of thing

mudlist@glia.biostr.washington.edu
list of working MUDs - updated every Friday

*** IRC ***

I know very little about IRC, but through the FutureCulture mailing list [see "CYBERPUNK AND THE NEW EDGE"] I have learned of channels #future, #drugs [featuring a LearyBot] #CyberPunk featuring a CyberBot.
bbs chatsubo.nersc.gov has a global IRC server [login bbs, then new to crate account]

*** ROLE-PLAYING GAMES ***

Cthulu [sic]
    Contact: cthulhu-request@cs.qmw.ac.uk

    Purpose: A mailing list for discussion about *the* horror frp. CoC.

cyberpunkRPG
    Contact: cyberrpg-request@veritas.com

    Purpose: The cyberpunk mailing list is primarly for the
    discussion of cyberpunk role-playing games. The discussion is not
    limited to any game system. Subjects of a peripheral nature are
    welcome as long as they don't get out of hand. There is one
    rule on this mailing list: the moderator gets to add new rules at
    will.

flashlife
    Contact: flashlife-request@netcom.com (Carl Rigney)

    A mailing list for GMs of Shadowrun and other cyberpunk
    roleplaying games to discuss rules, scenarios, ask questions,
    make up answers, and similar fasfax.

*** CULT CLASSICS ***

adolph-a-carrot-request@andrew.cmu.edu (not seen by me)
severed heads and other bands on the ralph label - there are a zillion mailing lists devoted to various groups, i'm not gonna list em all, i just like the name of this one - another fun name is jump-in-the-river-request @PRESTO.IG.COM (sinead o'connor) (as always, not seen by me)

audrey.levels.unisa.edu.au (130.220.16.88)
/pub/twin-peaks.timeline.Z - 5000 lines of blow-by-blow description

Black Adder quotes - yshah@lucpulit.luc.edu - alt.comedy.british

-Dante Project telnet library.dartmouth.edu or 129.170.16.11
offers: Divine Comedy and reviews. (Login: connect dante)

dark-shadows
Contact: shadows-request@sunee.waterloo.edu (Bernie Roehl)

Purpose: Dark Shadows was a daily soap opera that ran on ABC in the late sixties (ending in 1971). It had a Gothic feel to it, and featured storylines involving witchcraft, vampires, werewolves and the supernatural. It was (appropriately enough) "brought back from the dead" by NBC for a single season last year. It also spawned two feature films, a series of paperback novels, and lots more; the series is celebrating its 25th anniversary this year. There are a number of international fan clubs for the series, but so far there has been no newsgroup or (electronic) mailling list devoted to it. Now there is.

douglas adams, galactic guide [alt.douglas-ad faq]

jarre-request@cs.uwp.edu / cs341a002@husky1.stmarys.ca ???

FWAKE-L contact mokelly%IRLEARN.BITNET@cunyvm.cuny.edu

PYNCHON - contact userdog1@cc.sfu.ca - userdog1 DOES NOT EXIST

sf-lovers-request@rutgers.edu (not seen by me)
elbereth.rutgers.edu SF lovers archive

voynich-request@rand.org - for serious discussion of the mysterious Voynich MS (also see below un FTP section)

ccu.umanitoba.edu /pub/simcity/simcheat.zip - speaks for itself

glia.biostr.washington.edu /pub/queensryche lyrics etc

"FIDO 1:124/4229" lot of files relating to filk, SCA,
"Black Book of Locksley" etc

*** POPULAR (AND NOT-SO-POPULAR) MUSIC ***
place to mention the punklist,mwilkenf,skinny puppy
Thomas.Mueller@mixcom.com - email for Skinny Puppy samples list

punk-list@cs.tut.fi

MAILLIST, BOOTHELP etc via mwilkenf - rare U2 live recording, Bruce hornsby's 1977 senior recital tape, strange pink floyd stuff, lots of dio in one, etc

*** RAVES ***
quote at the beginning - hardcore as metallica on e
(mostly from alt.rave FAQ - none seen by me)

sfraves-request@soda.berkeley.edu (San Francisco, Bay Area)
- ftp archives at soda.berkeley.edu /pub/sfraves
socal-raves-request@uscd.edu (Southern California)
ne-raves-request@silver.lcs.mit.edu (North/Eastern U.S.)

Minnesota rave list - mail ivan@staff.tc.umn.edu for details
UMD-centric list - mail cyberpun@wam.umd.edu

SFRaves
    Contact: sfraves-request@soda.berkeley.edu (Brian Behlendorf)

    Purpose: SFRaves is about the "rave" club scene in San Francisco.
    Even though it's locally focused, people from all over the world
    are on SFRaves. It is an unmoderated list.

NERaves
    Contact: ne-raves-request@silver.lcs.mit.edu (John Adams)

    Purpose: The NERaves list was started as a North Eastern United
    States/Canada equivalent of SFRaves. The list provides a forum
    for people to discuss the "rave" music/club/dance scene. For the
    purposes of the list, "North Eastern" is loosely defined as from
    Chicago --> East and from Washington DC --> North, including
    Ontario, Quebec, and the Mritime Provinces. People from outside
    this area are welcome, too! NERaves is an unmoderated list.

NetJam
    Contact: netjam-request@xcf.berkeley.edu) Craig Latta

    Purpose: NetJam provides a means for people to collaborate on musical
    compositions, by sending Musical Instrument Digital Interface (MIDI)
    and other files (such as MAX patchers and notated scores) to each
    other, mucking about with them, and resending them. All those with
    MIDI-compatible (and other interesting) equipment, access to emailing
    and compression facilities and to the Internet and who are interested
    in making music are encouraged to participate.
    Please email netjam-request@xcf.berkeley.edu with the subject line
    "request for info".

bpm-request@andrew.cmu.edu - DJing mixing music etc

soda.berkeley.edu /pub/sfraves/chemistry/probchild.Z
ftp.eff.org /pub/journals/ScreamBaby scream-baby.xxx92 {sep, oct, nov}
flubber.cs.umd.edu /other/tms/drug-politics
cs.dal.ca (129.173.4.5) /pub allegedly big cyberpunk archives can';t see em
cs.uwp.edu /pub/music/pictures/alt.rave -> mjbrown@magnus.acs.ohio-state.edu
  alt.raver photos - nothing there yet

cs.uwp.edu /pub/music/pictures/alt.rave -> mjbrown@magnus.acs.ohio-state.edu
  alt.raver photos - nothing there yet

purity tests, internet hunt [records / comments?]
usenet penpals news.ans

 -Fileserver via Email mail smiley@uiuc.edu
   In body-of-message: Filesend: help and on a separate line: Filesend:
list

*** MISCELLANEOUS, AND UNFINISHED BUSINESS ***

finger tinker@physics.arizona.edu "and die" [from his .sig]

cs.uwp.edu /pub/misc/lyrics

support talk.psychedelic

turing.org ???

hhc@athena.mit.edu
for The Complete list of dxphobic dxsayings (for the calculus-fearing)

nancy@genie.slhs.udel.edu
email version of Calligraphic Button Catalogue - apparently you can get buttons bearing witty slogans on just about any damn topic - BEWARE! full file well over 1000 lines of text

PURTOPOI list - contact ucc@mace.cc.purdue.edu
fast@garnet.berkeley.edu - SUB LEN

isae@iastate.edu - wants to tell you about 'netrek' - realtime network game

urbanites-request@psyche.mit.edu - send urbanites-request in subject line
urban survival (not seen by me)

vampyre listserv@guvm.georgetown.edu

andy.bgsu.edu Unix Vote by Mail - not seen [can't reach it]

ccu.umanitoba.edu /pub/simcity/simcheat.zip - speaks for itself

penguin.gatech.edu /pub/leri the leri-l archives, all sorts of
  interesting original work, topical essays etc
next door is /pub/movies, in which some sort of movie rating scheme is underway

wuarchive.wustl.edu
/doc/minsky/option.chapters chapters left out of "The Turing Option"
  (Marvin Minsky and Harry Harrison, 192)

bbrigade@world.std.com - "anarchist stuff" - quote
langserv@hebrew.cc.columbia.edu no subject - help

nic.ddn.mil renwick-hippilan-0.2txt
china92.txt

theory.lcs.mit.edu /pub/papers/Plotkin [COMPUTATIONAL THERY -UNSEEN]

*** SOME FILES RECENTLY UPOADED TO FTP SITES ***

Along with High Weirdess by Email I have recently upoaded the followig files to the slopoke ftp site, directory /pub/incoming. They may have been moved or deleted by the time you read this, but use archie to see if there are copies left anywhere else.

ronell Transcript of an interview with radical feminist
        Avital Ronell.

upwinger Exposition of the "Up-Wing" ideology by futurist
          FM-2030 aka FM Esfandiary.

bush.con Chapter from Jonathan Vankin's 1991 book on
          conspiracies, all about George Bush.

schismat Tom Maddox writing about Bruce Sterling's novel
          "Schismatrix".

prescrip "The Prescriptures" (from "The Book of the SubGenius")

stclair "Doug St Clair" (=Ivan Stang) reviewing "Three-Fisted
         Tales of `Bob'" in MONDO 2000

poison "Poison for the Heart" by Kevin Solway. Unlike the
        above texts, which are copyright and have been reproduced
        without permission, this work of philosophy is explicitly
        anticopyright.

Version 2.0 of the Scriptures of the Church of Virtuality/Reality
---

scripture.000 prefatory material
scripture.001 introduction to the basics of v\r
scripture.002 miscellaneous ideas and short pieces
scripture.003 general theme: the net
scripture.004 general theme: altered states of consciousness
scripture.005 Qix sees the world; "Diary of a Net Fiend"
scripture.006 countdown to AO v1.0; early CafeNet material from Pippin
scripture.007 transcription of insomniac tape by Qix, and Usenet stuff

as well as

evasion The complete text of Celia Green's remarkable short book
           "The Human Evasion"
letters "Letters Between Enemies", over a years' worth of
           philosophical correspondence
wit4wis "Wit For Wisdom", compiled by Kevin Solway
drs4bob Some words from "Doctors for `Bob'"

Stuff on the "Committee of 300" alleged to run the world

300a Part I of "The Conspirators' Hierarchy"
300b Part II of "The Conspirators' Hierarchy"
300gif Diagram of the links in the Conspiracy

waves Stuff from Waves Forest's newsletter "What Now"
thompson Essays and poetry by William Irwin Thompson
mckenna "New Maps of Hyperspace" by Terence McKenna
all24 Draft material for the novel-in-progress "Alpha and Omega"
moravec Hans Moravec answering Roger Penrose
extropia About the Extropian philosophy and mailing list
loopy About quantum gravity, knot theory and other topics

*** SCOTT YANOFF'S LIST ***

Finally I am appending the following list which was emailed to me. It is the work of Scott Yanoff rather than myself, and is a compilation of general resources rather than "weirdness", but I thought it was too good to pass up.

Forwarded message:
>From DURFLING@AC.GRIN.EDU Thu Nov 19 10:02:33 1992
Message-Id: <9211191702.AA00445@nyx.cs.du.edu>
X-Disclaimer: Nyx is a public access Unix system run by the University
of Denver. The University has neither control over nor
responsibility for the opinions or correct identity of users.
Date: Thu, 19 Nov 92 9:25:47 cdt
From: "Finagle, etc. (Durflinger,Edward M)" <DURFLING@AC.GRIN.EDU>
To: MPORTER@nyx.cs.du.edu

* SPECIAL INTERNET CONNECTIONS: Last Update: 11/3/92 *
* Compiled By: Scott Yanoff - yanoff@csd4.csd.uwm.edu *
* A + by an entry designates new entries/changes to the list since last update *

-Agricultural Info. telnet psupen.psu.edu or telnet 128.118.36.5
PENpages (Login: PNOTPA)
telnet caticsuf.csufresno.edu or telnet 129.8.100.15
CSU Freso ATI-NET (Login: super)
telnet eureka.clemson.edu or telnet 130.127.8.3
CUFAN (Clemson U Forestry & Ag. Net.) (Login: PUBLIC)
ftp ftp.sura.net (get file pub/nic/agricultural.list,
it contains agricultural email lists & services.)
+mail almanac@oes.orst.edu
body-of-message: send guide also: send mail-catalog

offers: Agricultural info (livestock reports, current market prices, etc.)

-Am. Philos. Assoc. telnet atl.calstate.edu or telnet 130.150.102.33
offers: BBS for APA. (Login: apa)

-Archie telnet archie.mcgill.ca or 132.206.2.3 (Canada)
telnet archie.funet.fi or 128.214.6.100 (Finland/Eur.)
telnet archie.au or 139.130.4.6 (Aussie/NZ)
telnet archie.cs.huji.ac.il or 132.65.6.5 (Israel)
telnet archie.doc.ic.ac.uk or 146.169.11.3 (UK/Ireland)
telnet archie.sura.net or 128.167.254.179 (USA [MD])
telnet archie.unl.edu or 129.93.1.14 (USA [NE])

telnet archie.ans.net or 147.225.1.2 (USA [NY])
telnet archie.rutgers.edu or 128.6.18.15 (USA [NJ])
+telnet archie.kuis.kyoto-u.ac.jp or 130.54.20.1 (JAPAN)
+telnet archie.nz or 130.195.9.4 (New Zealand)
offers: Searches all ftp sites for any program you want. (Login: archie)

-Archie Mail Servers mail archie@<INSERT ONE OF ABOVE ADDRESSES HERE>
Subject: help Offers: alterative Archie access to those w/o ftp or telnet.

-Auroral Activity finger aurora@xi.uleth.ca or finger aurora@142.66.3.29
offers: Auroral activity warnings/watches/sightings, updated hourly.

-Baseball Scores finger jtchern@ocf.berkeley.edu for scores/standings OR
mail jtchern@ocf.berkeley.edu w/Subject: MLB
offers: The latter will subscribe you to receive Major League scores daily!

-Backgammon Servers telnet 134.130.130.46 4321
telnet solana.mps.ohio-state.edu 3200 or 128.146.37.78
offers: Play Backgammon! (Login: guest)

-Billboard Charts finger buckmr@aix.rpi.edu
offers: U.S. Top Pop singles for the week.

-CARL telnet pac.carl.org or 192.54.81.128
offers: Online database, book reviews, magazine fax delivery service.

-CHAT telnet debra.dgbt.doc.ca or telnet 142.92.36.15
offers: Interactive AIDS document and simulated conversation (Login: chat)

-Chess Server telnet valkyries.andrew.cmu.edu 5000 or 128.2.232.4 5000
offers: Play/watch real-time chess with human opponents. Type 'help' for help

?C64 Archive Server mail twtick@corral.uwyo.edu
Subject: Mail-Archive-Request Body-of-letter: help (hit return) end

-Dante Project telnet library.dartmouth.edu or 129.170.16.11
offers: Divine Comedy and reviews. (Login: connect dante)

+Diplomacy mail judge@milton.u.washington.edu
offers: Play the SSI game Diplomacy via email. Body-of-letter: help

-DUATS telnet duat.gtefsd.com or telnet 131.131.7.105
telnet duats.gtefsd.com or telnet 131.131.7.106
offers: Aviation weather, flight planning. (Login: <last name>)
The first address is for certified pilots, the second for uncertified.

-Earthquake Info. finger quake@geophys.washington.edu or 128.95.16.50
  offers: Recent quake info (location, time, magnitude, etc.)

-E-Math telnet e-math.ams.com or 130.44.1.100
  offers: Am. Math. Soc. bbs w/ software and reviews. (Login/Password: e-math)

-FaxGate mail FaxGate@elvis.sovusa.com
  offers: Send a Fax via computer. In body-of-message: help

-FDA BBS telnet fdabbs.fda.gov or telnet 150.148.8.48
  offers: FDA bbs (News releases, Aids info, consumer info...) (Login: bbs)

-FEDIX telnet fedix.fie.com or telnet 192.111.228.33
  offers: info. on scholarships, minority assistance, etc. (login: fedix)

-Freenet telnet freenet-in-[a,b,c].cwru.edu or 129.22.8.47
  telnet yfn.ysu.edu or 192.55.234.27 (Login: visitor)
  offers: USA Today Headline News, Sports, etc...

-Fileserver via Email mail smiley@uiuc.edu
  In body-of-message: Filesend: help and on a separate line: Filesend: list

-FTP Mail mail ftpmail@decwrl.dec.com
  Subject:(hit return) Body-of-letter: help (return) quit Offers:ftp via email

-FTP Mail mail bitftp@pucc.princeton.edu
  Body-of-letter: help or ftplist for a list of anon. ftp sites.

-FTP Sites/Archives ftp ocf.berkeley.edu or ftp 128.32.184.254
  offers: Docs, 5 puritytests, the Bible, Dec. of Ind, lyrics..cd /pub/Library
  ftp wuarchive.wustl.edu or rainbow.cse.nau.edu or
  offers: Gif archive, pc software. plaza.aarnet.edu.au or erratic.bradley.edu
  ftp ftp.uu.net
  offers: You name it, it's here!
  ftp archive.umich.edu
  offers: Software for MS-Dos computers, Mac, Amiga, Apple2, Apollo...
  ftp oak.oakland.edu
  offers: A huge software archive for PCs and UNIX.
  ftp ftp.sura.net
  offers: How-to's about internet (how to email, ftp, telnet, etc.) in /pub/nic

-Genetics Bank mail gene-server@bchs.uh.edu
  +mail retrieve@ncbi.nlm.nih.gov
  +mail blast@ncbi.nlm.nih.gov
  Subject: help Offers: genetic database/nucleic acid/protein sequence.

-Geographic Server telnet martini.eecs.umich.edu 3000 or 141.212.99.9 3000
  offers: Info by city or area code (Population, Lat./Long., Elevation, etc).

-Georgetown Med. Lib. telnet mars.georgetown.edu or telnet 141.161.40.4
  (Login: medlib Password: dahlgren Last name: netguest)

-GO Server telnet lacerta.unm.edu 6969 or telnet 129.24.14.70
6969
  telnet icsib18.icsi.Berkeley.EDU 6969
  telnet cnam.cnam.fr 6969 or telnet 192.33.159.6 6969
  offers: Join others and play a game of GO. (Login/Password: go)

-Gopher telnet consultant.micro.umn.edu or telnet
134.84.132.4
  telnet panda.uiowa.edu or telnet 128.255.63.234
  telnet gdunix.gd.chalmers.se or 129.16.221.40
(SWEDISH)
  telnet gopher.uiuc.edu or telnet 128.174.33.160
  telnet gopher.unt.edu or telnet 129.120.1.42
  telnet tolten.puc.cl or telnet 146.155.1.16 (CHILE)
  +telnet wsuaix.csc.wsu.edu (Login: wsuinfo)
  Offers: access to other services, gophers, documents, etc. (Login: gopher)

-Guitar Chords/TAB ftp ftp.nevada.edu or ftp 131.216.1.11
  offers: Tablature/Chords for guitar in /pub/guitar.

-Ham Radio Callbooks telnet callsign.cs.buffalo.edu 2000 or 128.205.32.2
2000
  telnet ham.njit.edu 2000 or telnet 128.235.1.10 2000
  offers: National ham radio call-sign callbook.

-Handicap/Medical Site ftp handicap.shel.isc-br.com or ftp 129.189.4.184
  offers: anonymous ftp of software and medical info.

-HP Calculator BBS telnet hpcvbbs.cv.hp.com or telnet 15.255.72.16
  offers: BBS for HP Calc. users, with chat mode. (Login: new)

+Hpcwire telnet hpcwire.ans.net or telnet 147.225.1.51
  offers: Excellent menu-driven information searches. (Login: hpcwire)

-Hytelnet Server telnet access.usask.ca or telnet 128.233.3.1
  offers: univ. & library catalogues around the world. (Login: hytelnet)

-INFO - Rutgers CWIS telnet info.rutgers.edu or 128.6.26.25
  offers: Dictionary, thesaurus, CIA world fact book, quotations database.

-Info/Software Server telnet rusmv1.rus.uni-stuttgart.de or 129.69.1.12
  offers: journals, unix stuff, etc. login: infoserv or softserv

?Inter-Ntwk Mail Guide telnet 192.134.69.8 1643
  offers: List known networks and connections to/from them, help emailing.

-Internet Resrce Guide ftp nnsc.nsf.net
  offers: compressed/tar'd list of net resources in /resource-
guide.txt.tar.Z

-Iowa Politcl. Stk Mkt telnet ipsm.biz.uiowa.edu or 128.255.44.2
  offers: Buy & sell shares in political candidates. (Non profit research
proj.)

-IP Address Resolver mail resolve@cs.widener.edu
                      mail dns@grasp.insa-lyon.fr (body of letter: help)
  usage: in body-of-letter: site <address here> Mails you IP address of site.

-IRC Telnet Client ?telnet bradenville.andrew.cmu.edu or telnet 128.2.54.2
                      telnet ara.kaist.ac.kr or 143.248.1.53 (Login: irc)
                      telnet ircserver.itc.univie.ac.at 6668
  offers: Internet Relay Chat access, like a CB on the computer.

-ISAAC telnet isaac.engr.washington.edu or 128.95.32.61
  offers: Info. System for Advanced Academic Computing, for IBM users.

-Law Library telnet liberty.uc.wlu.edu or telnet 137.113.10.35
              ftp sulaw.law.su.oz.au (cd /pub/law)
  offers: Law libraries and legal research. (Login: lawlib)
          Offers copies of laws for each state, computer laws, and more!

-Library Catalogs ftp dla.ucop.edu (pub/internet/libcat-guide)
  offers: "Library Catalogs on the Internet: Strategies for Selection and Use" document (how, but not where; also get one of the following).
              ftp ftp.unt.edu (library/libraries.txt)
  offers: "Accessing Bibliographic Databases" document.
              ftp ariel.unm.edu (library/internet.library)
  offers: "Internet-Accessible Catalogs and Databases" document.

-Library of Congress telnet dra.com or 192.65.218.43
  offers: COPY of Library of Congress (Assumes terminal is emulating a vt100).

-List of Lists ftp ftp.nisc.sri.com or ftp 192.33.33.22
                mail mlol-request@wariat.org (music list of lists)
  offers: List of interest groups/email lists in /netinfo/interest-groups.

-Lunar/Planet. Instit. telnet lpi.jsc.nasa.gov or telnet 192.101.147.11
  offers: Resources on Geology, Geophys, Astron., Astrophys. (Login: lpi)

-Lyric/Music Server ftp ftp.uwp.edu
                    ftp ftp.iastate.edu (/pub/lyrics)
  offers: Lyrics, chords/tablature, and music pictures. (/pub/music/...)

-Mac Software Archive ftp sumex-aim.stanford.edu
  offers: Ftp'able software for the Macintosh computers. (cd to /info-mac)

-Mail Srver/Usr Lookup mail mail-server@pit-manager.mit.edu
  in body of mail message: send usenet-addresses/[name searching for]

-MOLIS telnet fedix.fie.com or telnet 192.111.228.33
  offers: Minority Online Information Service. (Login: molis)

-Music Newsletter mail listserv@vm.marist.edu (internet) or
                   mail listserv@marist (bitnet)
  Body-of-letter: SUBSCRIBE UPNEWS <your full name> Offers: Reviews, intviews.

-NASA Headline News finger nasanews@space.mit.edu
  offers: Daily press releases from NASA.

-NASA SpaceLink telnet spacelink.msfc.nasa.gov or 192.149.89.61
  offers: Latest NASA news, including shuttle launches and satellite updates.

-Nat'l Education BBS telnet nebbs.nersc.gov or telnet 128.55.160.162
  offers: Education BBS (Login: guest)

-NED telnet ned.ipac.caltech.edu or telnet 134.4.10.118
  offers: NASA Extragalactic Database. (Login: ned)

-Netfind User Lookup rlogin/telnet bruno.cs.colorado.edu or 128.138.243.151
  offers: Given a name and org./school, finds a user for you (login: netfind)

-NetLib mail netlib@ornl.gov
  mail netlib@uunet.uu.net
  Subject:(hit return) Body-of-letter: send index Offers: Software thru email

-News Mail Servers mail [newsgroup]@cs.utexas.edu
  offers: Post to Usenet news via email. (eg. [newsgroup] = alt-bbs)

-NICOL telnet nisc.jvnc.net or telnet 128.121.50.7
  offers: Access to internet resources, Elec. Publishing Service (Login: nicol)

-NICOLAS telnet dftnic.gsfc.nasa.gov or telnet 128.183.10.3
  offers: Network Info. Center On-Line Aid System (Login: dftnic)

-NNTP News Servers telnet sol.ctr.columbia.edu 119 or 128.59.64.40 119
  telnet rusmv1.rus.uni-stuttgart.de 119 or 129.69.1.12
  telnet news.fu-berlin.de 119 or 130.133.4.250 119
  offers: Telnetable access to post to the Usenet news.

+NOAA telnet nodc.nodc.noaa.gov or telnet 140.90.235.10
  offers: Nat'l Oceanic and Atmos. Admin. Lots of data! (Login: NOAADIR)

-NODIS telnet nssdc.gsfc.nasa.gov or telnet 128.183.36.25
  telnet nssdca.gsfc.nasa.gov or telnet 128.183.36.23
  offers: Menu-driven access to Nat'l Space Science Data Center (Login: nodis)

-Nuclear Data Center telnet bnlnd2.dne.bnl.gov or telnet 130.199.112.132
  offers: National nuclear data. (Login: nndc)

-Oceanic Info. Center telnet delocn.udel.edu or telnet 128.175.24.1
  (Login: info)

-Oracle mail oracle@iuvax.cs.indiana.edu w/ subject: help
  offers: The Usenet Oracle answers all your questions!

-OSS-IS ftp soaf1.ssa.gov
  mail info@soaf1.ssa.gov with "send index" as your

msg.
  offers: Many FAQ's, ftp lists, library and service lists, gov't documents.

 -PaperGate   mail PaperGate@elvis.sovusa.com
    offers: Send a letter via computer. In body-of-message: help

 -Public-Access Unix   telnet nyx.cs.du.edu or 130.253.192.68
   offers: Free account, with access to various UNIX features. (login: new)

 -Public-Access Unix   telnet hermes.merit.edu or telnet 35.1.48.150
                        telnet m-net.ann-arbor.mi.us or telnet 35.208.17.4
   (Which host: um-m-net Enter 'g' for guest. login: newuser)

 -Public-Access Unix   telnet digex.com or 192.55.213.2
   offers: full internet services, anonymous accounts, privacy orientation.

 -Readers Guide   telnet lib.uwstout.edu or telnet 144.13.12.1
   offers: Readers Guide to periodical literature, online.

 -Recipe Archives   ftp gatekeeper.dec.com (cd pub/recipes)
                        ftp mthvax.cs.miami.edu (cd /recipes)
   offers: Anonymous ftp site for MANY food recipes.

 -SDDAS   telnet espsun.space.swri.edu 540 or 129.162.150.99
540
   offers: SW Research Data Display & Analysis Center.

 -SERVICES   telnet wugate.wustl.edu or 128.252.120.1
   offers: Access to nearly every listed service! (Login: services)

 -Sid's Music Server   mail mwilkenf@silver.ucs.indiana.edu
   Subject: BOOTHELP Offers: Lists of rare live recordings, cd's for sale.

 -Software Server (ASK) telnet askhp.ask.uni-karlsruhe.de or 192.67.194.33
   offers: On-line software search. (Login/password: ask)

 -Spacemet   telnet spacemet.phast.umass.edu or 128.119.50.48
   offers: Science/space bbs.

 -SPAN   telnet nssdca.gsfc.nasa.gov or telnet 128.183.36.23
   offers: Space Physics Analysis Network (Login: SPAN_NIC)

 ?SPIES BBS   telnet goonsquad.spies.com telnet 130.43.9.3
   offers: Readnews, IRC, many other features. (Login: bbs)

 -StatLib Server   mail statlib@lib.stat.cmu.edu
   Mail with line: send index. Offers: Prgms, Datasets, etc. for
statisticians.

 -STIS   telnet stis.nsf.gov or 128.150.195.40
   offers: Science & Technology Information System. (Login: public)

 -Stock Market Report   telnet a2i.rahul.net or telnet 192.160.13.1
   offers: Public access unix for a fee, market report is free! (Login:
guest)

 -Supreme Court Rulings ftp ftp.cwru.edu

offers: ASCII files of Supreme Court rulings in directory /hermes

-Tropicl Strm Forecast finger forecast@typhoon.atmos.colostate.edu
offers: Seasonal forecast for Atl. Ocn. Also: finger forecast@129.82.107.24

-UMD Info Database telnet info.umd.edu or telnet 128.8.10.29
offers: Info. docs on many subjects, incl. Supr. Crt Decisions (Login: info)

-UNC BBS telnet bbs.oit.unc.edu or telnet 152.2.22.80
offers: Access to Library of Congress and nationwide libraries (Login: bbs)

-WAIStation telnet quake.think.com or telnet 192.31.181.1
telnet nnsc.nsf.net or telnet 128.89.1.178
telnet wais.funet.fi or telnet 128.214.6.100
offers: Wide Area Info. Service. (Login: wais) FTP think.com for more info.

-Weather Service telnet downwind.sprl.umich.edu 3000 or 141.212.196.177
offers: City/State forecasts, ski conditions, earthquake reports, etc.

-Weather Maps ftp vmd.cso.uiuc.edu
offers: Surface analysis & current infrared weather maps GIFs. (cd wx)

-Webster telnet moose.cs.indiana.edu 2627 or 129.79.254.191 2627
offers: Dictionary/Spelling service. Type "HELP" for info. (ALL CAPS!)

-Whois Service List ftp sipb.mit.edu (pub/whois/whois-servers.list)
offers: List of "whois" servers.

-Whois Service telnet nic.ddn.mil or telnet 192.112.36.5
offers: Way to find internet address given a keyword. To access type: whois

-World-Wide Web telnet info.cern.ch or telnet 128.141.201.74 (SWISS)
telnet eies2.njit.edu or telnet 128.235.1.43 (USA [NJ])
telnet vms.huji.ac.il or telnet 128.139.4.3 (ISRAEL)
telnet info.funet.fi or telnet 128.214.6.100 (FINLAND)
offers: Access to various documents, lists, and services. (Login: www)

-ZIB Electronic Libr. telnet elib.zib-berlin.de or telnet 130.73.108.11
offers: Library of software, links to other libraries. (Login: elib)

* NOTE: NO LOGIN NAMES OR PASSWORDS ARE REQUIRED UNLESS STATED OTHERWISE! *
NOTE: FOR FTP SITES, LOGIN AS ANONYMOUS, PASSWORD IS YOUR EMAIL ADDRESS.
* (C) 1992. No changes are to be made to this document without the author's written consent. Reproduction/distribution without my permission IS allowable so long as this document is left fully intact.

Here's a list of info you probably already have...but I know the address for PostNews by mail is in here. You can also post news on Launchpad,

UNC-Chapel-Hill's great BBS, if you mail in a form for a *free* account
(you can join via telnet, but then you only get readmail priv's)

Oh, and if you have an interesting tidbits update list...please add me.

SLACK,
the Rev. Finagle

Name: E.M. Durflinger
Handles: Finagle, Stygmata
Email: durfling@grin1.bitnet
durfling@ac.grin.edu
durfling@euler.math.grin.edu
wrnc97b (*prodigy*)
Bear code: B4/7 f+ w dc g+ k++! s(+) r- p
Phone: +1-515-236-8496
USnail Mail:
834 Park Street
Grinnell, IA 50112

Finagle's Law:
The perversity of the univers
tends towards a maximum.

"Don't just eat that hamburger--
eat the HELL out of it!"
--J.R. "Bob" Dobbs

+++I am a .sig virus! Copy me
into your .sig file and aid
in my propagation!!!+++++++

"If I can't dance, I don't want to be part of your revolution"-Emma Goldman

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The Hitchhikers Guide to the Internet

Status of this Memo

This RFC is being distributed to members of the Internet community in order to make available some "hints" which will allow new network participants to understand how the direction of the Internet is set, how to acquire online information and how to be a good Internet neighbor. While the information discussed may not be relevant to the research problems of the Internet, it may be interesting to a number of researchers and implementors. No standards are defined or specified in this memo. Distribution of this memo is unlimited.

NOTICE:

The hitchhikers guide to the Internet is a very unevenly edited memo and contains many passages which simply seemed to its editors like a good idea at the time. It is an indispensable companion to all those who are keen to make sense of life in an infinitely complex and confusing Internet, for although it cannot hope to be useful or informative on all matters, it does make the reassuring claim that where it is inaccurate, it is at least definitively inaccurate. In cases of major discrepancy it is always reality that's got it wrong. And remember, DON'T PANIC. (Apologies to Douglas Adams.)

Purpose and Audience

This document assumes that one is familiar with the workings of a non-connected simple IP network (e.g., a few 4.3 BSD systems on an Ethernet not connected to anywhere else). Appendix A contains remedial information to get one to this point. Its purpose is to get that person, familiar with a simple net, versed in the "oral tradition" of the Internet to the point that that net can be connected to the Internet with little danger to either. It is not a tutorial, it consists of pointers to other places, literature, and hints which are not normally documented. Since the Internet is a dynamic environment, changes to this document will be made regularly.
f The author welcomes comments and suggestions. This is especially true of terms for the glossary (definitions are not necessary).

What is the Internet?

In the beginning there was the ARPANET, a wide area experimental

network connecting hosts and terminal servers together. Procedures were set up to regulate the allocation of addresses and to create voluntary standards for the network. As local area networks became more pervasive, many hosts became gateways to local networks. A network layer to allow the interoperation of these networks was developed and called Internet Protocol (IP). Over time other groups created long haul IP based networks (NASA, NSF, states...). These nets, too, interoperate because of IP. The collection of all of these interoperating networks is the Internet.

A few groups provide much of the information services on the Internet. Information Sciences Institute (ISI) does much of the standardization and allocation work of the Internet acting as the Internet Assigned Numbers Authority (IANA). SRI International provides the principal information services for the Internet by operating the Network Information Center (NIC). In fact, after you are connected to the Internet most of the information in this document can be retrieved from the SRI-NIC. Bolt Beranek and Newman (BBN) provides information services for CSNET (the CIC) and NSFNET (the NNSC), and Merit provides information services for NSFNET (the NIS).

Operating the Internet

Each network, be it the ARPANET, NSFNET or a regional network, has its own operations center. The ARPANET is run by BBN, Inc. under contract from DCA (on behalf of DARPA). Their facility is called the Network Operations Center or NOC. Merit, Inc. operates NSFNET from yet another and completely seperate NOC. It goes on to the regionals having similar facilities to monitor and keep watch over the goings on of their portion of the Internet. In addition, they all should have some knowledge of what is happening to the Internet in total. If a problem comes up, it is suggested that a campus network liaison should contact the network operator to which he is directly connected. That is, if you are connected to a regional network (which is gatewayed to the NSFNET, which is connected to the ARPANET...) and have a problem, you should contact your regional network operations center.

RFCs

The internal workings of the Internet are defined by a set of documents called RFCs (Request for Comments). The general process for creating an RFC is for someone wanting something formalized to write a document describing the issue and mailing it to Jon Postel

(Postel@ISI.EDU). He acts as a referee for the proposal. It is then commented upon by all those wishing to take part in the discussion (electronically of course). It may go through multiple revisions.

Should it be generally accepted as a good idea, it will be assigned a number and filed with the RFCs.

There are two independent categorizations of protocols. The first is the state of standardization which is one of "standard", "draft standard", "proposed", "experimental", or "historic". The second is the status of this protocol which is one of "required", "recommended", "elective", or "not recommended". One could expect a particular protocol to move along the scale of status from elective to required at the same time as it moves along the scale of standardization from proposed to standard.

A Required Standard protocol (e.g., RFC-791, The Internet Protocol) must be implemented on any host connected to the Internet. Recommended Standard protocols are generally implemented by network hosts. Lack of them does not preclude access to the Internet, but may impact its usability. RFC-793 (Transmission Control Protocol) is a Recommended Standard protocol. Elective Proposed protocols were discussed and agreed to, but their application has never come into wide use. This may be due to the lack of wide need for the specific application (RFC-937, The Post Office Protocol) or that, although technically superior, ran against other pervasive approaches. It is suggested that should the facility be required by a particular site, an implementation be done in accordance with the RFC. This insures that, should the idea be one whose time has come, the implementation will be in accordance with some standard and will be generally usable.

Informational RFCs contain factual information about the Internet and its operation (RFC-1010, Assigned Numbers). Finally, as the Internet and technology have grown, some RFCs have become unnecessary. These obsolete RFCs cannot be ignored, however. Frequently when a change is made to some RFC that causes a new one to be issued obsoleting others, the new RFC may only contains explanations and motivations for the change. Understanding the model on which the whole facility is based may involve reading the original and subsequent RFCs on the topic. (Appendix B contains a list of what are considered to be the major RFCs necessary for understanding the Internet).

Only a few RFCs actually specify standards, most RFCs are for information or discussion purposes. To find out what the current standards are see the RFC titled "IAB Official Protocol Standards" (most recently published as RFC-1100).

The Network Information Center (NIC)

The NIC is a facility available to all Internet users which provides

information to the community. There are three means of NIC contact: network, telephone, and mail. The network accesses are the most prevalent. Interactive access is frequently used to do queries of NIC service overviews, look up user and host names, and scan lists of NIC documents. It is available by using

```
%telnet nic.ddn.mil
```

on a BSD system, and following the directions provided by a user friendly prompter. From poking around in the databases provided, one might decide that a document named NETINFO:NUG.DOC (The Users Guide to the ARPANET) would be worth having. It could be retrieved via an anonymous FTP. An anonymous FTP would proceed something like the following. (The dialogue may vary slightly depending on the implementation of FTP you are using).

```
%ftp nic.ddn.mil
Connected to nic.ddn.mil
220 NIC.DDN.MIL FTP Server 5Z(47)-6 at Wed 17-Jun-87 12:00 PDT
Name (nic.ddn.mil:myname): anonymous
331 ANONYMOUS user ok, send real ident as password.
Password: myname
230 User ANONYMOUS logged in at Wed 17-Jun-87 12:01 PDT, job 15.
ftp> get netinfo:nug.doc
200 Port 18.144 at host 128.174.5.50 accepted.
150 ASCII retrieve of <NETINFO>NUG.DOC.11 started.
226 Transfer Completed 157675 (8) bytes transferred
local: netinfo:nug.doc  remote:netinfo:nug.doc
157675 bytes in 4.5e+02 seconds (0.34 Kbytes/s)
ftp> quit
221 QUIT command received. Goodbye.
```

(Another good initial document to fetch is NETINFO:WHAT-THE-NIC-DOES.TXT).

Questions of the NIC or problems with services can be asked of or reported to using electronic mail. The following addresses can be used:

```
NIC@NIC.DDN.MIL          General user assistance, document requests
REGISTRAR@NIC.DDN.MIL    User registration and WHOIS updates
HOSTMASTER@NIC.DDN.MIL   Hostname and domain changes and updates
ACTION@NIC.DDN.MIL       SRI-NIC computer operations
SUGGESTIONS@NIC.DDN.MIL  Comments on NIC publications and services
```


For people without network access, or if the number of documents is large, many of the NIC documents are available in printed form for a small charge. One frequently ordered document for starting sites is

a compendium of major RFCs. Telephone access is used primarily for questions or problems with network access. (See appendix B for mail/telephone contact numbers).

The NSFNET Network Service Center

The NSFNET Network Service Center (NNSC), located at BBN Systems and Technologies Corp., is a project of the University Corporation for Atmospheric Research under agreement with the National Science Foundation. The NNSC provides support to end-users of NSFNET should they have questions or encounter problems traversing the network.

The NNSC, which has information and documents online and in printed form, distributes news through network mailing lists, bulletins, and online reports. NNSC publications include a hardcopy newsletter, the NSF Network News, which contains articles of interest to network users and the Internet Resource Guide, which lists facilities (such as supercomputer centers and on-line library catalogues) accessible from the Internet. The Resource Guide can be obtained via anonymous ftp to nnsc.nsf.net in the directory resource-guide, or by joining the resource guide mailing list (send a subscription request to Resource-Guide-Request@NNSC.NSF.NET.)

Mail Reflectors

The way most people keep up to date on network news is through subscription to a number of mail reflectors (also known as mail exploders). Mail reflectors are special electronic mailboxes which, when they receive a message, resend it to a list of other mailboxes. This in effect creates a discussion group on a particular topic. Each subscriber sees all the mail forwarded by the reflector, and if one wants to put his "two cents" in sends a message with the comments to the reflector.

The general format to subscribe to a mail list is to find the address reflector and append the string -REQUEST to the mailbox name (not the host name). For example, if you wanted to take part in the mailing list for NSFNET reflected by NSFNET-INFO@MERIT.EDU, one sends a request to NSFNET-INFO-REQUEST@MERIT.EDU. This may be a wonderful scheme, but the problem is that you must know the list exists in the first place. It is suggested that, if you are interested, you read the mail from one list (like NSFNET-INFO) and you will probably become familiar with the existence of others. A registration service for mail reflectors is provided by the NIC in the files NETINFO:INTEREST-GROUPS-1.TXT, NETINFO:INTEREST-GROUPS-2.TXT, and

NETINFO:INTEREST-GROUPS-3.TXT.

The NSFNET-INFO mail reflector is targeted at those people who have a

day to day interest in the news of the NSFNET (the backbone, regional network, and Internet inter-connection site workers). The messages are reflected by a central location and are sent as separate messages to each subscriber. This creates hundreds of messages on the wide area networks where bandwidth is the scarcest.

There are two ways in which a campus could spread the news and not cause these messages to inundate the wide area networks. One is to re-reflect the message on the campus. That is, set up a reflector on a local machine which forwards the message to a campus distribution list. The other is to create an alias on a campus machine which places the messages into a notesfile on the topic. Campus users who want the information could access the notesfile and see the messages that have been sent since their last access. One might also elect to have the campus wide area network liaison screen the messages in either case and only forward those which are considered of merit. Either of these schemes allows one message to be sent to the campus, while allowing wide distribution within.

Address Allocation

Before a local network can be connected to the Internet it must be allocated a unique IP address. These addresses are allocated by SRI-NIC. The allocation process consists of getting an application form. Send a message to Hostmaster@NIC.DDN.MIL and ask for the template for a connected address. This template is filled out and mailed back to the hostmaster. An address is allocated and e-mailed back to you. This can also be done by postal mail (Appendix B).

IP addresses are 32 bits long. It is usually written as four decimal numbers separated by periods (e.g., 192.17.5.100). Each number is the value of an octet of the 32 bits. Some networks might choose to organize themselves as very flat (one net with a lot of nodes) and some might organize hierarchically (many interconnected nets with fewer nodes each and a backbone). To provide for these cases, addresses were differentiated into class A, B, and C networks. This classification had to with the interpretation of the octets. Class A networks have the first octet as a network address and the remaining three as a host address on that network. Class C addresses have three octets of network address and one of host. Class B is split two and two. Therefore, there is an address space for a few large nets, a reasonable number of medium nets and a large number of small nets. The high order bits in the first octet are coded to tell the address format. There are very few unallocated class A nets, so a very good case must be made for them. So as a practical matter, one

has to choose between Class B and Class C when placing an order. (There are also class D (Multicast) and E (Experimental) formats. Multicast addresses will likely come into greater use in the near

future, but are not frequently used yet).

In the past, sites requiring multiple network addresses requested multiple discrete addresses (usually Class C). This was done because much of the software available (notably 4.2BSD) could not deal with subnetted addresses. Information on how to reach a particular network (routing information) must be stored in Internet gateways and packet switches. Some of these nodes have a limited capability to store and exchange routing information (limited to about 700 networks). Therefore, it is suggested that any campus announce (make known to the Internet) no more than two discrete network numbers.

If a campus expects to be constrained by this, it should consider subnetting. Subnetting (RFC-950) allows one to announce one address to the Internet and use a set of addresses on the campus. Basically, one defines a mask which allows the network to differentiate between the network portion and host portion of the address. By using a different mask on the Internet and the campus, the address can be interpreted in multiple ways. For example, if a campus requires two networks internally and has the 32,000 addresses beginning 128.174.X.X (a Class B address) allocated to it, the campus could allocate 128.174.5.X to one part of campus and 128.174.10.X to another. By advertising 128.174 to the Internet with a subnet mask of FF.FF.00.00, the Internet would treat these two addresses as one. Within the campus a mask of FF.FF.FF.00 would be used, allowing the campus to treat the addresses as separate entities. (In reality, you don't pass the subnet mask of FF.FF.00.00 to the Internet, the octet meaning is implicit in its being a class B address).

A word of warning is necessary. Not all systems know how to do subnetting. Some 4.2BSD systems require additional software. 4.3BSD systems subnet as released. Other devices and operating systems vary in the problems they have dealing with subnets. Frequently, these machines can be used as a leaf on a network but not as a gateway within the subnetted portion of the network. As time passes and more systems become 4.3BSD based, these problems should disappear.

There has been some confusion in the past over the format of an IP broadcast address. Some machines used an address of all zeros to mean broadcast and some all ones. This was confusing when machines of both type were connected to the same network. The broadcast address of all ones has been adopted to end the grief. Some systems (e.g., 4.3 BSD) allow one to choose the format of the broadcast address. If a system does allow this choice, care should be taken that the all ones format is chosen. (This is explained in RFC-1009

and RFC-1010).

Internet Problems

There are a number of problems with the Internet. Solutions to the problems range from software changes to long term research projects. Some of the major ones are detailed below:

Number of Networks

When the Internet was designed it was to have about 50 connected networks. With the explosion of networking, the number is now approaching 1000. The software in a group of critical gateways (called the core gateways) are not able to pass or store much more than that number. In the short term, core reallocation and recoding has raised the number slightly.

Routing Issues

Along with sheer mass of the data necessary to route packets to a large number of networks, there are many problems with the updating, stability, and optimality of the routing algorithms. Much research is being done in the area, but the optimal solution to these routing problems is still years away. In most cases, the the routing we have today works, but sub-optimally and sometimes unpredictably. The current best hope for a good routing protocol is something known as OSPFIGP which will be generally available from many router manufacturers within a year.

Trust Issues

Gateways exchange network routing information. Currently, most gateways accept on faith that the information provided about the state of the network is correct. In the past this was not a big problem since most of the gateways belonged to a single administrative entity (DARPA). Now, with multiple wide area networks under different administrations, a rogue gateway somewhere in the net could cripple the Internet. There is design work going on to solve both the problem of a gateway doing unreasonable things and providing enough information to reasonably route data between multiply connected networks (multi-homed networks).

Capacity & Congestion

Some portions of the Internet are very congested during the busy part of the day. Growth is dramatic with some networks experiencing growth in traffic in excess of 20% per month.

Additional bandwidth is planned, but delivery and budgets might not allow supply to keep up.

Setting Direction and Priority

The Internet Activities Board (IAB), currently chaired by Vint Cerf of NRI, is responsible for setting the technical direction, establishing standards, and resolving problems in the Internet.

The current IAB members are:

Vinton Cerf	- Chairman
David Clark	- IRTF Chairman
Phillip Gross	- IETF Chairman
Jon Postel	- RFC Editor
Robert Braden	- Executive Director
Hans-Werner Braun	- NSFNET Liaison
Barry Leiner	- CCIRN Liaison
Daniel Lynch	- Vendor Liaison
Stephen Kent	- Internet Security

This board is supported by a Research Task Force (chaired by Dave Clark of MIT) and an Engineering Task Force (chaired by Phill Gross of NRI).

The Internet Research Task Force has the following Research Groups:

Autonomous Networks	Deborah Estrin
End-to-End Services	Bob Braden
Privacy	Steve Kent
User Interfaces	Keith Lantz

The Internet Engineering Task Force has the following technical areas:

Applications	TBD
Host Protocols	Craig Partridge
Internet Protocols	Noel Chiappa
Routing	Robert Hinden
Network Management	David Crocker
OSI Interoperability	Ross Callon, Robert Hagen
Operations	TBD
Security	TBD

The Internet Engineering Task Force has the following Working Groups:

ALERTMAN	Louis Steinberg
Authentication	Jeff Schiller

CMIP over TCP	Lee LaBarre
Domain Names	Paul Mockapetris
Dynamic Host Config	Ralph Droms

Host Requirements	Bob Braden
Interconnectivity	Guy Almes
Internet MIB	Craig Partridge
Joint Management	Susan Hares
LAN Mgr MIB	Amatzia Ben-Artzi
NISI	Karen Bowers
NM Serial Interface	Jeff Case
NOC Tools	Bob Enger
OSPF	Mike Petry
Open Systems Routing	Marianne Lepp
OSI Interoperability	Ross Callon
PDN Routing Group	CH Rokitansky
Performance and CC	Allison Mankin
Point - Point IP	Drew Perkins
ST and CO-IP	Claudio Topolcic
Telnet	Dave Borman
User Documents	Karen Roubicek
User Services	Karen Bowers

Routing

Routing is the algorithm by which a network directs a packet from its source to its destination. To appreciate the problem, watch a small child trying to find a table in a restaurant. From the adult point of view, the structure of the dining room is seen and an optimal route easily chosen. The child, however, is presented with a set of paths between tables where a good path, let alone the optimal one to the goal is not discernible.

A little more background might be appropriate. IP gateways (more correctly routers) are boxes which have connections to multiple networks and pass traffic between these nets. They decide how the packet is to be sent based on the information in the IP header of the packet and the state of the network. Each interface on a router has an unique address appropriate to the network to which it is connected. The information in the IP header which is used is primarily the destination address. Other information (e.g., type of service) is largely ignored at this time. The state of the network is determined by the routers passing information among themselves. The distribution of the database (what each node knows), the form of the updates, and metrics used to measure the value of a connection, are the parameters which determine the characteristics of a routing protocol.

Under some algorithms, each node in the network has complete

knowledge of the state of the network (the adult algorithm). This implies the nodes must have larger amounts of local storage and enough CPU to search the large tables in a short enough time

(remember, this must be done for each packet). Also, routing updates usually contain only changes to the existing information (or you spend a large amount of the network capacity passing around megabyte routing updates). This type of algorithm has several problems. Since the only way the routing information can be passed around is across the network and the propagation time is non-trivial, the view of the network at each node is a correct historical view of the network at varying times in the past. (The adult algorithm, but rather than looking directly at the dining area, looking at a photograph of the dining room. One is likely to pick the optimal route and find a bus-cart has moved in to block the path after the photo was taken). These inconsistencies can cause circular routes (called routing loops) where once a packet enters it is routed in a closed path until its time to live (TTL) field expires and it is discarded.

Other algorithms may know about only a subset of the network. To prevent loops in these protocols, they are usually used in a hierarchical network. They know completely about their own area, but to leave that area they go to one particular place (the default gateway). Typically these are used in smaller networks (campus or regional).

Routing protocols in current use:

Static (no protocol-table/default routing)

Don't laugh. It is probably the most reliable, easiest to implement, and least likely to get one into trouble for a small network or a leaf on the Internet. This is, also, the only method available on some CPU-operating system combinations. If a host is connected to an Ethernet which has only one gateway off of it, one should make that the default gateway for the host and do no other routing. (Of course, that gateway may pass the reachability information somehow on the other side of itself.)

One word of warning, it is only with extreme caution that one should use static routes in the middle of a network which is also using dynamic routing. The routers passing dynamic information are sometimes confused by conflicting dynamic and static routes. If your host is on an ethernet with multiple routers to other networks on it and the routers are doing dynamic routing among themselves, it is usually better to take part in the dynamic routing than to use static routes.

RIP

RIP is a routing protocol based on XNS (Xerox Network System)

adapted for IP networks. It is used by many routers (Proteon, cisco, UB...) and many BSD Unix systems. BSD systems typically run a program called "routed" to exchange information with other systems running RIP. RIP works best for nets of small diameter (few hops) where the links are of equal speed. The reason for this is that the metric used to determine which path is best is the hop-count. A hop is a traversal across a gateway. So, all machines on the same Ethernet are zero hops away. If a router connects connects two networks directly, a machine on the other side of the router is one hop away. As the routing information is passed through a gateway, the gateway adds one to the hop counts to keep them consistent across the network. The diameter of a network is defined as the largest hop-count possible within a network. Unfortunately, a hop count of 16 is defined as infinity in RIP meaning the link is down. Therefore, RIP will not allow hosts separated by more than 15 gateways in the RIP space to communicate.

The other problem with hop-count metrics is that if links have different speeds, that difference is not reflected in the hop-count. So a one hop satellite link (with a .5 sec delay) at 56kb would be used instead of a two hop T1 connection. Congestion can be viewed as a decrease in the efficacy of a link. So, as a link gets more congested, RIP will still know it is the best hop-count route and congest it even more by throwing more packets on the queue for that link.

RIP was originally not well documented in the community and people read BSD code to find out how RIP really worked. Finally, it was documented in RFC-1058.

Routed

The routed program, which does RIP for 4.2BSD systems, has many options. One of the most frequently used is: "routed -q" (quiet mode) which means listen to RIP information, but never broadcast it. This would be used by a machine on a network with multiple RIP speaking gateways. It allows the host to determine which gateway is best (hopwise) to use to reach a distant network. (Of course, you might want to have a default gateway to prevent having to pass all the addresses known to the Internet around with RIP.)

There are two ways to insert static routes into routed; the /etc/gateways file, and the "route add" command. Static routes are useful if you know how to reach a distant network, but you are

not receiving that route using RIP. For the most part the "route add" command is preferable to use. The reason for this is that the command adds the route to that machine's routing table but

does not export it through RIP. The /etc/gateways file takes precedence over any routing information received through a RIP update. It is also broadcast as fact in RIP updates produced by the host without question, so if a mistake is made in the /etc/gateways file, that mistake will soon permeate the RIP space and may bring the network to its knees.

One of the problems with routed is that you have very little control over what gets broadcast and what doesn't. Many times in larger networks where various parts of the network are under different administrative controls, you would like to pass on through RIP only nets which you receive from RIP and you know are reasonable. This prevents people from adding IP addresses to the network which may be illegal and you being responsible for passing them on to the Internet. This type of reasonability checks are not available with routed and leave it usable, but inadequate for large networks.

Hello (RFC-891)

Hello is a routing protocol which was designed and implemented in a experimental software router called a "Fuzzball" which runs on a PDP-11. It does not have wide usage, but is the routing protocol formerly used on the initial NSFNET backbone. The data transferred between nodes is similar to RIP (a list of networks and their metrics). The metric, however, is milliseconds of delay. This allows Hello to be used over nets of various link speeds and performs better in congestive situations.

One of the most interesting side effects of Hello based networks is their great timekeeping ability. If you consider the problem of measuring delay on a link for the metric, you find that it is not an easy thing to do. You cannot measure round trip time since the return link may be more congested, of a different speed, or even not there. It is not really feasible for each node on the network to have a builtin WWV (nationwide radio time standard) receiver. So, you must design an algorithm to pass around time between nodes over the network links where the delay in transmission can only be approximated. Hello routers do this and in a nationwide network maintain synchronized time within milliseconds. (See also the Network Time Protocol, RFC-1059.)

Gateway Gateway Protocol (GGP RFC-823)

The core gateways originally used GGP to exchange information

among themselves. This is a "distance-vector" algorithm. The new core gateways use a "link-state" algorithm.

NSFNET SPF (RFC-1074)

The current NSFNET Backbone routers use a version of the ANSI IS-IS and ISO ES-IS routing protocol. This is a "shortest path first" (SPF) algorithm which is in the class of "link-state" algorithms.

Exterior Gateway Protocol (EGP RFC-904)

EGP is not strictly a routing protocol, it is a reachability protocol. It tells what nets can be reached through what gateway, but not how good the connection is. It is the standard by which gateways exchange network reachability information with the core gateways. It is generally used between autonomous systems. There is a metric passed around by EGP, but its usage is not standardized formally. The metric's value ranges from 0 to 255 with smaller values considered "better". Some implementations consider the value 255 to mean unreachable. Many routers talk EGP so they can be used to interface to routers of different manufacture or operated by different administrations. For example, when a router of the NSFNET Backbone exchanges routing or reachability information with a gateway of a regional network EGP is used.

Gated

So we have regional and campus networks talking RIP among themselves and the DDN and NSFNET speaking EGP. How do they interoperate? In the beginning, there was static routing. The problem with doing static routing in the middle of the network is that it is broadcast to the Internet whether it is usable or not. Therefore, if a net becomes unreachable and you try to get there, dynamic routing will immediately issue a net unreachable to you. Under static routing the routers would think the net could be reached and would continue trying until the application gave up (in 2 or more minutes). Mark Fedor, then of Cornell, attempted to solve these problems with a replacement for routed called gated.

Gated talks RIP to RIP speaking hosts, EGP to EGP speakers, and Hello to Hello'ers. These speakers frequently all live on one Ethernet, but luckily (or unluckily) cannot understand each others ruminations. In addition, under configuration file control it can

filter the conversion. For example, one can produce a configuration saying announce RIP nets via Hello only if they are specified in a list and are reachable by way of a RIP broadcast as

well. This means that if a rogue network appears in your local site's RIP space, it won't be passed through to the Hello side of the world. There are also configuration options to do static routing and name trusted gateways.

This may sound like the greatest thing since sliced bread, but there is a catch called metric conversion. You have RIP measuring in hops, Hello measuring in milliseconds, and EGP using arbitrary small numbers. The big questions is how many hops to a millisecond, how many milliseconds in the EGP number 3.... Also, remember that infinity (unreachability) is 16 to RIP, 30000 or so to Hello, and 8 to the DDN with EGP. Getting all these metrics to work well together is no small feat. If done incorrectly and you translate an RIP of 16 into an EGP of 6, everyone in the ARPANET will still think your gateway can reach the unreachable and will send every packet in the world your way. Gated is available via anonymous FTP from devvax.tn.cornell.edu in directory pub/gated.

Names

All routing across the network is done by means of the IP address associated with a packet. Since humans find it difficult to remember addresses like 128.174.5.50, a symbolic name register was set up at the NIC where people would say, "I would like my host to be named uiucuxc". Machines connected to the Internet across the nation would connect to the NIC in the middle of the night, check modification dates on the hosts file, and if modified, move it to their local machine. With the advent of workstations and micros, changes to the host file would have to be made nightly. It would also be very labor intensive and consume a lot of network bandwidth. RFC-1034 and a number of others describe Domain Name Service (DNS), a distributed data base system for mapping names into addresses.

We must look a little more closely into what's in a name. First, note that an address specifies a particular connection on a specific network. If the machine moves, the address changes. Second, a machine can have one or more names and one or more network addresses (connections) to different networks. Names point to a something which does useful work (i.e., the machine) and IP addresses point to an interface on that provider. A name is a purely symbolic representation of a list of addresses on the network. If a machine moves to a different network, the addresses will change but the name could remain the same.

Domain names are tree structured names with the root of the tree at

the right. For example:

uxc.cso.uiuc.edu

is a machine called "uxc" (purely arbitrary), within the subdomains of the U of I, and "uiuc" (the University of Illinois at Urbana), registered with "edu" (the set of educational institutions).

A simplified model of how a name is resolved is that on the user's machine there is a resolver. The resolver knows how to contact across the network a root name server. Root servers are the base of the tree structured data retrieval system. They know who is responsible for handling first level domains (e.g., 'edu'). What root servers to use is an installation parameter. From the root server the resolver finds out who provides 'edu' service. It contacts the 'edu' name server which supplies it with a list of addresses of servers for the subdomains (like 'uiuc'). This action is repeated with the sub-domain servers until the final subdomain returns a list of addresses of interfaces on the host in question. The user's machine then has its choice of which of these addresses to use for communication.

A group may apply for its own domain name (like 'uiuc' above). This is done in a manner similar to the IP address allocation. The only requirements are that the requestor have two machines reachable from the Internet, which will act as name servers for that domain. Those servers could also act as servers for subdomains or other servers could be designated as such. Note that the servers need not be located in any particular place, as long as they are reachable for name resolution. (U of I could ask Michigan State to act on its behalf and that would be fine.) The biggest problem is that someone must do maintenance on the database. If the machine is not convenient, that might not be done in a timely fashion. The other thing to note is that once the domain is allocated to an administrative entity, that entity can freely allocate subdomains using what ever manner it sees fit.

The Berkeley Internet Name Domain (BIND) Server implements the Internet name server for UNIX systems. The name server is a distributed data base system that allows clients to name resources and to share that information with other network hosts. BIND is integrated with 4.3BSD and is used to lookup and store host names, addresses, mail agents, host information, and more. It replaces the /etc/hosts file or host name lookup. BIND is still an evolving program. To keep up with reports on operational problems, future design decisions, etc., join the BIND mailing list by sending a request to Bind-Request@UCBARPA.BERKELEY.EDU. BIND can also be obtained via anonymous FTP from ucbarpa.berkeley.edu.

There are several advantages in using BIND. One of the most important is that it frees a host from relying on /etc/hosts being up to date and complete. Within the .uiuc.edu domain, only a few hosts

are included in the host table distributed by SRI. The remainder are listed locally within the BIND tables on uxc.cso.uiuc.edu (the server machine for most of the .uiuc.edu domain). All are equally reachable from any other Internet host running BIND, or any DNS resolver.

BIND can also provide mail forwarding information for interior hosts not directly reachable from the Internet. These hosts an either be on non-advertised networks, or not connected to an IP network at all, as in the case of UUCP-reachable hosts (see RFC-974). More information on BIND is available in the "Name Server Operations Guide for BIND" in UNIX System Manager's Manual, 4.3BSD release.

There are a few special domains on the network, like NIC.DDN.MIL. The hosts database at the NIC. There are others of the form NNSC.NSF.NET. These special domains are used sparingly, and require ample justification. They refer to servers under the administrative control of the network rather than any single organization. This allows for the actual server to be moved around the net while the user interface to that machine remains constant. That is, should BBN relinquish control of the NNSC, the new provider would be pointed to by that name.

In actuality, the domain system is a much more general and complex system than has been described. Resolvers and some servers cache information to allow steps in the resolution to be skipped. Information provided by the servers can be arbitrary, not merely IP addresses. This allows the system to be used both by non-IP networks and for mail, where it may be necessary to give information on intermediate mail bridges.

What's wrong with Berkeley Unix

University of California at Berkeley has been funded by DARPA to modify the Unix system in a number of ways. Included in these modifications is support for the Internet protocols. In earlier versions (e.g., BSD 4.2) there was good support for the basic Internet protocols (TCP, IP, SMTP, ARP) which allowed it to perform nicely on IP Ethernets and smaller Internets. There were deficiencies, however, when it was connected to complicated networks. Most of these problems have been resolved under the newest release (BSD 4.3). Since it is the springboard from which many vendors have launched Unix implementations (either by porting the existing code or by using it as a model), many implementations (e.g., Ultrix) are still based on BSD 4.2. Therefore, many implementations still exist with the BSD 4.2 problems. As time goes on, when BSD 4.3 trickles

through vendors as new release, many of the problems will be resolved. Following is a list of some problem scenarios and their handling under each of these releases.

ICMP redirects

Under the Internet model, all a system needs to know to get anywhere in the Internet is its own address, the address of where it wants to go, and how to reach a gateway which knows about the Internet. It doesn't have to be the best gateway. If the system is on a network with multiple gateways, and a host sends a packet for delivery to a gateway which feels another directly connected gateway is more appropriate, the gateway sends the sender a message. This message is an ICMP redirect, which politely says, "I'll deliver this message for you, but you really ought to use that gateway over there to reach this host". BSD 4.2 ignores these messages. This creates more stress on the gateways and the local network, since for every packet sent, the gateway sends a packet to the originator. BSD 4.3 uses the redirect to update its routing tables, will use the route until it times out, then revert to the use of the route it thinks is should use. The whole process then repeats, but it is far better than one per packet.

Trailers

An application (like FTP) sends a string of octets to TCP which breaks it into chunks, and adds a TCP header. TCP then sends blocks of data to IP which adds its own headers and ships the packets over the network. All this prepending of the data with headers causes memory moves in both the sending and the receiving machines. Someone got the bright idea that if packets were long and they stuck the headers on the end (they became trailers), the receiving machine could put the packet on the beginning of a page boundary and if the trailer was OK merely delete it and transfer control of the page with no memory moves involved. The problem is that trailers were never standardized and most gateways don't know to look for the routing information at the end of the block. When trailers are used, the machine typically works fine on the local network (no gateways involved) and for short blocks through gateways (on which trailers aren't used). So TELNET and FTP's of very short files work just fine and FTP's of long files seem to hang. On BSD 4.2 trailers are a boot option and one should make sure they are off when using the Internet. BSD 4.3 negotiates trailers, so it uses them on its local net and doesn't use them when going across the network.

Retransmissions

TCP fires off blocks to its partner at the far end of the

connection. If it doesn't receive an acknowledgement in a reasonable amount of time it retransmits the blocks. The determination of what is reasonable is done by TCP's retransmission algorithm.

There is no correct algorithm but some are better than others, where worse is measured by the number of retransmissions done unnecessarily. BSD 4.2 had a retransmission algorithm which retransmitted quickly and often. This is exactly what you would want if you had a bunch of machines on an Ethernet (a low delay network of large bandwidth). If you have a network of relatively longer delay and scarce bandwidth (e.g., 56kb lines), it tends to retransmit too aggressively. Therefore, it makes the networks and gateways pass more traffic than is really necessary for a given conversation. Retransmission algorithms do adapt to the delay of the network after a few packets, but 4.2's adapts slowly in delay situations. BSD 4.3 does a lot better and tries to do the best for both worlds. It fires off a few retransmissions really quickly assuming it is on a low delay network, and then backs off very quickly. It also allows the delay to be about 4 minutes before it gives up and declares the connection broken.

Even better than the original 4.3 code is a version of TCP with a retransmission algorithm developed by Van Jacobson of LBL. He did a lot of research into how the algorithm works on real networks and modified it to get both better throughput and be friendlier to the network. This code has been integrated into the later releases of BSD 4.3 and can be fetched anonymously from ucbarpa.berkeley.edu in directory 4.3.

Time to Live

The IP packet header contains a field called the time to live (TTL) field. It is decremented each time the packet traverses a gateway. TTL was designed to prevent packets caught in routing loops from being passed forever with no hope of delivery. Since the definition bears some likeness to the RIP hop count, some misguided systems have set the TTL field to 15 because the unreachable flag in RIP is 16. Obviously, no networks could have more than 15 hops. The RIP space where hops are limited ends when RIP is not used as a routing protocol any more (e.g., when NSFnet starts transporting the packet). Therefore, it is quite easy for a packet to require more than 15 hops. These machines will exhibit the behavior of being able to reach some places but not others even though the routing information appears correct.

Solving the problem typically requires kernel patches so it may be difficult if source is not available.

Appendix A - References to Remedial Information

[1] Quarterman and Hoskins, "Notable Computer Networks", Communications of the ACM, Vol. 29, No. 10, pp. 932-971, October 1986.

[2] Tannenbaum, A., "Computer Networks", Prentice Hall, 1981.

[3] Hedrick, C., "Introduction to the Internet Protocols", Via Anonymous FTP from topaz.rutgers.edu, directory pub/tcp-ip-docs, file tcp-ip-intro.doc.

[4] Comer, D., "Internetworking with TCP/IP: Principles, Protocols, and Architecture", Copyright 1988, by Prentice-Hall, Inc., Englewood Cliffs, NJ, 07632 ISBN 0-13-470154-2.

Appendix B - List of Major RFCs

This list of key "Basic Beige" RFCs was compiled by J.K. Reynolds. This is the 30 August 1989 edition of the list.

RFC-768	User Datagram Protocol (UDP)
RFC-791	Internet Protocol (IP)
RFC-792	Internet Control Message Protocol (ICMP)
RFC-793	Transmission Control Protocol (TCP)
RFC-821	Simple Mail Transfer Protocol (SMTP)
RFC-822	Standard for the Format of ARPA Internet Text Messages
RFC-826	Ethernet Address Resolution Protocol
RFC-854	Telnet Protocol
RFC-862	Echo Protocol
RFC-894	A Standard for the Transmission of IP Datagrams over Ethernet Networks
RFC-904	Exterior Gateway Protocol
RFC-919	Broadcasting Internet Datagrams
RFC-922	Broadcasting Internet Datagrams in the Presence of Subnets
RFC-950	Internet Standard Subnetting Procedure
RFC-951	Bootstrap Protocol (BOOTP)
RFC-959	File Transfer Protocol (FTP)
RFC-966	Host Groups: A Multicast Extension to the Internet Protocol
RFC-974	Mail Routing and the Domain System
RFC-1000	The Request for Comments Reference Guide
RFC-1009	Requirements for Internet Gateways
RFC-1010	Assigned Numbers

RFC-1011	Official Internet Protocols
RFC-1012	Bibliography of Request for Comments 1 through 999
RFC-1034	Domain Names - Concepts and Facilities

RFC-1035 Domain Names - Implementation
RFC-1042 A Standard for the Transmission of IP Datagrams over IEEE 802 Networks
RFC-1048 BOOTP Vendor Information Extensions
RFC-1058 Routing Information Protocol
RFC-1059 Network Time Protocol (NTP)
RFC-1065 Structure and Identification of Management Information for TCP/IP-based internets
RFC-1066 Management Information Base for Network Management of TCP/IP-based internets
RFC-1084 BOOTP Vendor Information Extensions
RFC-1087 Ethics and the Internet
RFC-1095 The Common Management Information Services and Protocol over TCP/IP (CMOT)
RFC-1098 A Simple Network Management Protocol (SNMP)
RFC-1100 IAB Official Protocol Standards
RFC-1101 DNS Encoding of Network Names and Other Types
RFC-1112 Host Extensions for IP Multicasting
RFC-1117 Internet Numbers

Note: This list is a portion of a list of RFC's by topic that may be retrieved from the NIC under NETINFO:RFC-SETS.TXT (anonymous FTP, of course).

The following list is not necessary for connection to the Internet, but is useful in understanding the domain system, mail system, and gateways:

RFC-974 Mail Routing and the Domain System
RFC-1009 Requirements for Internet Gateways
RFC-1034 Domain Names - Concepts and Facilities
RFC-1035 Domain Names - Implementation and Specification
RFC-1101 DNS Encoding of Network Names and Other Types

Appendix C - Contact Points for Network Information

Network Information Center (NIC)

DDN Network Information Center
SRI International, Room EJ291
333 Ravenswood Avenue
Menlo Park, CA 94025
(800) 235-3155 or (415) 859-3695

NIC@NIC.DDN.MIL

NSF Network Service Center (NNSC)

NNSC
BBN Systems and Technology Corporation
10 Moulton St.
Cambridge, MA 02238
(617) 497-3400

NNSC@NNSC.NSF.NET

NSF Network Information Service (NIS)

NIS
Merit Inc.
University of Michigan
1075 Beal Avenue
Ann Arbor, MI 48109
(313) 763-4897

INFO@NIS.NSF.NET

CIC

CSNET Coordination and Information Center
Bolt Beranek and Newman Inc.
10 Moulton Street
Cambridge, MA 02238
(617) 873-2777

INFO@SH.CS.NET

Glossary
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autonomous system

A set of gateways under a single administrative control and using compatible and consistent routing procedures. Generally speaking, the gateways run by a particular organization. Since a gateway is connected to two (or more) networks it is not usually correct to say that a gateway is in a network. For example, the gateways that connect regional networks to the NSF Backbone network are run by Merit and form an autonomous system. Another example, the gateways that connect campuses to NYSERNET are run by NYSER and form an autonomous system.

core gateway

The innermost gateways of the Internet. These gateways have a total picture of the reachability to all networks known to the Internet. They then redistribute reachability information to their neighbor gateways speaking EGP. It is from them your EGP agent (there is one acting for you somewhere if you can reach the core of the Internet) finds out it can reach all the nets on the Internet. Which is then passed to you via Hello, gated, RIP. The core gateways mostly connect campuses to the ARPANET, or interconnect the ARPANET and the MILNET, and are run by BBN.

count to infinity

The symptom of a routing problem where routing information is passed in a circular manner through multiple gateways. Each gateway increments the metric appropriately and passes it on. As the metric is passed around the loop, it increments to ever increasing values until it reaches the maximum for the routing protocol being used, which typically denotes a link outage.

hold down

When a router discovers a path in the network has gone down announcing that that path is down for a minimum amount of time (usually at least two minutes). This allows for the propagation of the routing information across the network and prevents the formation of routing loops.

split horizon

When a router (or group of routers working in consort) accept routing information from multiple external networks, but do not

pass on information learned from one external network to any others. This is an attempt to prevent bogus routes to a network from being propagated because of gossip or counting to infinity.

DDN

Defense Data Network the collective name for the ARPANET and MILNET. Used frequently because although they are seperate networks the operational and informational foci are the same.

Security Considerations

Security and privacy protection is a serious matter and too often nothing is done about it. There are some known security bugs (especially in access control) in BSD Unix and in some implementations of network services. The hitchhikers guide does not discuss these issues (too bad).

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EMail: Krol@UXC.CSO.UIUC.EDU

Hong Kong

Chinese University of Hong Kong
Hong Kong University of Science & Technology
University of Hong Kong

Hong Kong University of Science & Technology

TELNET USTLIB.UST.HK or 143.89.14.5
Login: library

OPAC = INNOPAC

To exit, type D on the Main Menu

University of Hong Kong

TELNET HKULBR.HKU.HK or 147.8.16.2
Username: HKULOPAC

OPAC = DRA

To exit, type 6 on main menu

Chinese University of Hong Kong

TELNET VAX.CSC.CUHK.HK or 137.189.6.8
Username: LIBRARY

OPAC = DOBIS/LIBIS

To exit, type 5 on main menu, then LOGOFF

On-Line versions of HYTELNET

Columbia Law School
El Paso Community College
National Chiao Tung University (CCCA)
Pontificia Universidad Catolica de Chile
University of Saskatchewan
University of Denver

Hytelnet (Unix version)

```
Telnet ACCESS.USASK.CA or 128.233.3.1
login: hytelnet

DESCRIPTION

  The Hytelnet software is a general hypertext browser, packaged with
  Peter Scott's invaluable database of Internet-accessible telnet
  sites.  Peter's database lists libraries, Campus-Wide Information
  Systems, Freenets and more.  The Hytelnet software is available for
  Unix and VMS systems, and should work on any system with a reasonable
  Curses implementation.

  The program notices telnet commands embedded in the files, and will exe-
  cute them for the user, if desired.  TN3270 commands can be executed as
  well, if this program is available on your system.

NOTES

  The Hytelnet software is now being used in more places, and for more
  purposes than was originally envisioned.

  The IBM PC version of Hytelnet uses Neil Larson's HYPERRES hypertext
  browser.  This program uses the same file format as HYPERRES, and it
  is possible to plug-and-play other HYPERRES databases as well.

COMMANDS

  Use the cursor keys to move around in Hytelnet. The up and down arrows
  move you from one highlighted link to another.  Use the right arrow (or
  return) to follow a link, and use the left arrow to come back.  You
  can also use hjkl (vi's cursor keys).

  Other commands include:

  m    Return to the main menu (the first screen you see when you start
       Hytelnet)

  + or space
       Scroll down to the next page

  - or b
       Scroll up to the previous page

  ?    Help

  q    Quit Hytelnet

AUTHOR
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  fogel@sask.usask.ca
```

National Chiao Tung University (CCCA)

```
TELNET NCTUCCCA.EDU.TW or 140.111.3.21
login: hytelnet

   Campus Computer Communication Association (CCCA)       NCTUCCCA.edu.tw
   National Chiao Tung University,  Taiwan,  R.O.C.    HYTELNET Version 6.2


                                                    Public Access HYTELNET
         What Is HYTELNET?           WHATIS
         Taiwan (TANet) Resources    TAIWAN            Univ of Saskatchewan
         Internet Library Catalogs   SITES1                 Access.USask.CA
         Other Internet Resources    SITES2                   (128.233.3.1)
         Help File For Catalogs       OP000            Natl Chiao Tung Univ
         Catalog Interfaces          SYS000                 NCTUCCCA.edu.tw
         Internet Glossary         GLOSSARY                  (140.111.3.21)


                                                         SPECIAL COLUMN
  H  MOVEMENT          SELECT
  E  DownArrow,j:Down  RightArrow,l:Next Topic            CCCA What's CCCA?
  L  UpArrow,k:Up      LeftArrow,h:Previous Topic       AUTHOR Orig. Author
  P  SCROLLING  +,Space:Next Page -,b:Previous Page       BUGS Bugs Report
     MISC  ?:Help m:Return to Main Menu q:Quit
```

University of Denver

```
Telnet DU.EDU or 130.253.1.4
login: atdu

Welcome to ATDU.  Today's subjects are:

atdu ..................... Information about ATDU.                  Jul  2
1991
athena ................... Software Licenses to Expire on Athena    Apr 25
11:33
buffer ................... CaIR's Newjournal.                       (sub-menu)
computers-and-networks .. Computing and computer networks at DU.   (sub-menu)
employee-info ........... New jobs postings & info for employees.  (sub-menu)
events-and-schedules .....                                         (sub-menu)
features ................ fortune, time, weather, etc.             (sub-menu)
internet ................ Information about Internet.              (sub-menu)
new-system .............. Cassandra is ready!                      Mar 25
15:54
purchasing .............. News from the DU Purchasing Department.  (sub-menu)
suggestions ............. Questions, comments and suggestions.     (sub-menu)
telephone-services ...... DU phone directory and other phone info. (sub-menu)

Please enter a subject, "//help", or press RETURN to exit.
Subjects may be abbreviated by entering only the first few letters.
  Subject:  internet

Today's subjects are:

acceptable-use .......... Acceptable Use of the NSFnet Backbone    Apr 15
19:32
faq ..................... Frequently Asked Questions               (sub-menu)
ftp ..................... File Transfer Protocol (info & sites)    (sub-menu)
gold .................... There's Gold in them thar Networks!      (sub-menu)
hytelnet ................ Hypertext database of telnet sites       (program)
irg ..................... Internet Resource Guide                  (sub-menu)
termecho ................                                        (program)
zen ..................... Zen and the Art of the Internet          (sub-menu)

Please enter a subject, "//help", or press RETURN for the previous menu.
Subjects may be abbreviated by entering only the first few letters.
```

Pontificia Universidad Catolica de Chile

```
TELNET TOLTEN.PUC.CL or 146.155.1.16
login: hytelnet
password: hytelnet

                    Bienvenido a HYTELNET - Red Puc
                             version 6.2
                          ...................

  Que es HYTELNET?               QUE_ES    |  Flechas *UP/DOWN
  Catalogos Bibliograficos       SITES1    |             mueven seleccion
  Otros Recursos                 SITES2    |  Flechas *LEFT/RIGTH
  Ayuda para Catalogos           OP000     |             seleccionan
  Interfaces para Catalogos      SYS000    |          *? Ayuda
  Historia de Internet           GLOSSARY  |          *q quits
  Sobre Telnet (ingles)          TELNET    |
  Catalogos de Archivos          TIPARCH   |
  Teclas Y Comandos              HELP      |

                         ......................
                          Hytelnet Version 6.2
                         ......................

          Herramienta de busqueda de informacion y recursos para
                                Red PUC
```

El Paso Community College

```
TELNET LAGUNA.EPCC.EDU or 192.94.29.3
Username: LIBRARY

This site is running the C-language version on a VAX/VMS system
```

HYTELNET at Columbia Law School

```
TELNET SPARC-1.LAW.COLUMBIA.EDU or 128.59.176.78
login: lawnet
                        CU-LawNet Info System

 1 - Law Library Catalog PEGASUS
 2 - University Catalog  CLIO
 3 - Law School Info Server
 4 - Law School Academic Services
 5 - Law School Career Services
 6 - ColumbiaNet
 7 - Advanced World wide library access (HytelNet)
 h - Help message
```

Iceland

University of Iceland

University of Iceland

TELNET SAGA.RHI.HI.IS or 130.208.165.16
Username: BOKASAFN
Select 2 for language code
Select 1 for English

OPAC = LIBERTAS

To exit, type QUIT

How to Install The Desktop Internet Reference

- The Desktop Internet Reference is a Windows Help file and uses
- the program winhelp.exe, supplied with Microsoft Windows
- 3.x as a presentation utility. You NEED Windows 3.x to use
- the Desktop Internet Reference.

* Quick Installation Directions:
    Copy the file DIR10.HLP to a directory where you want it to reside;
    most people copy it to C:\DIR10. Then, create an icon in Program
    Manager by choosing "File" - "New" - "Program Item" and filling
    in the "Program Item Properties" with the following information:

        Description: Desktop Internet Reference
       Command Line: WINHELP C:\DIR10\DIR10.HLP
  Working directory: C:\DIR10

* Longer Installation Directions:
    - You first need to copy the Desktop Internet Reference file,
      DIR10.HLP, to a directory on your hard drive.
    - If you know how to use the File Manager, copy DIR10.HLP to
      a directory on your hard drive called "C:\DIR10"
      If you want to use DOS to copy the file: first type "C:", then
      type "MD C:\DIR10" and finally "COPY A:\DIR10.HLP C:\DIR10"
    - Load Windows up. The Program Manager is the first thing
      you see when windows starts up.
    - From the Program Manager, use your mouse to click on FILE
      from the pull down menu.
    - Click on NEW.
    - A dialog box titled "New Program Object" appears. Use your
      mouse to click on the OK button.
    - A new dialog box appears titled "Program Item Properties" and a
      cursor appears next to a label titled "Description"
    - Use the keyboard to type in "Desktop Internet Reference" - do not
      type the quotation marks!
    - Press the Tab key or use your mouse to move the cursor to
      the box which has the "Command Line" label to the left of it.
    - Use the keyboard to type in "WINHELP C:\DIR10\DIR10.HLP"
    - Press the Tab key or use your mouse to move the cursor to the
      box which has the "Working Directory" label to the left of it.
    - Use the keyboard to type in "C:\DIR10"
    - Press the Enter key or use your mouse to press the button
      labelled "OK"
    - A new icon titled "Desktop Internet Reference" appears. Press
      return or double click the icon to run it.

 Enjoy!

 John Buckman

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Washington DC 20008

Introduction to the Internet: A Reading List

November 1992

Books

Aboba, Bernard. The BMUG Guide to Bulletin Boards and Beyond. Berkeley, CA: BMUG, 1992. designed for MAC users.

Comer, Douglas. Internetworking with TCP/IP: Volume 1: Principles, Protocols and Architecture. 2nd edition. Englewood Cliffs, NJ: Prentice-Hall, 1991. 3 volumes have been published but this is the important one to look at. A good technical view.

Dern, Daniel. Internet Guide for New Users. Westport, CT: Meckler, 1993. Expected early 1993.

Frey, Donnalyn and Rick Adams. !%@:: A Directory of Electronic Mail Addressing and Networks. Second Edition. Sebastopol, CA: O'Reilly and Associates, 1990. New edition expected.

Hardie, Edward T.L. and Vivian Neon, eds. Internet: Mailing Lists. Menlo Park, CA: SRI International, 1992.
Quickly dated. Good printed version of the listservs and discussion groups with directions to join.

Henry, Marcia et al. Search Sheets for OPACs on the Internet: A Selective Guide to U.S. OPACs Utilizing VT100 Emulation. Westport, CT: Meckler, 1991. Very limited.

Hunt, Craig. TCP/IP Network Administration. Sebastopol, CA: O'Reilly & Associates, 1992. What the network administrator at an Internet site should know!

Kahin, Brian, ed. Building Information Infrastructure: Issues in the Development of the National Research and Education Network. McGraw-Hill, 1992. A political view of the Internet looking at potential implications for the directions in which the NREN may take it.

Kehoe, Brendan. Zen and the Art of the Internet. Prentice-Hall, 1992. Readable primer. [Earlier edition available via ftp on host cs.widener.edu, directory pub/zen.]

Kochmer, Jonathan. NorthWestNet User Services Internet Resource Guide (NUSIRG). Bellevue, WA: NorthWestNet Academic Computing Consortium, Inc., 1991. [Available via anonymous ftp from host ftphost.nwnet.net in directory /cd/nwnet/user-guide get README.nusirg to produce names of the files in the NUSIRG directory]. New edition expected shortly.

Krol, Ed. The Whole Internet User's Guide & Catalog. Sebastopol, CA: O'Reilly & Associates, 1992. THE book to buy as of October 1992!

Lane, Elizabeth S. and Craig A. Summerhill. An Internet Primer for Librarians and Educators: A Basic Guide to Internet Technology. Westport, CT: Meckler, 1992. To be published Nov. 1992.

LaQuey, Tracy. Internet Companion. Addison-Wesley, 1992.
Very readable. Designed for the novice.

LaQuey, Tracy L. User's Directory of Computer Networks. Bedford, MA: Digital Press, 1990. Useful directory to see network members as of date of publication. Good narrative of each of midlevel regionals with topology map. While dated (Nov 1992), still a valuable reference.

Marine, April, ed. Internet: Getting Started. Menlo Park, CA: SRI International, 1992. Good reference tool but not first book to read. Useful tool to identify documents available via the Internet as of date of publication: acronyms, source of addresses for providers and involved groups, lists of RFCs, FYI's, STD's, bibliographies.

McClure, Charles, Ann Peterson Bishop, Philip Doty, and Howard Rosenbaum. The National Research and Education Network (NREN): Research and Policy Perspectives. Norwood, N.J.: Ablex Publishing Corp., 1991. This is one of the many valuable contributions of Charles McClure and his colleagues to the research literature concerning.

NYSERNet New User's Guide to Useful and Unique Resources on the Internet. NYSERNet, Inc., 1992. Eclectic. Written as a guide to point new users to a few places to make their "first use of Internet resources successful and productive."

Parkhurst, Carol A. Library Perspectives on the NREN, the National Research and Education Network. Chicago: Library and Information Technology Association, 1990. Compiled early work. Good background reading.

Quarterman, John S. The Matrix: Computer Networks and Conferencing Systems Worldwide. Bedford, MA: Digital Press, 1990. Classic work. Still considered a Bible.

Rittner, Don. Ecolinking: Everyone's Guide to Online Environmental Information. Berkeley, CA: Peachpit Press, 1992. Particularly directed at concerned citizens, environmentalists and scientists interested in sharing ideas and research on environmental issues. Reviews the networks involved and some of the resources available: FIDONET, BITNET, INTERNET, USENET, local bulletin boards, America Online, CompuServe, EcoNet, GENIE, WELL. DELPHI, which has an Environmental SIG, and PRODIGY are noticeable gaps. Describes library resources and electronic mailing lists.

Schuyler, Michael. Dial In: 1990-1991. An Annual Guide to Library Online Public Access Catalogs in North America. Meckler, 1990. look for latest edition. A very limited selection of catalogs available by phone.

Shapiro, Norman Z. and Robert H. Anderson. Toward an Ethics and Etiquette for Electronic Mail. Santa Monica, CA: Rand Corporation, July 1985. Background. Other files of netiquette rules are available via the Internet.

Sproull, Lee and Sara Kiesler. Connections: New Ways of Working in the Networked Organization. Cambridge, MA: MIT Press, 1991.

Valuable discussion of how our life and work are changing because of the increasing connectivity. Fascinating reading.

Tennant, Roy, John Ober, and Anne G. Lipow. Crossing the Internet Threshold: An Instructional Handbook. Berkeley, CA: Library Solutions Institute, 1992. Good workbook for trainers to start with.

Periodical Articles

Communications, Computers, and Networks: How to Work and Play and Thrive in Cyberspace. Scientific American, Special Issue. 265:3 (September 1991). A compilation of a number of interesting articles.

Electronic Networking: Research, Applications and Policies. ISSN: Meckler Corporation, 11 Ferry Lane West, Westport, Ct 06880. Quarterly publication. Articles published to "describe, evaluate, and foster understanding of the role and applications of electronic networks" as well as to "promote and encourage the successful use of electronic networks."

Internet News, monthly column. Boardwatch Magazine: Guide to the World of Online Services. ISSN: 1054-2760. 5970 South Vivian Street, Littleton, Colorado 80127. Editor of Boardwatch is proactive in highlighting new Internet developments, new providers, new resources, etc.

Internet World. [formerly Research & Education Networking: The Newsletter for Education, Information and Research Networks.] 9 issues a year. ISSN: Meckler Corporation, 11 Ferry Lane West, Westport, CT 06880.

Quarterman, J.S. and Hoskins, J.C. Notable Computer Networks. Communications of the ACM. 29:10 (October 1986), pp. 932-971. historical value.

Tillman, Hope N. and Sharyn J. Ladner. Special Librarians and the INTERNET. Special Libraries 83:2 (Spring 1992), pp. 127-131. Special librarians' use of the Internet promoted.

Also check library literature for numerous articles in Academic and Library Computing, American Libraries, Business Information Alert, Byte, Computers in Libraries, Database, Database Searcher, Educom Review, Online, Wilson Library Bulletin.

Available via the Internet/E-Mail:

Barron, Billy. UNT's Accessing On-Line Bibliographic Databases. Denton, TX: University of North Texas, 1991. Directory of library catalogsand databases available over the Internet via telnet. Compare with Art. St. George list. [Available via ftp on host ftp.unt.edu, directory library]

Connecting to the Internet: What Connecting Institutions Should Anticipate. Network Working Group, Request for Comments 1359, August 1992. [Available via ftp on host nisc.sri.com, directory

rfc, fukebane RFC1359.TXT.]

Krol, Ed. The Hitchhiker's Guide To the Internet. Network Working Group, Request for Comments 1118, September 1989. [Available via ftp on host nic.ddn.mil, directory rfc:, filename RFC1118.TXT]
Updated into a book September 1992 - see book section.

List of Lists. Menlo Park, CA: SRI International, Network Information Systems Center, 1990. Source for up-to-date list of listservs and mailing lists. [Available via ftp on host ftp.nisc.sri.com in directory netinfo, filename interest-groups; also by e-mail command "Send netinfo/interest-groups" to mailserver@nisc.sri.com]

Malkin, Gary Scott and Marine, April N. FYI on Questions and Answers: Answers to Commonly Asked "New Internet User" Questions. User Services Working Group of the Internet Engineering Task Force, Request for Comments 1325, May 1992. [Available online on host nnsc.nsf.net, directory rfc:, filename RFC1325.TXT]

Martin, J. There's Gold in them thar Networks! or Searching for Treasure in all the Wrong Places. Request for Comments 1290, December 1991. [Available via ftp on host nic.ddn.mil, directory rfc:, filename RFC1290.TXT]

National Science Foundation Network Service Center. Internet Resource Guide. Cambridge, MA: NSF Network Service Center, 1989. [Available via ftp on host nnsc.nsf.net, directory resource-guide, or via e-mail request to resource-guide-request@nnsc.nsf.net] Individual chapters can be requested separately.

Scott, Peter. HYTELNET. [Software program]. Currently version 6.3. Updated regularly. [Available via ftp on host access.usask.ca, directory pub/hytelnet and then pick directory by type of computer, and select filename.] Identifies information on resources available worldwide via telnet at the touch of a key either while connected or in preparation for going online. Memory resident program. Covers: library catalogs, archie sites, CWIS sites, databases and bibliographies, distributed file servers (Gopher, WAIS, World Wide Web), Electronic books, Fee-based services, FREE-NET systems, General bulletin boards, Hytelnet online versions, NASA databases, Network information services, Whois/white pages/directory services, and Miscellaneous telnet accessible systems. Available for MAC, PC, VAX, UNIX, Amiga and also available for viewing over the Internet.

St. George, Art and Ron Larsen. Internet-Accessible Library Catalogs and Databases. Albuquerque, NM: University of New Mexico, 1991. [Available by e-mail message "GET LIBRARY PACKAGE" to listserv@unmvm.bitnet]. Directory of library catalogs and databases available via telnet.

... And for fun reading:

Hafner, Katie and John Markoff. Cyberpunk: Outlaws and Hackers on the Computer Frontier. New York: Simon & Schuster, 1991.

Malamud, Carl. Exploring the Internet: A Technical Travelogue. Englewood Cliffs, NJ: Prentice-Hall, 1992.

Sterling, Bruce. The Hacker Crackdown: Law and Disorder on the Electronic Frontier. New York: Bantam Books, 1992.

Stoll, Clifford. The Cuckoo's Egg: Tracking a Spy Through the Maze of Computer Espionage. New York: Doubleday, 1989.

****

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Zen and the Art of the Internet

A Beginner's Guide to the Internet

First Edition

January 1992

by Brendan P. Kehoe

This is revision 1.0 of February 2, 1992.

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Preface

The composition of this booklet was originally started because the Computer Science department at Widener University was in desperate need of documentation describing the capabilities of this "great new Internet link" we obtained.

It's since grown into an effort to acquaint the reader with much of what's currently available over the Internet. Aimed at the novice user, it attempts to remain operating system "neutral" -- little information herein is specific to Unix, VMS, or any other environment. This booklet will, hopefully, be usable by nearly anyone.

Some typographical conventions are maintained throughout this guide. All abstract items like possible filenames, usernames, etc., are all represented in italics. Likewise, definite filenames and email addresses are represented in a quoted `typewriter' font. A user's session is usually offset from the rest of the paragraph, as such:

```
prompt> command
     The results are usually displayed here.
```

The purpose of this booklet is two-fold: first, it's intended to serve as a reference piece, which someone can easily grab on the fly and look something
up. Also, it forms a foundation from which people can explore the vast expanse of the Internet. Zen and the Art of the Internet doesn't spend a significant amount of time on any one point; rather, it provides enough for people to learn the specifics of what his or her local system offers.

One warning is perhaps in order -- this territory we are entering can become a fantastic time-sink. Hours can slip by, people can come and go, and you'll be locked into Cyberspace. Remember to do your work!

With that, I welcome you, the new user, to The Net.

brendan@cs.widener.edu
Chester, PA

Acknowledgements

Certain sections in this booklet are not my original work -- rather, they are derived from documents that were available on the Internet and already aptly stated their areas of concentration. The chapter on Usenet is, in large part, made up of what's posted monthly to news.announce.newusers, with some editing and rewriting. Also, the main section on archie was derived from `whatis.archie' by Peter Deutsch of the McGill University Computing Centre. It's available via anonymous FTP from archie.mcgill.ca. Much of what's in the telnet section came from an impressive introductory document put together by SuraNet. Some definitions in the one are from an excellent glossary put together by Colorado State University.

This guide would not be the same without the aid of many people on The Net, and the providers of resources that are already out there. I'd like to thank the folks who gave this a read-through and returned some excellent comments, suggestions, and criticisms, and those who provided much-needed information on the fly. Glee Willis deserves particular mention for all of his
work; this guide would have been considerably less polished without his help.

- Andy Blankenbiller, Army at Aberdeen

- Alan Emtage, McGill University Computer Science Department
- Brian Fitzgerald, Rensselaer Polytechnic Institute
- John Goetsch, Rhodes University, South Africa
- Jeff Kellem, Boston University's Chemistry Department
- Bill Krauss, Moravian College
- Steve Lodin, Delco Electronics
- Mike Nesel, NASA
- Bob Neveln, Widener University Computer Science Department
- Wanda Pierce, McGill University Computing Centre
- Joshua Poulson, Widener University Computing Services
- Dave Sill, Oak Ridge National Laboratory
- Bob Smart, CitiCorp/TTI
- Ed Vielmetti, Vice President of MSEN
- Craig Ward, USC/Information Sciences Institute (ISI)
- Glee Willis, University of Nevada, Reno
- Chip Yamasaki, OSHA

1 Network Basics

We are truly in an information society. Now more than ever, moving vast amounts of information quickly across great distances is one of our most pressing needs. From small one-person entrepreneurial efforts, to the largest of corporations, more and more professional people are discovering that the only way to be successful in the '90s and beyond is to realize that technology is advancing at a break-neck pace -- and they must somehow keep up. Likewise, researchers from all corners of the earth are finding that their work thrives in a networked environment. Immediate access to the work of colleagues and a

"virtual" library of millions of volumes and thousands of papers affords them the ability to encorporate a body of knowledge heretofore unthinkable. Work groups can now conduct interactive conferences with each other, paying no heed
to physical location -- the possibilities are endless.

You have at your fingertips the ability to talk in "real-time" with someone in Japan, send a 2,000-word short story to a group of people who will critique it for the sheer pleasure of doing so, see if a Macintosh sitting in a lab in Canada is turned on, and find out if someone happens to be sitting in
front of their computer (logged on) in Australia, all inside of thirty minutes. No airline (or tardis, for that matter) could ever match that travel itinerary.

The largest problem people face when first using a network is grasping all
that's available. Even seasoned users find themselves surprised when they discover a new service or feature that they'd never known even existed. Once acquainted with the terminology and sufficiently comfortable with making occasional mistakes, the learning process will drastically speed up.

1.1 Domains

Getting where you want to go can often be one of the more difficult aspects of using networks. The variety of ways that places are named will probably leave a blank stare on your face at first. Don't fret; there is a method to this apparent madness.

If someone were to ask for a home address, they would probably expect a street, apartment, city, state, and zip code. That's all the information the post office needs to deliver mail in a reasonably speedy fashion. Likewise, computer addresses have a structure to them. The general form is:

a person's email address on a computer: user@somewhere.domain
a computer's name: somewhere.domain

The user portion is usually the person's account name on the system, though it doesn't have to be. somewhere.domain tells you the name of a

system or location, and what kind of organization it is. The trailing domain is often one of the following:

com Usually a company or other commercial institution or organization, like Convex Computers (`convex.com').

edu An educational institution, e.g. New York University, named

`nyu.edu'.

gov — A government site; for example, NASA is `nasa.gov'.

mil — A military site, like the Air Force (`af.mil').

net — Gateways and other administrative hosts for a network (it does not mean all of the hosts in a network).(1) One such gateway is `near.net'.

org — This is a domain reserved for private organizations, who don't comfortably fit in the other classes of domains. One example is the Electronic Frontier Foundation (see Section 8.3.3 [EFF], page 66), named `eff.org'.

Each country also has its own top-level domain. For example, the us domain includes each of the fifty states. Other countries represented with domains include:

au — Australia

ca — Canada

fr — France

uk — The United Kingdom. These also have sub-domains of things like `ac.uk' for academic sites and `co.uk' for commercial ones.

The proper terminology for a site's domain name (somewhere.domain above) is its Fully Qualified Domain Name (FQDN). It is usually selected to give a clear indication of the site's organization or sponsoring agent. For example, the Massachusetts Institute of Technology's FQDN is `mit.edu'; similarly, Apple Computer's domain name is `apple.com'. While such obvious names are usually the norm, there are the occasional exceptions that are ambiguous enough to mislead -- like `vt.edu', which on first impulse one might surmise is an educational institution of some sort in Vermont; not so. It's actually the domain name for Virginia Tech. In most cases it's relatively easy to glean
the meaning of a domain name_such confusion is far from the norm.

---

1 The Matrix, 111.

1.2 Internet Numbers

Every single machine on the Internet has a unique address,2 called its

Internet number or IP Address. It's actually a 32-bit number, but is most commonly represented as four numbers joined by periods (`.'), like 147.31.254.130. This is sometimes also called a dotted quad; there are literally thousands of different possible dotted quads. The ARPAnet (the mother to today's Internet) originally only had the capacity to have up to 256
systems on it because of the way each system was addressed. In the early eighties, it became clear that things would fast outgrow such a small limit; the 32-bit addressing method was born, freeing thousands of host numbers.

Each piece of an Internet address (like 192) is called an "octet," representing one of four sets of eight bits. The first two or three pieces (e.g. 192.55.239) represent the network that a system is on, called its subnet. For example, all of the computers for Wesleyan University are in the subnet 129.133. They can have numbers like 129.133.10.10, 129.133.230.19, up to 65 thousand possible combinations (possible computers).

IP addresses and domain names aren't assigned arbitrarily -- that would lead to unbelievable confusion. An application must be filed with the Network Information Center (NIC), either electronically (to hostmaster@nic.ddn.mil) or via regular mail.

1.3 Resolving Names and Numbers

Ok, computers can be referred to by either their FQDN or their Internet address. How can one user be expected to remember them all?

They aren't. The Internet is designed so that one can use either method. Since humans find it much more natural to deal with words than numbers in most
cases, the FQDN for each host is mapped to its Internet number. Each domain is served by a computer within that domain, which provides all of the necessary information to go from a domain name to an IP address, and vice-versa. For example, when someone refers to foosun.bar.com, the resolver knows that it should ask the system foovax.bar.com about systems in bar.com. It asks what Internet address foosun.bar.com has; if the name foosun.bar.com really exists, foovax will send back its number. All of this "magic" happens behind the scenes.

---

2 At least one address, possibly two or even three -- but we won't go into that.

Rarely will a user have to remember the Internet number of a site

(although often you'll catch yourself remembering an apparently obscure number, simply because you've accessed the system frequently). However, you will remember a substantial number of FQDNs. It will eventually reach a point
when you are able to make a reasonably accurate guess at what domain name a certain college, university, or company might have, given just their name.

1.4 The Networks

Internet The Internet is a large "network of networks." There is no one network known as The Internet; rather, regional nets like SuraNet, PrepNet, NearNet, et al., are all inter-connected (nay, "inter-networked") together into one great living thing, communicating at amazing speeds with the TCP/IP protocol. All activity takes place in "real-time."

UUCP The UUCP network is a loose association of systems all communicating with the `UUCP' protocol. (UUCP stands for `Unix-to-Unix Copy Program'.) It's based on two systems connecting to each other at specified intervals, called polling, and executing any work scheduled for either of them. Historically most UUCP was
done with Unix equipment, although the software's since been implemented on other platforms (e.g. VMS). For example, the system oregano polls the system basil once every two hours. If there's any mail waiting for oregano, basil will send it at that time; likewise, oregano will at that time send any jobs waiting for basil.

BITNET BITNET (the "Because It's Time Network") is comprised of systems connected by point-to-point links, all running the NJE protocol. It's continued to grow, but has found itself suffering at the hands of the falling costs of Internet connections. Also, a number of mail gateways are in place to reach users on other networks.

1.5 The Physical Connection

The actual connections between the various networks take a variety of forms. The most prevalent for Internet links are 56k leased lines (dedicated telephone lines carrying 56kilobit-per-second connections) and T1 links (special phone lines with 1Mbps connections). Also installed are T3 links, acting as backbones between major locations to carry a massive 45Mbps load of traffic.

These links are paid for by each institution to a local carrier (for example, Bell Atlantic owns PrepNet, the main provider in Pennsylvania). Also
available are SLIP connections, which carry Internet traffic (packets) over high-speed modems.

UUCP links are made with modems (for the most part), that run from 1200 baud all the way up to as high as 38.4Kbps. As was mentioned in Section 1.4 [The Networks], page 8, the connections are of the store-and-forward variety. Also in use are Internet-based UUCP links (as if things weren't already confusing enough!). The systems do their UUCP traffic over TCP/IP connections,
which give the UUCP-based network some blindingly fast "hops," resulting in better connectivity for the network as a whole. UUCP connections first became popular in the 1970's, and have remained in wide-spread use ever since. Only with UUCP can Joe Smith correspond with someone across the country or around the world, for the price of a local telephone call.

BITNET links mostly take the form of 9600bps modems connected from site to
site. Often places have three or more links going; the majority, however, look to "upstream" sites for their sole link to the network.

"The Glory and the Nothing of a Name"

Byron, Churchill's Grave

2 Electronic Mail

The desire to communicate is the essence of networking. People have always wanted to correspond with each other in the fastest way possible, short
of normal conversation. Electronic mail (or email) is the most prevalent application of this in computer networking. It allows people to write back and forth without having to spend much time worrying about how the message actually gets delivered. As technology grows closer and closer to being a common part of daily life, the need to understand the many ways it can be utilized and how it works, at least to some level, is vital.

2.1 Email Addresses

Electronic mail is hinged around the concept of an address; the section on Networking Basics made some reference to it while introducing domains. Your email address provides all of the information required to get a message to you from anywhere in the world. An address doesn't necessarily have to go to a human being. It could be an archive server,(1) a list of people, or even someone's pocket pager. These cases are the exception to the norm -- mail to most addresses is read by human beings.

2.1.1 %@!.: Symbolic Cacophony

Email addresses usually appear in one of two forms -- using the Internet format which contains `@', an "at"-sign, or using the UUCP format which contains `!', an exclamation point, also called a "bang." The latter of the two, UUCP "bang" paths, is more restrictive, yet more clearly dictates how the mail will travel.

To reach Jim Morrison on the system south.america.org, one would address the mail as `jm@south.america.org'. But if Jim's account was on a UUCP site named brazil, then his address would be `brazil!jm'. If it's possible (and one exists), try to use the Internet form of an address; bang paths can fail if an intermediate site in the path happens to be down. There is a growing trend for UUCP sites to register Internet domain names, to help alleviate the problem of path failures.

Another symbol that enters the fray is `%' -- it acts as an extra "routing" method. For example, if the UUCP site dream is connected to

---

1 See [Archive Servers], page 77, for a description.

south.america.org, but doesn't have an Internet domain name of its own, a user debbie on dream can be reached by writing to the address

```
debbie%dream@south.america.org
```

The form is significant. This address says that the local system should first send the mail to south.america.org. There the address debbie%dream will turn into debbie@dream, which will hopefully be a valid address. Then south.america.org will handle getting the mail to the host dream, where it will be delivered locally to debbie.

All of the intricacies of email addressing methods are fully covered in the book !%@:: A Directory of Electronic Mail Addressing and Networks published by O'Reilly and Associates, as part of their Nutshell Handbook series. It is a must for any active email user. Write to nuts@ora.com for ordering information.

2.1.2 Sending and Receiving Mail

We'll make one quick diversion from being OS-neuter here, to show you what it will look like to send and receive a mail message on a Unix system. Check with your system administrator for specific instructions related to mail at your site.

A person sending the author mail would probably do something like this:

```
% mail brendan@cs.widener.edu
Subject: print job's stuck


I typed `print babe.gif' and it didn't work! Why??
```

The next time the author checked his mail, he would see it listed in his mailbox as:

```
% mail
"/usr/spool/mail/brendan": 1 messages 1 new 1 unread
 U  1 joeuser@foo.widene Tue May  5 20:36   29/956   print job's stuck
?
```

which gives information on the sender of the email, when it was sent, and the subject of the message. He would probably use the `reply' command of Unix mail to send this response:


```
? r
To: joeuser@foo.widener.edu
Subject: Re: print job's stuck


You shouldn't print binary files like GIFs to a printer!
```

Brendan

Try sending yourself mail a few times, to get used to your system's mailer. It'll save a lot of wasted aspirin for both you and your system administrator.

2.1.3 Anatomy of a Mail Header

An electronic mail message has a specific structure to it that's common across every type of computer system.2 A sample would be:

```
From bush@hq.mil Sat May 25 17:06:01 1991
Received: from hq.mil by house.gov with SMTP id AA21901
  (4.1/SMI for dan@house.gov); Sat, 25 May 91 17:05:56 -0400
Date: Sat, 25 May 91 17:05:56 -0400
From: The President <bush@hq.mil>
Message-Id: <9105252105.AA06631@hq.mil>
To: dan@senate.gov
Subject: Meeting


Hi Dan .. we have a meeting at 9:30 a.m. with the Joint Chiefs.  Please
don't oversleep this time.
```

The first line, with `From' and the two lines for `Received:' are usually not very interesting. They give the "real" address that the mail is coming from (as opposed to the address you should reply to, which may look much different), and what places the mail went through to get to you. Over the Internet, there is always at least one `Received:' header and usually no more than four or five. When a message is sent using UUCP, one `Received:' header is added for each system that the mail passes through. This can often result in more than a dozen `Received:' headers. While they help with dissecting problems in mail delivery, odds are the average user will never want to see them. Most mail programs will filter out this kind of "cruft" in a header.

The `Date:' header contains the date and time the message was sent. Likewise, the "good" address (as opposed to "real" address) is laid out in the
`From:' header. Sometimes it won't include the full name of the person (in

---

2 The standard is written down in RFC-822. See [RFCs], page 73 for more info on how to get copies of the various RFCs.

this case `The President'), and may look different, but it should always contain an email address of some form.

The `Message-ID:' of a message is intended mainly for tracing mail routing, and is rarely of interest to normal users. Every `Message-ID:' is guaranteed to be unique.

`To:' lists the email address (or addresses) of the recipients of the message. There may be a `Cc:' header, listing additional addresses. Finally, a brief subject for the message goes in the `Subject:' header.

The exact order of a message's headers may vary from system to system, but
it will always include these fundamental headers that are vital to proper delivery.

2.1.4 Bounced Mail

When an email address is incorrect in some way (the system's name is wrong, the domain doesn't exist, whatever), the mail system will bounce the message back to the sender, much the same way that the Postal Service does when you send a letter to a bad street address. The message will include the reason for the bounce; a common error is addressing mail to an account name that doesn't exist. For example, writing to Lisa Simpson at Widener University's Computer Science department will fail, because she doesn't have an account.(3)

```
From: Mail Delivery Subsystem <MAILER-DAEMON>
Date: Sat, 25 May 91 16:45:14 -0400
To: mg@gracie.com
Cc: Postmaster@cs.widener.edu
Subject: Returned mail: User unknown


   ----- Transcript of session follows -----
While talking to cs.widener.edu:
>>> RCPT To:<lsimpson@cs.widener.edu>
<<< 550 <lsimpson@cs.widener.edu>... User unknown
550 lsimpson... User unknown
```

As you can see, a carbon copy of the message (the `Cc:' header entry) was sent
to the postmaster of Widener's CS department. The Postmaster is responsible for maintaining a reliable mail system on his system. Usually postmasters at sites will attempt to aid you in getting your mail where it's

---

3 Though if she asked, we'd certainly give her one.

supposed to go. If a typing error was made, then try re-sending the message. If you're sure that the address is correct, contact the postmaster of the site directly and ask him how to properly address it.

The message also includes the text of the mail, so you don't have to retype everything you wrote.

```
    ----- Unsent message follows -----
Received: by cs.widener.edu id AA06528; Sat, 25 May 91 16:45:14 -0400
Date: Sat, 25 May 91 16:45:14 -0400
From: Matt Groening <mg@gracie.com>
Message-Id: <9105252045.AA06528@gracie.com>
To: lsimpson@cs.widener.edu
Subject: Scripting your future episodes
Reply-To: writing-group@gracie.com


: verbiage :
```

The full text of the message is returned intact, including any headers that were added. This can be cut out with an editor and fed right back into the mail system with a proper address, making redelivery a relatively painless process.

2.2 Mailing Lists

People that share common interests are inclined to discuss their hobby or interest at every available opportunity. One modern way to aid in this exchange of information is by using a mailing list -- usually an email address that redistributes all mail sent to it back out to a list of addresses. For example, the Sun Managers mailing list (of interest to people that administer computers manufactured by Sun) has the address `sun-managers@eecs.nwu.edu'. Any mail sent to that address will "explode" out to each person named in a file maintained on a computer at Northwestern University.

Administrative tasks (sometimes referred to as administrivia) are often handled through other addresses, typically with the suffix `-request'. To continue the above, a request to be added to or deleted from the Sun Managers list should be sent to `sun-managers-request@eecs.nwu.edu'.

When in doubt, try to write to the `-request' version of a mailing list address first; the other people on the list aren't interested in your desire to be added or deleted, and can certainly do nothing to expedite your request.

Often if the administrator of a list is busy (remember, this is all peripheral
to real jobs and real work), many users find it necessary to ask again and
again, often with harsher and harsher language, to be removed from a list.

This does nothing more than waste traffic and bother everyone else receiving the messages. If, after a reasonable amount of time, you still haven't succeeded to be removed from a mailing list, write to the postmaster at that site and see if they can help.

Exercise caution when replying to a message sent by a mailing list. If you wish to respond to the author only, make sure that the only address you're
replying to is that person, and not the entire list. Often messages of the sort "Yes, I agree with you completely!" will appear on a list, boring the daylights out of the other readers. Likewise, if you explicitly do want to send the message to the whole list, you'll save yourself some time by checking
to make sure it's indeed headed to the whole list and not a single person.

A list of the currently available mailing lists is available in at least two places; the first is in a file on ftp.nisc.sri.com called `interest-groups' under the `netinfo/' directory. It's updated fairly regularly, but is
large (presently around 700K), so only get it every once in a while. The other
list is maintained by Gene Spafford (spaf@cs.purdue.edu), and is posted in parts to the newsgroup news.lists semi-regularly. (See Chapter 4 [Usenet News], page 29, for info on how to read that and other newsgroups.)

2.2.1 Listservs

On BITNET there's an automated system for maintaining discussion lists called the listserv. Rather than have an already harried and overworked human
take care of additions and removals from a list, a program performs these and other tasks by responding to a set of user-driven commands.

Areas of interest are wide and varied -- ETHICS-L deals with ethics
in computing, while ADND-L has to do with a role-playing game. A full list of the available BITNET lists can be obtained by writing to `LISTSERV@BITNIC.BITNET' with a body containing the command

```
list global
```

However, be sparing in your use of this -- see if it's already on your system

somewhere. The reply is quite large.

The most fundamental command is `subscribe'. It will tell the listserv to add the sender to a specific list. The usage is

```
subscribe  foo-l  Your Real Name
```

It will respond with a message either saying that you've been added to the list, or that the request has been passed on to the system on which the list is actually maintained.

The mate to `subscribe' is, naturally, `unsubscribe'. It will remove a given address from a BITNET list. It, along with all other listserv commands,
can be abbreviated -- `subscribe' as `sub', `unsubscribe' as `unsub', etc. For a full list of the available listserv commands, write to `LISTSERV@BITNIC.BITNET', giving it the command `help'.

As an aside, there have been implementations of the listserv system for non-BITNET hosts (more specifically, Unix systems). One of the most complete is available on cs.bu.edu in the directory `pub/listserv'.

"I made this letter longer than usual because
I lack the time to make it shorter."
Pascal, Provincial Letters XVI

3 Anonymous FTP

FTP (File Transfer Protocol) is the primary method of transferring files over the Internet. On many systems, it's also the name of the program that implements the protocol. Given proper permission, it's possible to copy a file from a computer in South Africa to one in Los Angeles at very fast speeds
(on the order of 5-10K per second). This normally requires either a user id

on both systems or a special configuration set up by the system administrator(s).

There is a good way around this restriction -- the anonymous FTP service. It essentially will let anyone in the world have access to a certain area of disk space in a non-threatening way. With this, people can make files publicly available with little hassle. Some systems have dedicated entire disks or even entire computers to maintaining extensive archives of source code and information. They include gatekeeper.dec.com (Digital), wuarchive.wustl.edu (Washington University in Saint Louis), and archive.cis.ohio-state.edu (The Ohio State University).

The process involves the "foreign" user (someone not on the system itself) creating an FTP connection and logging into the system as the user `anonymous', with an arbitrary password:

```
Name (foo.site.com:you): anonymous
Password: jm@south.america.org
```

Custom and netiquette dictate that people respond to the Password: query with an email address so that the sites can track the level of FTP usage, if they desire. (See Section 2.1 [Addresses], page 11 for information on email addresses).

The speed of the transfer depends on the speed of the underlying link. A site that has a 9600bps SLIP connection will not get the same throughput as a system with a 56k leased line (see Section 1.5 [The Physical Connection], page 8, for more on what kinds of connections can exist in a network). Also, the traffic of all other users on that link will affect performance. If there are thirty people all FTPing from one site simultaneously, the load on the system (in addition to the network connection) will degrade the overall throughput of the transfer.

3.1 FTP Etiquette

Lest we forget, the Internet is there for people to do work. People using the network and the systems on it are doing so for a purpose, whether it be

research, development, whatever. Any heavy activity takes away from the overall performance of the network as a whole.

The effects of an FTP connection on a site and its link can vary; the general rule of thumb is that any extra traffic created detracts from the

ability of that site's users to perform their tasks. To help be considerate of
this, it's highly recommended that FTP sessions be held only after normal business hours for that site, preferably late at night. The possible effects of a large transfer will be less destructive at 2 a.m. than 2 p.m. Also, remember that if it's past dinner time in Maine, it's still early afternoon in
California -- think in terms of the current time at the site that's being visited, not of local time.

3.2 Basic Commands

While there have been many extensions to the various FTP clients out there, there is a de facto "standard" set that everyone expects to work. For more specific information, read the manual for your specific FTP program. This
section will only skim the bare minimum of commands needed to operate an FTP session.

3.2.1 Creating the Connection

The actual command to use FTP will vary among operating systems; for the sake of clarity, we'll use `FTP' here, since it's the most general form.

There are two ways to connect to a system -- using its hostname or its Internet number. Using the hostname is usually preferred. However, some sites aren't able to resolve hostnames properly, and have no alternative. We'll assume you're able to use hostnames for simplicity's sake. The form is

```
ftp somewhere.domain
```

See Section 1.1 [Domains], page 5 for help with reading and using domain names
(in the example below, somewhere.domain is ftp.uu.net).

You must first know the name of the system you want to connect to. We'll use `ftp.uu.net' as an example. On your system, type:

```
ftp ftp.uu.net
```

(the actual syntax will vary depending on the type of system the connection's being made from). It will pause momentarily then respond with the message

```
Connected to ftp.uu.net.
```

and an initial prompt will appear:

```
220 uunet FTP server (Version 5.100 Mon Feb 11 17:13:28 EST 1991) ready.
Name (ftp.uu.net:jm):
```

to which you should respond with anonymous:

```
220 uunet FTP server (Version 5.100 Mon Feb 11 17:13:28 EST 1991) ready.
Name (ftp.uu.net:jm): anonymous
```

The system will then prompt you for a password; as noted previously, a good response is your email address:

```
331 Guest login ok, send ident as password.
Password: jm@south.america.org
230 Guest login ok, access restrictions apply.
ftp>
```

The password itself will not echo. This is to protect a user's security when he or she is using a real account to FTP files between machines. Once you reach the ftp> prompt, you know you're logged in and ready to go.

3.2.2 dir

At the `ftp>' prompt, you can type a number of commands to perform various functions. One example is `dir' -- it will list the files in the current directory. Continuing the example from above:

```
ftp> dir


200 PORT command successful.
150 Opening ASCII mode data connection for /bin/ls.
total 3116
drwxr-xr-x  2 7         21             512 Nov 21  1988 .forward
-rw-rw-r--  1 7         11               0 Jun 23  1988 .hushlogin
drwxrwxr-x  2 0         21             512 Jun  4  1990 Census
drwxrwxr-x  2 0         120            512 Jan  8 09:36 ClariNet
              : : : etc : : :
-rw-rw-r--  1 7         14           42390 May 20 02:24 newthisweek.Z
              : : : etc : : :
-rw-rw-r--  1 7         14         2018887 May 21 01:01 uumap.tar.Z
drwxrwxr-x  2 7         6             1024 May 11 10:58 uunet-info


226 Transfer complete.
5414 bytes received in 1.1 seconds (4.9 Kbytes/s)
ftp>
```

The file `newthisweek.Z' was specifically included because we'll be using it later. Just for general information, it happens to be a listing of all of the

files added to UUNET's archives during the past week.

The directory shown is on a machine running the Unix operating system -- the dir command will produce different results on other operating systems (e.g. TOPS, VMS, et al.). Learning to recognize different formats will take some time. After a few weeks of traversing the Internet, it proves easier to see, for example, how large a file is on an operating system you're otherwise not acquainted with.

With many FTP implementations, it's also possible to take the output of dir and put it into a file on the local system with

```
ftp> dir n* outfilename
```

the contents of which can then be read outside of the live FTP connection; this is particularly useful for systems with very long directories (like ftp.uu.net). The above example would put the names of every file that begins with an `n' into the local file outfilename.

3.2.3 cd

At the beginning of an FTP session, the user is in a "top-level" directory. Most things are in directories below it (e.g. `/pub'). To change the current directory, one uses the cd command. To change to the directory `pub', for example, one would type

```
ftp> cd pub
```

which would elicit the response

```
250 CWD command successful.
```

Meaning the "Change Working Directory" command (`cd') worked properly. Moving "up" a directory is more system-specific -- in Unix use the command `cd ..', and in VMS, `cd [-]'.

3.2.4 get and put

The actual transfer is performed with the get and put commands. To get a file from the remote computer to the local system, the command takes the form:

```
ftp> get filename
```

where filename is the file on the remote system. Again using ftp.uu.net as an example, the file `newthisweek.Z' can be retrieved with


```
ftp> get newthisweek.Z
200 PORT command successful.
150 Opening ASCII mode data connection for newthisweek.Z (42390 bytes).
226 Transfer complete.
local: newthisweek.Z remote: newthisweek.Z
42553 bytes received in 6.9 seconds (6 Kbytes/s)
ftp>
```

The section below on using binary mode instead of ASCII will describe why this particular choice will result in a corrupt and subsequently unusable file.

If, for some reason, you want to save a file under a different name (e.g. your system can only have 14-character filenames, or can only have one dot in the name), you can specify what the local filename should be by providing get with an additional argument

```
ftp> get newthisweek.Z uunet-new
```

which will place the contents of the file `newthisweek.Z' in `uunet-new' on the local system.

The transfer works the other way, too. The put command will transfer a file from the local system to the remote system. If the permissions are set up for an FTP session to write to a remote directory, a file can be sent with

```
ftp> put filename
```

As with get, put will take a third argument, letting you specify a different name for the file on the remote system.

3.2.4.1 ASCII vs Binary

In the example above, the file `newthisweek.Z' was transferred, but supposedly not correctly. The reason is this: in a normal ASCII transfer (the default), certain characters are translated between systems, to help make text files more readable. However, when binary files (those containing non-ASCII characters) are transferred, this translation should not take place. One example is a binary program -- a few changed characters can render it completely useless.

To avoid this problem, it's possible to be in one of two modes -- ASCII or

binary. In binary mode, the file isn't translated in any way. What's on the remote system is precisely what's received. The commands to go between the two modes are:

```
ftp> ascii
200 Type set to A.   (Note the A, which signifies ASCII mode.)


ftp> binary
200 Type set to I.   (Set to Image format, for pure binary transfers.)
```


Note that each command need only be done once to take effect; if the user types binary, all transfers in that session are done in binary mode (that is, unless ascii is typed later).

The transfer of `newthisweek.Z' will work if done as:

```
ftp> binary
200 Type set to I.
ftp> get newthisweek.Z
200 PORT command successful.
150 Opening BINARY mode data connection for newthisweek.Z (42390 bytes).
226 Transfer complete.
local: newthisweek.Z remote: newthisweek.Z
42390 bytes received in 7.2 seconds (5.8 Kbytes/s)
```

> Note: The file size (42390) is different from that done in ASCII mode (42553) bytes; and the number 42390 matches the one in the listing of UUNET's top directory. We can be relatively sure that we've received the file without any problems.

3.2.4.2 mget and mput

The commands mget and mput allow for multiple file transfers using wildcards to get several files, or a whole set of files at once, rather than having to do it manually one by one. For example, to get all files that begin
with the letter `f', one would type

```
ftp> mget f*
```

Similarly, to put all of the local files that end with .c:

```
ftp> mput *.c
```

Rather than reiterate what's been written a hundred times before, consult a local manual for more information on wildcard matching (every DOS manual,

for example, has a section on it).

Normally, FTP assumes a user wants to be prompted for every file in a mget
or mput operation. You'll often need to get a whole set of files and not have each of them confirmed -- you know they're all right. In that case, use the prompt command to turn the queries off.

```
ftp> prompt
Interactive mode off.
```

Likewise, to turn it back on, the prompt command should simply be issued again.

3.3 The archie Server

A group of people at McGill University in Canada got together and created a query system called archie. It was originally formed to be a quick and easy way to scan the offerings of the many anonymous FTP sites that are maintained around the world. As time progressed, archie grew to include other valuable services as well.

The archie service is accessible through an interactive telnet session, email queries, and command-line and X-window clients. The email responses can be used along with FTPmail servers for those not on the Internet. (See [FTP-by-Mail Servers], page 77, for info on using FTPmail servers.)

3.3.1 Using archie Today

Currently, archie tracks the contents of over 800 anonymous FTP archive sites containing over a million files stored across the Internet. Collectively, these files represent well over 50 gigabytes of information, with new entries being added daily.

The archie server automatically updates the listing information from each site about once a month. This avoids constantly updating the databases, which
could waste network resources, yet ensures that the information on each site's
holdings is reasonably up to date.

To access archie interactively, telnet to one of the existing servers. (1)
They include

archie.ans.net (New York, USA)

archie.rutgers.edu (New Jersey, USA)
archie.sura.net (Maryland, USA)
archie.unl.edu (Nebraska, USA)
archie.mcgill.ca (the first Archie server, in Canada)
archie.funet.fi (Finland)
archie.au (Australia)
archie.doc.ic.ac.uk (Great Britain)

At the login: prompt of one of the servers, enter `archie' to log in. A greeting will be displayed, detailing information about ongoing work in the archie project; the user will be left at a `archie>' prompt, at which he may enter commands. Using `help' will yield instructions on using the `prog' command to make queries, `set' to control various aspects of the server's

---

1 See Chapter 5 [Telnet], page 45, for notes on using the telnet program.

operation, et al. Type `quit' at the prompt to leave archie. Typing the query `prog vine.tar.Z' will yield a list of the systems that offer the source
to the X-windows program vine; a piece of the information returned looks like:

```
Host ftp.uu.net   (137.39.1.9)
Last updated 10:30  7 Jan 1992


    Location: /packages/X/contrib
      FILE       rw-r--r--     15548  Oct  8 20:29   vine.tar.Z


Host nic.funet.fi   (128.214.6.100)
Last updated 05:07  4 Jan 1992


    Location: /pub/X11/contrib
      FILE       rw-rw-r--     15548  Nov  8 03:25   vine.tar.Z
```

3.3.2 archie Clients

There are two main-stream archie clients, one called (naturally enough) `archie', the other `xarchie' (for X-Windows). They query the archie databases and yield a list of systems that have the requested file(s) available for anonymous FTP, without requiring an interactive session to the server. For example, to find the same information you tried with the server

command `prog', you could type

```
% archie vine.tar.Z
Host athene.uni-paderborn.de
    Location: /local/X11/more_contrib
            FILE -rw-r--r--       18854  Nov 15 1990  vine.tar.Z


Host emx.utexas.edu
    Location: /pub/mnt/source/games
            FILE -rw-r--r--       12019  May  7 1988  vine.tar.Z


Host export.lcs.mit.edu
    Location: /contrib
            FILE -rw-r--r--       15548  Oct  9 00:29  vine.tar.Z
```

Note that your system administrator may not have installed the archie clients yet; the source is available on each of the archie servers, in the directory `archie/clients'.

Using the X-windows client is much more intuitive -- if it's installed, just read its man page and give it a whirl. It's essential for the networked desktop.

3.3.3 Mailing archie

Users limited to email connectivity to the Internet should send a message to the address `archie@archie.mcgill.ca' with the single word help in the body
of the message. An email message will be returned explaining how to use the email archie server, along with the details of using FTPmail. Most of the commands offered by the telnet interface can be used with the mail server.

3.3.4 The whatis database

In addition to offering access to anonymous FTP listings, archie also permits access to the whatis description database. It includes the names and brief synopses for over 3,500 public domain software packages, datasets and informational documents located on the Internet.

Additional whatis databases are scheduled to be added in the future. Planned offerings include listings for the names and locations of online library catalog programs, the names of publicly accessible electronic mailing lists, compilations of Frequently Asked Questions lists, and archive sites for

the most popular Usenet newsgroups. Suggestions for additional descriptions or
locations databases are welcomed and should be sent to the archie developers at `archie-l@cs.mcgill.ca'.

"Was f"ur pl"undern!"
("What a place to plunder!")
Gebhard Leberecht Bl"ucher

4 Usenet News

The first thing to understand about Usenet is that it is widely misunderstood. Every day on Usenet the "blind men and the elephant" phenomenon appears, in spades. In the opinion of the author, more flame wars (rabid arguments) arise because of a lack of understanding of the nature of Usenet than from any other source. And consider that such flame wars arise, of necessity, among people who are on Usenet. Imagine, then, how poorly understood Usenet must be by those outside!

No essay on the nature of Usenet can ignore the erroneous impressions held
by many Usenet users. Therefore, this section will treat falsehoods first. Keep reading for truth. (Beauty, alas, is not relevant to Usenet.)

4.1 What Usenet Is

Usenet is the set of machines that exchange articles tagged with one or more universally-recognized labels, called newsgroups (or "groups" for short).
(Note that the term `newsgroup' is correct, while `area', `base', `board', `bboard', `conference', `round table', `SIG', etc. are incorrect. If you want to be understood, be accurate.)

4.2 The Diversity of Usenet

If the above definition of Usenet sounds vague, that's because it is. It is almost impossible to generalize over all Usenet sites in any non-trivial way. Usenet encompasses government agencies, large universities, high schools,
businesses of all sizes, home computers of all descriptions, etc.

Every administrator controls his own site. No one has any real control over any site but his own. The administrator gets his power from the owner of the system he administers. As long as the owner is happy with the job the administrator is doing, he can do whatever he pleases, up to and including cutting off Usenet entirely. C'est la vie.

4.3 What Usenet Is Not

Usenet is not an organization.

> Usenet has no central authority. In fact, it has no central anything. There is a vague notion of "upstream" and "downstream"

> related to the direction of high-volume news flow. It follows that, to the extent that "upstream" sites decide what traffic they
> will carry for their "downstream" neighbors, that "upstream" sites
> have some influence on their neighbors. But such influence is usually easy to circumvent, and heavy-handed manipulation typically results in a backlash of resentment.

Usenet is not a democracy.

> A democracy can be loosely defined as "government of the people, by the people, for the people." However, as explained above, Usenet is not an organization, and only an organization can be run
> as a democracy. Even a democracy must be organized, for if it lacks a means of enforcing the peoples' wishes, then it may as well not exist.
>
> Some people wish that Usenet were a democracy. Many people pretend
> that it is. Both groups are sadly deluded.

Usenet is not fair.

> After all, who shall decide what's fair? For that matter, if someone is behaving unfairly, who's going to stop him? Neither you nor I, that's certain.

Usenet is not a right.

Some people misunderstand their local right of "freedom of speech" to mean that they have a legal right to use others' computers to say what they wish in whatever way they wish, and the owners of said computers have no right to stop them.

Those people are wrong. Freedom of speech also means freedom not to speak; if I choose not to use my computer to aid your speech, that is my right. Freedom of the press belongs to those who own one.

Usenet is not a public utility.

Some Usenet sites are publicly funded or subsidized. Most of them, by plain count, are not. There is no government monopoly on Usenet, and little or no control.

Usenet is not a commercial network.

Many Usenet sites are academic or government organizations; in fact, Usenet originated in academia. Therefore, there is a Usenet custom of keeping commercial traffic to a minimum. If such commercial traffic is generally considered worth carrying, then it may be grudgingly tolerated. Even so, it is usually separated somehow from non-commercial traffic; see comp.newprod.

Usenet is not the Internet.

The Internet is a wide-ranging network, parts of which are subsidized by various governments. The Internet carries many kinds of traffic; Usenet is only one of them. And the Internet is only one of the various networks carrying Usenet traffic.

Usenet is not a Unix network, nor even an ASCII network.

Don't assume that everyone is using "rn" on a Unix machine. There are Vaxen running VMS, IBM mainframes, Amigas, and MS-DOS PCs reading and posting to Usenet. And, yes, some of them use (shudder) EBCDIC. Ignore them if you like, but they're out there.

Usenet is not software.

There are dozens of software packages used at various sites to transport and read Usenet articles. So no one program or package can be called "the Usenet software."

Software designed to support Usenet traffic can be (and is) used for other kinds of communication, usually without risk of mixing the two. Such private communication networks are typically kept distinct from Usenet by the invention of newsgroup names different from the universally-recognized ones.

Usenet is not a UUCP network.

UUCP is a protocol (some might say protocol suite, but that's a technical point) for sending data over point-to-point connections, typically using dialup modems. Usenet is only one of the various kinds of traffic carried via UUCP, and UUCP is only one of the various transports carrying Usenet traffic.

Well, enough negativity.

4.4 Propagation of News

In the old days, when UUCP over long-distance dialup lines was the dominant means of article transmission, a few well-connected sites had real influence in determining which newsgroups would be carried where. Those sites called themselves "the backbone."

But things have changed. Nowadays, even the smallest Internet site has connectivity the likes of which the backbone admin of yesteryear could only dream. In addition, in the U.S., the advent of cheaper long-distance calls and high-speed modems has made long-distance Usenet feeds thinkable for smaller companies. There is only one pre-eminent UUCP transport site

today in the U.S., namely UUNET. But UUNET isn't a player in the propagation wars, because it never refuses any traffic -- it gets paid by the minute, after all; to refuse based on content would jeopardize its legal status as an enhanced service provider.

All of the above applies to the U.S. In Europe, different cost structures favored the creation of strictly controlled hierarchical organizations with central registries. This is all very unlike the traditional mode of U.S. sites (pick a name, get the software, get a feed, you're on). Europe's "benign monopolies", long uncontested, now face competition from looser organizations patterned after the U.S. model.

4.5 Group Creation

As discussed above, Usenet is not a democracy. Nevertheless, currently the most popular way to create a new newsgroup involves a "vote" to determine popular support for (and opposition to) a proposed newsgroup. See Appendix C [Newsgroup Creation], page 79, for detailed instructions and guidelines on the process involved in making a newsgroup.

If you follow the guidelines, it is probable that your group will be created and will be widely propagated. However, due to the nature of Usenet, there is no way for any user to enforce the results of a newsgroup vote (or any other decision, for that matter). Therefore, for your new newsgroup to be propagated widely, you must not only follow the letter of the guidelines; you must also follow its spirit. And you must not allow even a whiff of shady dealings or dirty tricks to mar the vote.

So, you may ask: How is a new user supposed to know anything about the "spirit" of the guidelines? Obviously, she can't. This fact leads inexorably to the following recommendation:

> If you're a new user, don't try to create a new newsgroup alone.

If you have a good newsgroup idea, then read the news.groups newsgroup for a while (six months, at least) to find out how things work. If you're too impatient to wait six months, then you really need to learn; read news.groups for a year instead. If you just can't wait, find a Usenet old hand to run the vote for you.

Readers may think this advice unnecessarily strict. Ignore it at your peril. It is embarrassing to speak before learning. It is foolish to jump into a society you don't understand with your mouth open. And it is futile to try to force your will on people who can tune you out with the press of a key.

4.6 If You're Unhappy:

Property rights being what they are, there is no higher authority on Usenet than the people who own the machines on which Usenet traffic is carried. If the owner of the machine you use says, "We will not carry alt.sex on this machine," and you are not happy with that order, you have no Usenet recourse. What can we outsiders do, after all?

That doesn't mean you are without options. Depending on the nature of

your site, you may have some internal political recourse. Or you might find external pressure helpful. Or, with a minimal investment, you can get a feed of your own from somewhere else. Computers capable of taking Usenet feeds are down in the $500 range now, Unix-capable boxes are going for under $2000, and there are at least two Unix lookalikes in the $100 price range.

No matter what, appealing to "Usenet" won't help. Even if those who read such an appeal regarding system administration are sympathetic to your cause, they will almost certainly have even less influence at your site than you do.

By the same token, if you don't like what some user at another site is doing, only the administrator and/or owner of that site have any authority to do anything about it. Persuade them that the user in question is a problem for them, and they might do something (if they feel like it). If the user in question is the administrator or owner of the site from which he or she posts, forget it; you can't win. Arrange for your newsreading software to ignore articles from him or her if you can, and chalk one up to experience.

4.7 The History of Usenet (The ABCs)

In the beginning, there were conversations, and they were good. Then came Usenet in 1979, shortly after the release of V7 Unix with UUCP; and it was better. Two Duke University grad students in North Carolina, Tom Truscott and Jim Ellis, thought of hooking computers together to exchange information with the Unix community. Steve Bellovin, a grad student at the University of North Carolina, put together the first version of the news software using shell scripts and installed it on the first two sites: unc and duke. At the beginning of 1980 the network consisted of those two sites and phs (another machine at Duke), and was described at the January 1980 Usenix conference in Boulder, CO.(1) Steve Bellovin later rewrote the scripts into C programs, but they were never released beyond unc and duke. Shortly thereafter, Steve Daniel

---

1 The Usenix conferences are semi-annual meetings where members of the Usenix Association, a group of Unix enthusiasts, meet and trade notes.

did another implementation in the C programming language for public distribution. Tom Truscott made further modifications, and this became the "A" news release.

In 1981 at the University of California at Berkeley, grad student Mark Horton and high school student Matt Glickman rewrote the news software to add functionality and to cope with the ever increasing volume of news -- "A" news was intended for only a few articles per group per day. This rewrite was the "B" news version. The first public release was version 2.1 in 1982; all versions before 2.1 were considered in beta test. As The Net grew, the news software was expanded and modified. The last version maintained and released primarily by Mark was 2.10.1.

Rick Adams, then at the Center for Seismic Studies, took over coordination
of the maintenance and enhancement of the news software with the 2.10.2 release in 1984. By this time, the increasing volume of news was becoming a concern, and the mechanism for moderated groups was added to the software at 2.10.2. Moderated groups were inspired by ARPA mailing lists and experience with other bulletin board systems. In late 1986, version 2.11 of news was released, including a number of changes to support a new naming structure for newsgroups, enhanced batching and compression, enhanced ihave/sendme control messages, and other features. The current release of news is 2.11, patchlevel
19.

A new version of news, becoming known as "C" news, has been developed at the University of Toronto by Geoff Collyer and Henry Spencer. This version is
a rewrite of the lowest levels of news to increase article processing speed, decrease article expiration processing and improve the reliability of the news
system through better locking, etc. The package was released to The Net in the autumn of 1987. For more information, see the paper News Need Not Be Slow, published in the Winter 1987 Usenix Technical Conference proceedings.

Usenet software has also been ported to a number of platforms, from the Amiga and IBM PCs all the way to minicomputers and mainframes.

4.8 Hierarchies

Newsgroups are organized according to their specific areas of concentration. Since the groups are in a tree structure, the various areas are called hierarchies. There are seven major categories:

`comp' Topics of interest to both computer professionals and hobbyists, including topics in computer science, software sources, and information on hardware and software systems.

`misc' Group addressing themes not easily classified into any of the other headings or which incorporate themes from multiple categories. Subjects include fitness, job-hunting, law, and investments.

`sci' Discussions marked by special knowledge relating to research in or application of the established sciences.

`soc' Groups primarily addressing social issues and socializing. Included are discussions related to many different world cultures.

`talk' Groups largely debate-oriented and tending to feature long discussions without resolution and without appreciable amounts of generally useful information.

`news' Groups concerned with the news network, group maintenance, and software.

`rec' Groups oriented towards hobbies and recreational activities

These "world" newsgroups are (usually) circulated around the entire Usenet -- this implies world-wide distribution. Not all groups actually enjoy such wide distribution, however. The European Usenet and Eunet sites take only a selected subset of the more "technical" groups, and controversial "noise" groups are often not carried by many sites in the U.S. and Canada (these groups are primarily under the `talk' and `soc' classifications). Many sites do not carry some or all of the comp.binaries groups because of the typically large size of the posts in them (being actual executable programs).

Also available are a number of "alternative" hierarchies:

`alt' True anarchy; anything and everything can and does appear; subjects include sex, the Simpsons, and privacy.

`gnu' Groups concentrating on interests and software with the GNU Project of the Free Software Foundation. For further info on what the FSF is, see Section 8.3.4 [FSF], page 68.

`biz' Business-related groups.

4.9 Moderated vs Unmoderated

Some newsgroups insist that the discussion remain focused and on-target; to serve this need, moderated groups came to be. All articles posted to a moderated group get mailed to the group's moderator. He or she periodically (hopefully sooner than later) reviews the posts, and then either posts them

individually to Usenet, or posts a composite digest of the articles for the past day or two. This is how many mailing list gateways work (for example, the
Risks Digest).

4.10 news.groups & news.announce.newgroups

Being a good net.citizen includes being involved in the continuing growth and evolution of the Usenet system. One part of this involvement includes following the discussion in the groups news.groups and the notes in news.announce.newgroups. It is there that discussion goes on about the creation of new groups and destruction of inactive ones. Every person on Usenet is allowed and encouraged to vote on the creation of a newsgroup.

4.11 How Usenet Works

The transmission of Usenet news is entirely cooperative. Feeds are generally provided out of good will and the desire to distribute news everywhere. There are places which provide feeds for a fee (e.g. UUNET), but
for the large part no exchange of money is involved.

There are two major transport methods, UUCP and NNTP. The first is mainly
modem-based and involves the normal charges for telephone calls. The second, NNTP, is the primary method for distributing news over the Internet.

With UUCP, news is stored in batches on a site until the neighbor calls to
receive the articles, or the feed site happens to call. A list of groups which the neighbor wishes to receive is maintained on the feed site. The Cnews system compresses its batches, which can dramatically reduce the transmission time necessary for a relatively heavy newsfeed.

NNTP, on the other hand, offers a little more latitude with how news is sent. The traditional store-and-forward method is, of course, available. Given the "real-time" nature of the Internet, though, other methods have been devised. Programs now keep constant connections with their news neighbors, sending news nearly instantaneously, and can handle dozens of simultaneous feeds, both incoming and outgoing.

The transmission of a Usenet article is centered around the unique `Message-ID:' header. When an NNTP site offers an article to a neighbor, it says it has that specific Message ID. If the neighbor finds it hasn't received
the article yet, it tells the feed to send it through; this is repeated for each and every article that's waiting for the neighbor. Using unique IDs

helps prevent a system from receiving five copies of an article from each of its five news neighbors, for example.

Further information on how Usenet works with relation to the various transports is available in the documentation for the Cnews and NNTP packages, as well as in RFC-1036, the Standard for Interchange of USENET Messages and RFC-977, Network News Transfer Protocol: A Proposed Standard for the Stream-Based Transmission of News. The RFCs do tend to be rather dry reading, particularly to the new user. See [RFCs], page 73 for information on retrieving RFCs.

4.12 Mail Gateways

A natural progression is for Usenet news and electronic mailing lists to somehow become merged -- which they have, in the form of news gateways. Many mailing lists are set up to "reflect" messages not only to the readership of the list, but also into a newsgroup. Likewise, posts to a newsgroup can be sent to the moderator of the mailing list, or to the entire mailing list. Some
examples of this in action are comp.risks (the Risks Digest) and comp.dcom.telecom (the Telecom Digest).

This method of propagating mailing list traffic has helped solve the problem of a single message being delivered to a number of people at the same site -- instead, anyone can just subscribe to the group. Also, mailing list maintenance is lowered substantially, since the moderators don't have to be constantly removing and adding users to and from the list. Instead, the people can read and not read the newsgroup at their leisure.

4.13 Usenet "Netiquette"

There are many traditions with Usenet, not the least of which is dubbed netiquette -- being polite and considerate of others. If you follow a few basic guidelines, you, and everyone that reads your posts, will be much happier in the long run.

4.13.1 Signatures

At the end of most articles is a small blurb called a person's signature. In Unix this file is named `.signature' in the person's login directory -- it will vary for other operating systems. It exists to provide information

about
how to get in touch with the person posting the article, including

their email address, phone number, address, or where they're located. Even so,
signatures have become the graffiti of computers. People put song lyrics, pictures, philosophical quotes, even advertisements in their ".sigs". (Note, however, that advertising in your signature will more often than not get you flamed until you take it out.)

Four lines will suffice -- more is just extra garbage for Usenet sites to carry along with your article, which is supposed to be the intended focus of the reader. Netiquette dictates limiting oneself to this "quota" of four -- some people make signatures that are ten lines or even more, including elaborate ASCII drawings of their hand-written signature or faces or even the space shuttle. This is not cute, and will bother people to no end.

Similarly, it's not necessary to include your signature -- if you forget to append it to an article, don't worry about it. The article's just as good as it ever would be, and contains everything you should want to say. Don't re-post the article just to include the signature.

4.13.2 Posting Personal Messages

If mail to a person doesn't make it through, avoid posting the message to a newsgroup. Even if the likelihood of that person reading the group is very high, all of the other people reading the articles don't give a whit what you have to say to Jim Morrison. Simply wait for the person to post again and double-check the address, or get in touch with your system administrator and see if it's a problem with local email delivery. It may also turn out that their site is down or is having problems, in which case it's just necessary to
wait until things return to normal before contacting Jim.

4.13.3 Posting Mail

In the interests of privacy, it's considered extremely bad taste to post any email that someone may have sent, unless they explicitly give you permission to redistribute it. While the legal issues can be heavily debated,
most everyone agrees that email should be treated as anything one would receive via normal snailmail,(2) with all of the assumed rights that are carried with it.

---

2 The slang for the normal land and air postal service.

4.13.4 Test Messages

Many people, particularly new users, want to try out posting before actually taking part in discussions. Often the mechanics of getting messages out is the most difficult part of Usenet. To this end, many, many users find it necessary to post their tests to "normal" groups (for example, news.admin or comp.mail.misc). This is considered a major netiquette faux pas in the Usenet world. There are a number of groups available, called test groups, that exist solely for the purpose of trying out a news system, reader, or even
new signature. They include

```
alt.test
gnu.gnusenet.test
misc.test
```

some of which will generate auto-magic replies to your posts to let you know they made it through. There are certain denizens of Usenet that frequent the test groups to help new users out. They respond to the posts, often including the article so the poster can see how it got to the person's site. Also, many regional hierarchies have test groups, like phl.test in Philadelphia.

By all means, experiment and test -- just do it in its proper place.

4.13.5 Famous People Appearing

Every once in a while, someone says that a celebrity is accessible through
"The Net"; or, even more entertaining, an article is forged to appear to be coming from that celebrity. One example is Stephen Spielberg -- the rec.arts.movies readership was in an uproar for two weeks following a couple of posts supposedly made by Mr. Spielberg. (Some detective work revealed it to be a hoax.)

There are a few well-known people that are acquainted with Usenet and computers in general -- but the overwhelming majority are just normal people. One should act with skepticism whenever a notable personality is "seen" in a newsgroup.

4.13.6 Summaries

Authors of articles occasionally say that readers should reply by mail and they'll summarize. Accordingly, readers should do just that -- reply via mail.
Responding with a followup article to such an article defeats the intention of the author. She, in a few days, will post one article containing the highlights of the responses she received. By following up to the whole group, the author may not read what you have to say.

When creating a summary of the replies to a post, try to make it as reader-friendly as possible. Avoid just putting all of the messages received into one big file. Rather, take some time and edit the messages into a form that contains the essential information that other readers would be interested in.

Also, sometimes people will respond but request to remain anonymous (one example is the employees of a corporation that feel the information's not proprietary, but at the same time want to protect themselves from political backlash). Summaries should honor this request accordingly by listing the `From:' address as `anonymous' or `(Address withheld by request)'.

4.13.7 Quoting

When following up to an article, many newsreaders provide the facility to quote the original article with each line prefixed by `> ', as in

```
In article <1232@foo.bar.com>, sharon@foo.bar.com wrote:
> I agree, I think that basketweaving's really catching on,
> particularly in Pennsylvania.  Here's a list of every person
> in PA that currently engages in it publicly:


: etc :
```

This is a severe example (potentially a horribly long article), but proves a point. When you quote another person, edit out whatever isn't directly applicable to your reply.(3) This gives the reader of the new article a better idea of what points you were addressing. By including the entire article, you'll only annoy those reading it. Also, signatures in the original

aren't necessary; the readers already know who wrote it (by the attribution).

Avoid being tedious with responses -- rather than pick apart an article, address it in parts or as a whole. Addressing practically each and every word in an article only proves that the person responding has absolutely nothing better to do with his time.

If a "war" starts (insults and personal comments get thrown back and forth), take it into email -- exchange email with the person you're arguing with. No one enjoys watching people bicker incessantly.

---

3 But not changing their words, of course.

4.13.8 Crossposting

The `Newsgroups:' line isn't limited to just one group -- an article can be posted in a list of groups. For instance, the line

```
Newsgroups: sci.space,comp.simulation
```

posts the article to both the groups sci.space and comp.simulation. It's usually safe to crosspost to up to three or four groups. To list more than that is considered "excessive noise."

It's also suggested that if an article is crossposted a `Followup-To:' header be included. It should name the group to which all additional discussion should be directed to. For the above example a possible `Followup-To:' would be

```
Followup-To: sci.space
```

which would make all followups automatically be posted to just sci.space, rather than both sci.space and comp.simulation. If every response made with a newsreader's "followup" command should go to the person posting the article no matter what, there's also a mechanism worked in to accommodate. The Followup-To: header should contain the single word `poster':

```
Followup-To: poster
```

Certain newsreaders will use this to sense that a reply should never be posted back onto The Net. This is often used with questions that will yield a summary of information later, a vote, or an advertisement.

4.13.9 Recent News

One should avoid posting "recent" events -- sports scores, a plane crash, or whatever people will see on the evening news or read in the morning paper. By the time the article has propagated across all of Usenet, the "news" value of the article will have become stale. (This is one case for the argument that
`Usenet news' is a misnomer.(4))

---

4 Note that the Clarinet News service (see Section 7.3 [Clarinet], page 60) offers news items in a Usenet format as a precise alternative to the morning paper, et. al.

4.13.10 Quality of Postings

How you write and present yourself in your articles is important. If you have terrible spelling, keep a dictionary near by. If you have trouble with grammar and punctuation, try to get a book on English grammar and composition (found in many bookstores and at garage sales). By all means pay attention to what you say -- it makes you who you are on The Net.

Likewise, try to be clear in what you ask. Ambiguous or vague questions often lead to no response at all, leaving the poster discouraged. Give as much essential information as you feel is necessary to let people help you, but keep it within limits. For instance, you should probably include the operating system of your computer in the post if it's needed, but don't tell everybody what peripherals you have hanging off of it.

4.13.11 Useful Subjects

The `Subject:' line of an article is what will first attract people to read it -- if it's vague or doesn't describe what's contained within, no one will read the article. At the same time, `Subject:' lines that're too wordy tend to be irritating. For example:

Good Subject: Building Emacs on a Sun Sparc under 4.1

Good Subject: Tryin' to find Waldo in NJ.

Bad Subject: I can't get emacs to work !!!

Bad Subject: I'm desperately in search of the honorable Mr. Waldo in the state of...

Simply put, try to think of what will best help the reader when he or she encounters your article in a newsreading session.

4.13.12 Tone of Voice

Since common computers can't portray the inflection or tone in a person's voice, how articles are worded can directly affect the response to them. If you say

> Anybody using a Vic-20 should go buy themselves a life.

you'll definitely get some responses -- telling you to take a leap. Rather than be inflammatory, phrase your articles in a way that rationally expresses your opinion, like

> What're the practical uses of a Vic-20 these days?

which presents yourself as a much more level-headed individual.

Also, what case (upper or lower) you use can indicate how you're trying to speak -- netiquette dictates that if you USE ALL CAPITAL LETTERS, people will think you're "shouting." Write as you would in a normal letter to a friend, following traditional rules of English (or whatever language you happen to speak).

4.13.13 Computer Religion

No matter what kind of computer a person is using, theirs is always the best and most efficient of them all. Posting articles asking questions like `What computer should I buy? An Atari ST or an Amiga?' will lead only to fervent arguments over the merits and drawbacks of each brand. Don't even ask The Net -- go to a local user group, or do some research of your own like reading some magazine reviews. Trying to say one computer is somehow better than another is a moot point.

4.14 Frequently Asked Questions

A number of groups include Frequently Asked Question (FAQ) lists, which give the answers to questions or points that have been raised time and time again in a newsgroup. They're intended to help cut down on the redundant traffic in a group. For example, in the newsgroup alt.tv.simpsons, one recurring question is `Did you notice that there's a different blackboard opening at the beginning of every Simpsons episode?' As a result, it's part of
the FAQ for that group.

Usually, FAQ lists are posted at the beginning of each month, and are set to expire one month later (when, supposedly, the next FAQ will be published). Nearly every FAQ is also crossposted to news.answers, which is used as a Usenet repository for them.

4.14.1 The Pit-Manager Archive

MIT, with Jonathan Kamens, has graciously dedicated a machine to the archiving and storage of the various periodic postings that are peppered throughout the various Usenet groups. To access them, FTP to the system pit-manager.mit.edu and look in the directory `/pub/usenet'.

"Be it true or false, so it be news."
Ben Jonson, News from the New World

5 Telnet

Telnet is the main Internet protocol for creating a connection with a remote machine. It gives the user the opportunity to be on one computer system and do work on another, which may be across the street or thousands of miles away. Where modems are limited, in the majority, by the quality of telephone lines and a single connection, telnet provides a connection that's error-free and nearly always faster than the latest conventional modems.

5.1 Using Telnet

As with FTP (see Section 3.2.2 [Anonymous FTP], page 21), the actual command for negotiating a telnet connection varies from system to system. The most common is telnet itself, though. It takes the form of:

```
telnet somewhere.domain
```

To be safe, we'll use your local system as a working example. By now, you hopefully know your site's domain name. If not, ask or try to figure it out. You'll not get by without it.

To open the connection, type

```
telnet your.system.name
```

If the system were wubba.cs.widener.edu, for example, the command would look like

```
telnet wubba.cs.widener.edu
```

The system will respond with something similar to

```
Trying 147.31.254.999...
Connected to wubba.cs.widener.edu.
Escape character is '^]'.
```

The escape character, in this example ^] (Control-]), is the character that will let you go back to the local system to close the connection, suspend it, etc. To close this connection, the user would type ^], and respond to the telnet> prompt with the command close. Local documentation should be checked for information on specific commands, functions, and escape character that can be used.

5.1.1 Telnet Ports

Many telnet clients also include a third option, the port on which the

connection should take place. Normally, port 23 is the default telnet port; the user never has to think about it. But sometimes it's desirable to telnet to a different port on a system, where there may be a service available, or to
aid in debugging a problem. Using

```
telnet somewhere.domain port
```

will connect the user to the given port on the system somewhere.domain. Many libraries use this port method to offer their facilities to the general

Internet community; other services are also available. For instance, one would type

```
telnet martini.eecs.umich.edu 3000
```

to connect to the geographic server at the University of Michigan (see Section 5.5.6 [Geographic Server], page 50). Other such port connections follow the same usage.

5.2 Publicly Accessible Libraries

Over the last several years, most university libraries have switched from a manual (card) catalog system to computerized library catalogs. The automated systems provide users with easily accessible and up-to-date information about the books available in these libraries. This has been further improved upon with the advent of local area networks, dialup modems, and wide area networks. Now many of us can check on our local library's holdings or that of a library halfway around the world!

Many, many institutions of higher learning have made their library catalogs available for searching by anyone on the Internet. They include Boston University, the Colorado Alliance of Research Libraries (CARL), and London University King's College.

To include a listing of some of the existing sites would not only be far too long for this document, it would soon be out of date. Instead, several lists are being maintained and are available either by mail or via FTP. Also, the Internet Resource Guide (IRG) also describes a few libraries that are accessible -- see Section 9.1 [IRG], page 71 for further information.

Art St. George and Ron Larsen are maintaining a list of Internet-accessible libraries and databases often referred to as "the St. George directory." It began with only library catalogs but has expanded to include sections on campus-wide information systems, and even bulletin board systems that are not on the Internet. The library catalog sections are divided into those that are free, those that charge, and international (i.e. non-U.S.) catalogs; they are arranged by state, province, or country within each section. There is also a section giving dialup information for some of the library catalogs. It's available for FTP (see Section 3.2.2

[Anonymous FTP], page 21) on nic.cerf.net in the directory `cerfnet/cerfnet_info/library_catalog'. The file `internet-catalogs' has a date suffix; check for the most current date. The information is updated periodically.

Billy Barron, Systems Manager at the University of North Texas, produces

a
directory as an aid to his user community. It complements the St. George guide by providing a standard format for all systems which lists the Internet address, login instructions, the system vendor, and logoff information. The arrangement is alphabetic by organization name. It's available for FTP on vaxb.acs.unt.edu in the subdirectory `library' as the file `libraries.txt'.

For announcements of new libraries being available and discussion on related topics, consult the Usenet newsgroup comp.internet.library (see Chapter 4 [Usenet News], page 29 to learn how to read news).

5.3 The Cleveland Freenet

Freenets are open-access, free, community computer systems. One such system is the Cleveland Freenet, sponsored by CWRU (Case Western Reserve University). Anyone and everyone is welcome to join and take part in the exciting project -- that of a National Telecomputing Public Network, where everyone benefits. There's no charge for the registration process and no charge to use the system.

To register, telnet to any one of

```
freenet-in-a.cwru.edu
freenet-in-b.cwru.edu
freenet-in-c.cwru.edu
```

After you're connected, choose the entry on the menu that signifies you're a guest user. Another menu will follow; select `Apply for an account', and you'll be well on your way to being a FreeNet member.

You will need to fill out a form and send it to them through the Postal Service -- your login id and password will be created in a few days. At that point you're free to use the system as you wish. They provide multi-user chat, email, Usenet news, and a variety of other things to keep you occupied for hours on end.

5.4 Directories

There are a few systems that are maintained to provide the Internet community with access to lists of information -- users, organizations, etc. They range from fully dedicated computers with access to papers and research results, to a system to find out about the faculty members of a university.

5.4.1 Knowbot

Knowbot is a "master directory" that contains email address information from the NIC WHOIS database (see Section 6.4.1 [Whois], page 57), the PSI White Pages Pilot Project, the NYSERNET X.500 database and MCI Mail. Most of these services are email registries themselves, but Knowbot provides a very comfortable way to access all of them in one place. Telnet to nri.reston.va.us on port 185.

5.4.2 White Pages

PSI maintains a directory of information on individuals. It will list the person's name, organization, and email address if it is given. Telnet to wp.psi.net and log in as `fred'. The White Pages Project also includes an interface to use Xwindows remotely.

5.5 Databases

For information on database services, see Section 7.2 [Commercial Databases], page 60. Not all databases on the Internet require payment for use, though. There do exist some, largely research-driven databases, which are publicly accessible. New ones spring up regularly.

To find out more about the databases in this section, contact the people directly responsible for them. Their areas of concentration and the software used to implement them are widely disparate, and are probably beyond the author's expertise. Also, don't forget to check with your local library -- the reference librarian there can provide information on conventional resources, and possibly even those available over the Internet (they are becoming more common).

5.5.1 Colorado Alliance of Research Libraries (CARL)

The Colorado Alliance of Research Libraries (CARL), in association with CARL Systems Inc., operates a public access catalog of services. Offered are a number of library databases, including searches for government periodicals, book reviews, indices for current articles, and access to to other library

databases around the country. Other services are available to CARL members

including an online encyclopedia. Telnet to pac.carl.org, or write to `help@carl.org' for more details.

5.5.2 PENpages

PENpages is an agriculturally-oriented database administered by Pennsylvania State University. Information entered into PENpages is provided by numerous sources including the Pennsylvania Dept. of Agriculture, Rutgers University, and Penn State. Easy-to-use menus guide users to information ranging from cattle and agricultural prices to current weather information, from health information to agricultural news from around the nation. A keyword search option also allows users to search the database for related information and articles. The database is updated daily, and a listing of most recent additions is displayed after login. Telnet to psupen.psu.edu and log in as the user `PNOTPA'.

5.5.3 Clemson Univ. Forestry & Agricultural Network

Clemson maintains a database similar to PENpages in content, but the information provided tends to be localized to the Southeastern United States. A menu-driven database offers queries involving the weather, food, family, and
human resources. Telnet to eureka.clemson.edu and log in as `PUBLIC'. You need
to be on a good VT100 emulator (or a real VT terminal).

5.5.4 University of Maryland Info Database

The Computer Science department of the University of Maryland maintains a repository of information on a wide variety of topics. They wish to give a working example of how network technology can (and should) provide as much information as possible to those who use it. Telnet to info.umd.edu and log in
as `info'. The information contained in the database is accessible through a screen-oriented interface, and everything therein is available via anonymous FTP.

There is a mailing list used to discuss the UMD Info Database, welcoming suggestions for new information, comments on the interface the system provides, and other related topics. Send mail to listserv@umdd.umd.edu with a
body of

```
subscribe INFO-L Your Full Name
```

See Section 2.2.1 [Listservs], page 16 for more information on using the Listserv system.

5.5.5 University of Michigan Weather Underground

The University of Michigan's Department of Atmospheric, Oceanic, & Space Sciences maintains a database of weather and related information for the United States and Canada. Available are current weather conditions and forecasts for cities in the U.S., a national weather summary, ski conditions, earthquake and hurricane updates, and a listing of severe weather conditions. Telnet to madlab.sprl.umich.edu on port 3000 to use the system.

5.5.6 Geographic Name Server

A geographic database listing information for cities in the United States and some international locations is maintained by Merit, Inc. The database is searchable by city name, zip code, etc. It will respond with a lot of information: the area code, elevation, time zone, and longitude and latitude are included. For example, a query of `19013' yields

```
 0 Chester
 1 42045 Delaware
 2 PA Pennsylvania
 3 US United States
 F 45 Populated place
 L 39 50 58 N  75 21 22 W
 P 45794
 E 22
 Z 19013
 Z 19014
 Z 19015
 Z 19016
 .
```

To use the server, telnet to martini.eecs.umich.edu on port 3000. The command
`help' will yield further instructions, along with an explanation for each of the fields in a reponse.

5.5.7 FEDIX -- Minority Scholarship Information

FEDIX is an on-line information service that links the higher education community and the federal government to facilitate research, education, and services. The system provides accurate and timely federal agency information to colleges, universities, and other research organizations. There are no registration fees and no access charges for FEDIX whatsoever.

FEDIX offers the Minority On-Line Information Service (MOLIS), a database listing current information about Black and Hispanic colleges and universities.

Daily information updates are made on federal education and research programs, scholarships, fellowships, and grants, available used research equipment, and general information about FEDIX itself. To access the database, telnet to fedix.fie.com and log in as `fedix'.

5.5.8 Science & Technology Information System

The STIS is maintained by the National Science Foundation (NSF), and provides access to many NSF publications. The full text of publications can be
searched online and copied from the system, which can accommodate up to ten users at one time. Telnet to stis.nsf.gov and log in as `public'. Everything on the system is also available via anonymous FTP. For further information, contact:

STIS, Office of Information Systems, Room 401
National Science Foundation
1800 G. Street, N.W.
Washington, D.C. 20550
stis-request@nsf.gov
(202) 357-7492
(202) 357-7663 (Fax)

5.5.9 Ocean Network Information Center

The University of Delaware College of Marine Studies offers access to an interactive database of research information covering all aspects of marine studies, nicknamed OCEANIC. This includes the World Oceanic Circulation Experiment (WOCE) information and program information, research ship schedules
and information, and a Who's Who of email and mailing addresses for oceanic studies. Data from a variety of academic institutions based on research studies is also available. Telnet to delocn.udel.edu and log in as `INFO'.

5.5.10 NASA/IPAC Extragalactic Database (NED)

The NASA/IPAC Extragalactic Database (NED) is an ongoing project, funded by NASA, to make data and literature on extragalactic objects available over computer networks. NED is an object-oriented database which contains

extensive information for nearly 132,000 extragalactic objects taken from about major catalogs of galaxies, quasars, infrared and radio sources. NED provides positions, names, and other basic data (e.g. magnitude types, sizes and redshifts as well as bibliographic references and abstracts). Searches can
be done by name, around a name, and on an astronomical position. NED contains a tutorial which guides the user through the retrieval process. Telnet to ipac.caltech.edu and log in as `ned'.

5.5.11 U.S. Naval Observatory Automated Data Service

Operated by the U.S. Naval Observatory in Washington, D.C., this automated
data service provides database access to information ranging from current navigational satellite positioning, astronomical data, and software utilities.
A wide variety of databases can be searched and instructions for file transfer
are given. Telnet to tycho.usno.navy.mil and log in as `ads'.

"My consciousness suddenly switched locations, for the first time in
my life, from the vicinity of my head and body to a point about
twenty feet away from where I normally see the world."
Howard Rheingold, Virtual Reality

6 Various Tools

New and interesting ways to use the Internet are being dreamed up every

day. As they gain wide-spread use, some methods become near-standard (or actual written standard) tools for Internet users to take advantage of. A few are detailed here; there are undoubtedly others, and new ideas spring up all the time. An active user of the Internet will discover most of the more common ones in time. Usually, these services are free. See Chapter 7 [Commercial Services], page 59 for applications that are commercially available over the Internet.

Usenet is often used to announce a new service or capability on the Internet. In particular, the groups comp.archives and comp.protocols.tcp-ip are good places to look. Information will drift into other areas as word spreads. See Chapter 4 [Usenet News], page 29 for information on reading news.

6.1 Finger

On many systems there exists the `finger' command, which yield information about each user that's currently logged in. This command also has extensions for use over the Internet, as well. Under normal circumstances, the command is simply `finger' for a summary of who's logged into the local system, or `finger username' for specific information about a user. It's also possible to go one step further and go onto the network. The general usage is

```
finger @hostname
```

To see who's currently logged in at Widener University, for instance, use

```
% finger @cs.widener.edu
[cs.widener.edu]
Login        Name               TTY Idle    When             Where
brendan  Brendan Kehoe          p0       Fri 02:14  tattoo.cs.widene
sven     Sven Heinicke          p1       Fri 04:16  xyplex3.cs.widen
```

To find out about a certain user, they can be fingered specifically (and need not be logged in):


```
% finger bart@cs.widener.edu
[cs.widener.edu]
Login name: bart                        In real life: Bart Simpson
Directory: /home/springfield/bart       Shell: /bin/underachiever
Affiliation: Brother of Lisa            Home System: channel29.fox.org
Last login Thu May 23 12:14 (EDT) on ttyp6 from channel29.fox.org.
No unread mail
Project: To become a "fluff" cartoon character.
Plan:
Don't have a cow, man.
```

Please realize that some sites are very security conscious, and need to restrict the information about their systems and users available to the outside world. To that end, they often block finger requests from outside sites -- so don't be surprised if fingering a computer or a user returns with `Connection refused'.

6.2 Ping

The `ping' command allows the user to check if another system is currently "up" and running. The general form of the command is `ping system'.(1) For example,

```
ping cs.widener.edu
```

will tell you if the main machine in Widener University's Computer Science lab is currently online (we certainly hope so!).

Many implementations of `ping' also include an option to let you see how fast a link is running (to give you some idea of the load on the network). For example:

```
% ping -s cs.swarthmore.edu
PING cs.swarthmore.edu: 56 data bytes
64 bytes from 130.58.68.1: icmp_seq=0 ttl=251 time=66 ms
64 bytes from 130.58.68.1: icmp_seq=1 ttl=251 time=45 ms
64 bytes from 130.58.68.1: icmp_seq=2 ttl=251 time=46 ms
^C
--- cs.swarthmore.edu ping statistics ---
3 packets transmitted, 3 packets received, 0% packet loss
round-trip min/avg/max = 45/52/66 ms
```

This case tells us that for `cs.swarthmore.edu' it takes about 46 milliseconds for a packet to go from Widener to Swarthmore College and back again.

---

1 The usage will, again, vary.

It also gives the average and worst-case speeds, and any packet loss that may have occurred (e.g. because of network congestion).

While `ping' generally doesn't hurt network performance, you shouldn't use

it too often -- usually once or twice will leave you relatively sure of the other system's state.

6.3 Talk

Sometimes email is clumsy and difficult to manage when one really needs to have an interactive conversation. The Internet provides for that as well, in the form of talk. Two users can literally see each other type across thousands of miles.

To talk with Bart Simpson at Widener, one would type

```
talk bart@cs.widener.edu
```

which would cause a message similar to the following to be displayed on Bart's terminal:

```
Message from Talk_Daemon@cs.widener.edu at 21:45 ...
talk: connection requested by joe@ee.someplace.edu
talk: respond with:  talk joe@ee.someplace.edu
```

Bart would, presumably, respond by typing `talk joe@ee.someplace.edu'. They could then chat about whatever they wished, with instantaneous response time, rather than the write-and-wait style of email. To leave talk, on many systems one would type Ctrl-C (hold down the Control key and press `C'). Check local documentation to be sure.

There are two different versions of talk in common use today. The first, dubbed "old talk," is supported by a set of Unix systems (most notably, those currently sold by Sun). The second, ntalk (aka "new talk"), is more of the standard. If, when attempting to talk with another user, it responds with an error about protocol families, odds are the incompatibilities between versions of talk is the culprit. It's up to the system administrators of sites which use the old talk to install ntalk for their users.

6.4 The WHOIS Database

The main WHOIS database is run at the Network Information Center (NIC). The `whois' command will let you search a database of every registered domain (e.g. `mit.edu') and of registered users. It's primarily used by system postmasters or listowners to find the Points of Contact for a site, to let

them know of a problem or contact them for one reason or another. You can also find out their postal address. For example:

```
     % whois mit.edu
     Massachusetts Institute of Technology (MIT) MIT.EDU
18.72.2.1
     Massachusetts Institute of Technology (MIT-DOM)
MIT.EDU
```

Note that there are two entries for `mit.edu'; we'll go for the second.

```
     % whois mit-dom
     Massachusetts Institute of Technology (MIT-DOM) )  Mailing address
        Cambridge, MA 02139


        Domain Name: MIT.EDU  )  Domain name


        Administrative Contact, Technical Contact, Zone Contact:
           Schiller, Jeffrey I.  (JIS)  JIS@MIT.EDU
           (617) 253-8400


        Record last updated on 22-Jun-88.  )  Last change made to the record


        Domain servers in listed order:    )  Systems that can tell you the
                                                Internet addresses for a site
        STRAWB.MIT.EDU               18.71.0.151
        W20NS.MIT.EDU                18.70.0.160
        BITSY.MIT.EDU                18.72.0.3
        LITHIUM.LCS.MIT.EDU          18.26.0.121


     To see this host record with registered users, repeat the command with a
     star ('*') before the name; or, use '%' to show JUST the registered
     users.
```

Much better! Now this information (sought, possibly, by a system administrator) can be used to find out how to notify MIT of a security issue or problem with connectivity.

Queries can be made for individuals as well; the following would yield an entry for the author:

```
% whois brendan
Kehoe, Brendan (BK59) brendan@cs.widener.edu
   Widener University
   Department of Computer Science
   Kirkbride 219
   P.O. Box 83 Widener University
   Chester, PA 19013
   (215)/499-4011


   Record last updated on 02-May-91.
```

Included is the author's name, his handle (a unique sequence of letters and numbers), information on how to contact him, and the last time the record was modified in any way.

Anyone can register with the whois database. People who are administrative or technical contacts for domains are registered automatically when their domain applications are processed. For normal users, one must simply fill out a form from the NIC. FTP to nic.ddn.mil and get the file `netinfo/user-template.txt'. The completed form should be mailed to `registrar@nic.ddn.mil'.

6.4.1 Other Uses of WHOIS

Also, many educational sites run WHOIS servers of their own, to offer information about people who may be currently on the staff or attending the institution. To specify a WHOIS server, many implementations include some sort of option or qualifier -- in VMS under MultiNet, it's `/HOST', in Unix `-h'. To receive information about using the Stanford server, one might use the command

```
whois -h stanford.edu help
```

A large list of systems offering WHOIS services is being maintained by Matt Power of MIT (mhpower@stan.mit.edu). It is available via anonymous FTP from sipb.mit.edu, in the directory `pub/whois'. The file is named `whois-servers.list'.

The systems available include, but are certainly not limited to, Syracuse University (syr.edu), New York University (acfcluster.nyu.edu), the University of California at San Diego (ucsd.edu), and Stanford University (stanford.edu).

forks."

Jonathan Swift, Polite Conversation

7 Commercial Services

Many services can be accessed through the Internet. As time progresses and more outlets for commercial activity appear, once-restricted traffic (by the NSFnet Acceptable Use Policy) may now flow freely. Now that there are other networks for that information to travel on, businesses are making their move.

7.1 Electronic Journals

The Association of Research Libraries (ARL) publishes a hard-copy directory of electronic journals, newsletters, and scholarly discussion lists.
It is a compilation of entries for hundreds of scholarly lists, dozens of journals and newsletters, and a many "other" titles, including newsletter-digests, into one reference source. Each entry includes instructions on how to access the referenced publication or list.

The documents are available electronically by sending the commands

```
get ejournl1 directry
get ejournl2 directry
```

to the server at `LISTSERV@OTTAWA.BITNET'. See Section 2.2.1 [Listservs], page 16 for further instructions on using a listserv.

The directory, along with a compilation by Diane Kovacs called Directories of Academic E-Mail Conferences, is available in print and on diskette (DOS WordPerfect and MacWord) from:

```
Office of Scientific & Academic Publishing
Association of Research Libraries
1527 New Hampshire Avenue, NW
Washington, DC  20036
```

ARLHQ@UMDC.BITNET
(202) 232-2466
(202) 462-7849 (Fax)

The ARL is a not-for-profit organization representing over one hundred research libraries in the United States and Canada. The publication is available to ARL members for $10 and to non-members for $20 (add $5 postage per directory for foreign addresses). Orders of six or more copies will receive a 10% discount; all orders must be prepaid and sent to the ARL.

7.2 Commercial Databases

The American Institute of Physics maintains the Physics Information Network. It contains the bibliographic SPIN and General Physics Advanced Abstracts databases. Also available is access to bulletin boards and several searchable lists (job notices, announcements, etc). Telnet to pinet.aip.org; new users must log in as `NEW' and give registration information.

7.3 Clarinet News

Clarinet's an electronic publishing network service that provides professional news and information, including live UPI wireservice news, in the Usenet file format. See Chapter 4 [Usenet News], page 29 for more information about Usenet.

Clarinet lets you read an "electronic newspaper" right on the local system; you can get timely industry news, technology related wirestories, syndicated columns and features, financial information, stock quotes and more.

Clarinet's provided by using the Usenet message interchange format, and is available via UUCP and other delivery protocols, including NNTP.

The main feature is ClariNews, an "electronic newspaper," gathered live from the wire services of United Press International (UPI). ClariNews articles are distributed in 100 newsgroups based on their subject matter, and are keyworded for additional topics and the geographical location of the story. ClariNews includes headlines, industry news, box scores, network TV schedules, and more. The main products of ClariNews are:

- ClariNews General, the general news"paper" with news, sports, and features, averaging about 400 stories per day.

- TechWire, special groups for stories on science, technology, and industry stories around them.
- ClariNews-Biz, business and financial stories.
- Newsbytes, a daily computer industry newsmagazine.
- Syndicated Columns, including Dave Barry (humor) and Mike Royko (opinion).

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Full information on ClariNet, including subscription information, is available from

Clarinet Communications Corp.
124 King St. North
Waterloo, Ontario N2J 2X8
info@clarinet.com
(800) USE-NETS

or with anonymous FTP in the directory `/Clarinet' on ftp.uu.net (see Section 3.2.2 [Anonymous FTP], page 21).

"Needless to say, Aristotle did not envisage modern finance."

Frederick Copleston, S.J.

A History of Philosophy, v.1

62 Zen and the Art of the Internet

Chapter 8: Things You'll Hear About
63

8 Things You'll Hear About

There are certain things that you'll hear about shortly after you start actively using the Internet. Most people assume that everyone's familiar with

them, and they require no additional explanation. If only that were true!

This section addresses a few topics that are commonly encountered and asked about as a new user explores Cyberspace. Some of them are directly related to how the networks are run today; other points are simply interesting
to read about.

8.1 The Internet Worm

On November 2, 1988, Robert Morris, Jr., a graduate student in Computer Science at Cornell, wrote an experimental, self-replicating, self-propagating program called a worm and injected it into the Internet. He chose to release it from MIT, to disguise the fact that the worm came from Cornell. Morris soon discovered that the program was replicating and reinfecting machines at a
much faster rate than he had anticipated -- there was a bug. Ultimately, many
machines at locations around the country either crashed or became "catatonic."
When Morris realized what was happening, he contacted a friend at Harvard to discuss a solution. Eventually, they sent an anonymous message from Harvard over the network, instructing programmers how to kill the worm and prevent reinfection. However, because the network route was clogged, this message did not get through until it was too late. Computers were affected at many sites, including universities, military sites, and medical research facilities. The estimated cost of dealing with the worm at each installation ranged from $200 to more than $53,000.(1)

The program took advantage of a hole in the debug mode of the Unix sendmail program, which runs on a system and waits for other systems to connect to it and give it email, and a hole in the finger daemon fingerd, which serves finger requests (see Section 6.1 [Finger], page 53). People at the University of California at Berkeley and MIT had copies of the program and
were actively disassembling it (returning the program back into its source form) to try to figure out how it worked.

Teams of programmers worked non-stop to come up with at least a temporary fix, to prevent the continued spread of the worm. After about twelve

---

1 Derived in part from a letter by Severo M. Ornstein, in the Communications
of the ACM, Vol 32 No 6, June 1989.

hours, the team at Berkeley came up with steps that would help retard the spread of the virus. Another method was also discovered at Purdue and widely published. The information didn't get out as quickly as it could have, however, since so many sites had completely disconnected themselves from the network.

After a few days, things slowly began to return to normalcy and everyone wanted to know who had done it all. Morris was later named in The New York Times as the author (though this hadn't yet been officially proven, there was a substantial body of evidence pointing to Morris).

Robert T. Morris was convicted of violating the computer Fraud and Abuse Act (Title 18), and sentenced to three years of probation, 400 hours of community service, a fine of $10,050, and the costs of his supervision. His appeal, filed in December, 1990, was rejected the following March.

8.2 The Cuckoo's Egg

First in an article entitled "Stalking the Wily Hacker," and later in the book The Cuckoo's Egg, Clifford Stoll detailed his experiences trying to track
down someone breaking into a system at Lawrence Berkeley Laboratory in California.(2)

A 75-cent discrepancy in the Lab's accounting records led Stoll on a chase
through California, Virginia, and Europe to end up in a small apartment in Hannover, West Germany. Stoll dealt with many levels of bureaucracy and red tape, and worked with the FBI, the CIA, and the German Bundespost trying to track his hacker down.

The experiences of Stoll, and particularly his message in speaking engagements, have all pointed out the dire need for communication between parties on a network of networks. The only way everyone can peacefully co-exist in Cyberspace is by ensuring rapid recognition of any existing problems.

8.3 Organizations

The indomitable need for humans to congregate and share their common interests is also present in the computing world. User groups exist around the world, where people share ideas and experiences. Similarly, there are organizations which are one step "above" user groups; that is to say, they

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2 See the bibliography for full citations.

exist to encourage or promote an idea or set of ideas, rather than support a specific computer or application of computers.

8.3.1 The Association for Computing Machinery

The Association for Computing Machinery (the ACM) was founded in 1947, immediately after Eckert and Mauchly unveiled one of the first electronic computers, the ENIAC, in 1946. Since then, the ACM has grown by leaps and bounds, becoming one of the leading educational and scientific societies in the computer industry.

The ACM's stated purposes are:

- To advance the sciences and arts of information processing;
- To promote the free interchange of information about the sciences and arts of information processing both among specialists and among the public;
- To develop and maintain the integrity and competence of individuals engaged in the practices of the sciences and arts of information processing.

Membership in the ACM has grown from seventy-eight in September, 1947, to over 77,000 today. There are local chapters around the world, and many colleges and universities endorse student chapters. Lecturers frequent these meetings, which tend to be one step above the normal "user group" gathering. A large variety of published material is also available at discounted prices for members of the association.

The ACM has a number of Special Interest Groups (SIGs) that concentrate on
a certain area of computing, ranging from graphics to the Ada programming language to security. Each of the SIGs also publishes its own newsletter. There is a Usenet group, comp.org.acm, for the discussion of ACM topics. See Chapter 4 [Usenet News], page 29 for more information on reading news.

For more information and a membership application, write to:

Assocation for Computing Machinery
1515 Broadway
New York City, NY 10036
ACMHELP@ACMVM.BITNET
(212) 869-7440

8.3.2 Computer Professionals for Social Responsibility

The CPSR is an alliance of computer professionals concentrating on certain

areas of the impact of computer technology on society. It traces its history to the fall of 1981, when several researchers in Palo Alto, California, organized a lunch meeting to discuss their shared concerns about the connection between computing and the nuclear arms race. Out of that meeting and the discussions which followed, CPSR was born, and has been active ever since.(3)

The national CPSR program focuses on the following project areas:

- Reliability and Risk This area reflects on the concern that overreliance on computing technology can lead to unacceptable risks to society. It includes, but isn't limited to, work in analyzing military systems such as SDI.

- Civil Liberties and Privacy This project is concerned with such topics as the FBI National Crime Information Center, the growing use of databases by both government and private industry, the right of access to public information, extension of First Amendment rights to electronic communication, and establishing legal protections for privacy of computerized information.

- Computers in the Workplace The CPSR Workplace Project has concentrated its attention on the design of software for the workplace, and particularly on the philosophy of "participatory design," in which software designers work together with users to ensure that systems meet the actual needs of that workplace.

- The 21st Century Project This is a coalition with other professional organizations working towards redirecting national research priorities from concentrating on military issues to anticipating and dealing with future problems as science and technology enter the next century.

For more information on the CPSR, contact them at:

Computer Professionals for Social Responsibility
P.O. Box 717
Palo Alto, CA 94302
cpsr@csli.stanford.edu
(415) 322-3778
(415) 322-3798 (Fax)

8.3.3 The Electronic Frontier Foundation

The Electronic Frontier Foundation (EFF) was established to help civilize

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3 This section is part of the CPSR's letter to prospective members.

the "electronic frontier" -- the Cyberspacial medium becoming ever-present in today's society; to make it truly useful and beneficial not just to a technical elite, but to everyone; and to do this in a way which is in keeping with the society's highest traditions of the free and open flow of information
and communication.4

The mission of the EFF is

- to engage in and support educational activities which increase popular understanding of the opportunities and challenges posed by developments in computing and telecommunications;

- to develop among policy-makers a better understanding of the issues underlying free and open telecommunications, and support the creation of legal and structural approaches which will ease the assimilation of these
new technologies by society;

- to raise public awareness about civil liberties issues arising from the rapid advancement in the area of new computer-based communications media and, where necessary, support litigation in the public interest to preserve, protect, and extend First Amendment rights within the realm of computing and telecommunications technology;

- to encourage and support the development of new tools which will endow non-technical users with full and easy access to computer-based telecommunications;

The Usenet newsgroups comp.org.eff.talk and comp.org.eff.news are dedicated to discussion concerning the EFF. They also have mailing list counterparts for those that don't have access to Usenet, eff-talk-request@eff.org and eff-news-request@eff.org The first is an informal arena (aka a normal newsgroup) where anyone may voice his or her opinions. The second, comp.org.eff.news, is a moderated area for regular postings from the EFF in the form of EFFector Online. To submit a posting for the EFFector Online, or to get general information about the EFF, write to eff@eff.org. There is also a wealth of information available via anonymous FTP on ftp.eff.org.

The EFF can be contacted at

The Electronic Frontier Foundation, Inc.
155 Second St. #1
Cambridge, MA 02141
eff@eff.org
(617) 864-0665
(617) 864-0866 (Fax)

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4 This section was derived from `eff.about', available along with other material via anonymous FTP from ftp.eff.org

8.3.4 The Free Software Foundation

The Free Software Foundation was started by Richard Stallman (creator of the popular GNU Emacs editor). It is dedicated to eliminating restrictions on copying, redistributing, and modifying software.

The word "free" in their name does not refer to price; it refers to freedom. First, the freedom to copy a program and redistribute it to your neighbors, so that they can use it as well as you. Second, the freedom to change a program, so that you can control it instead of it controlling you; for this, the source code must be made available to you.

The Foundation works to provide these freedoms by developing free compatible replacements for proprietary software. Specifically, they are putting together a complete, integrated software system called "GNU" that is upward-compatible with Unix.(5) When it is released, everyone will be permitted to copy it and distribute it to others. In addition, it will be distributed with source code, so you will be able to learn about operating systems by reading it, to port it to your own machine, and to exchange the changes with others.

For more information on the Free Software Foundation and the status of the GNU Project, or for a list of the current tasks that still need to be done, write to gnu@prep.ai.mit.edu.

8.3.5 The League for Programming Freedom

The League for Programming Freedom is a grass-roots organization of professors, students, businessmen, programmers and users dedicated to

"bringing back" the freedom to write programs, which they contend has been lost over the past number years. The League is not opposed to the legal system that Congress intended -- copyright on individual programs. Their aim is to reverse the recent changes made by judges in response to special interests, often explicitly rejecting the public interest principles of the Constitution.

---

5 As an aside, the editor of the GNU project, emacs, contains a built-in LISP interpreter and a large part of its functionality is written in LISP.

The name GNU is itself recursive (the mainstay of the LISP language); it stands for "Gnu's Not Unix."

The League works to abolish the new monopolies by publishing articles, talking with public officials, boycotting egregious offenders, and in the future may intervene in court cases. On May 24, 1989, the League picketed Lotus headquarters because of their lawsuits, and then again on August 2, 1990. These marches stimulated widespread media coverage for the issue. They welcome suggestions for other activities, as well as help in carrying them out.

For information on the League and how to join, write to

League for Programming Freedom
1 Kendall Square #143
P.O. Box 9171
Cambridge, MA 02139
league@prep.ai.mit.edu

8.4 Networking Initiatives

Research and development are two buzz words often heard when discussing the networking field -- everything needs to go faster, over longer distances, for a lower cost. To "keep current," one should read the various trade magazines and newspapers, or frequent the networking-oriented newsgroups of Usenet. If possible, attend trade shows and symposia like Usenix, Interop, et. al.

8.4.1 NREN

The National Research and Education Network (NREN) is a five-year project approved by Congress in the Fall of 1991. It's intended to create a national electronic "super-highway." The NREN will be 50 times faster than the fastest available networks (at the time of this writing). Proponents of the NREN claim it will be possible to transfer the equivalent of the entire text of the Encyclopedia Britannica in one second. Further information, including the original text of the bill presented by Senator Al Gore (D-TN), is available through anonymous FTP to nis.nsf.net, in the directory `nsfnet'. In addition, Vint Cerf wrote on the then-proposed NREN in RFC-1167, Thoughts on the National Research and Education Network. See [RFCs], page 73 for information on obtaining RFCs.

A mailing list, `nren-discuss@uu.psi.com', is available for discussion of the NREN; write to `nren-discuss-request@uu.psi.com' to be added.

"To talk in publick, to think in solitude,
to read and to hear, to inquire,
and to answer inquiries, is the business of a scholar."
Samuel Johnson

Chapter VIII
The History of Rasselas, Prince of Abissinia

9 Finding Out More

9.1 Internet Resource Guide

The NSF Network Service Center (NNSC) compiles and makes available an Internet Resource Guide (IRG). The goal of the guide is to increase the visibility of various Internet resources that may help users do their work better. While not yet an exhaustive list, the guide is a useful compendium of many resources and can be a helpful reference for a new user.

Resources listed are grouped by types into sections. Current sections include descriptions of online library catalogs, data archives, online white pages directory services, networks, network information centers, and computational resources, such as supercomputers. Each entry describes the resource, identifies who can use the resource, explains how to reach the local network via the Internet, and lists contacts for more information. The list is distributed electronically by the NNSC. To receive a guide, or to get on a mailing list that alerts you to when it is updated, send a message to resource-guide-request@nnsc.nsf.net.

The current edition of the IRG is available via anonymous FTP from nnsc.nsf.net, in the directory `/resource-guide'.

9.2 Requests for Comments

The internal workings of the Internet are defined by a set of documents called RFCs (Request for Comments). The general process for creating an RFC is for someone wanting something formalized to write a document describing the issue and mailing it to Jon Postel (postel@isi.edu). He acts as a referee for the proposal. It is then commented upon by all those wishing to take part in the discussion (electronically, of course). It may go through multiple revisions. Should it be generally accepted as a good idea, it will be assigned a number and filed with the RFCs.

The RFCs can be divided into five groups: required, suggested, directional, informational and obsolete. Required RFCs (e.g., RFC-791, The Internet Protocol) must be implemented on any host connected to the Internet.

Suggested RFCs are generally implemented by network hosts. Lack of them does not preclude access to the Internet, but may impact its usability. RFC-793, Transmission Control Protocol, is a must for those implementing TCP.

Directional RFCs were discussed and agreed to, but their application has never come into wide use. This may be due to the lack of wide need for the specific application (RFC-937, The Post Office Protocol) or that, although technically superior, ran against other pervasive approaches (RFC-891, Hello).
It is suggested that, should the facility be required by a particular site, an
implementation be done in accordance with the RFC. This ensures that, should the idea be one whose time has come, the implementation will be in accordance with some standard and will be generally usable.

Informational RFCs contain factual information about the Internet and its operation (RFC-990, Assigned Numbers).

There is also a subset of RFCs called FYIs (For Your Information). They are written in a language much more informal than that used in the other, standard RFCs. Topics range from answers to common questions for new and experienced users to a suggested bibliography.

Finally, as the Internet has grown and technology has changed, some RFCs become unnecessary. These obsolete RFCs cannot be ignored, however. Frequently when a change is made to some RFC that causes a new one to obsolete
others, the new RFC only contains explanations and motivations for the change.
Understanding the model on which the whole facility is based may involve reading the original and subsequent RFCs on the topic.

RFCs and FYIs are available via FTP from many sources, including:

- The nic.ddn.mil archive, as `/rfc/rfc-xxxx.txt', where xxxx is the number of the RFC.
- from ftp.uu.net, in the directory `/RFC'.

They're also available through mail by writing to service@nic.ddn.mil, with a `Subject:' line of send RFC-xxxx.TXT, again with xxxx being the RFC number. To learn about archive servers, [Archive Servers], page 77.)

"Knowledge is of two kinds. We know a subject ourselves, or we

know where we can find information upon it."

Samuel Johnson

Letter to Lord Chesterfield

February, 1755

Conclusion

This guide is far from complete -- the Internet changes on a daily (if not hourly) basis. However, this booklet should provide enough information to make the incredible breadth and complexity of the Internet a mite less imposing. Coupled with some exploration and experimentation, every user has the potential to be a competent net citizen, using the facilities that are available to their fullest.

You, the reader, are strongly encouraged to suggest improvements to any part of this booklet. If something was unclear, left you with doubts, or wasn't addressed, it should be fixed. If you find any problems, inaccuracies, spelling errors, etc., please report them to:

Brendan Kehoe
Department of Computer Science
Widener University
Chester, PA 19013

Internet: guide-bugs@cs.widener.edu
UUCP: ...!widener!guide-bugs

If you are interested in future updates to this guide (aside from normal new editions), discussion about information to be included or removed, etc., write to `guide-request@cs.widener.edu' to be placed on a mailing list for such things.

"I've seed de first an de last . . .I seed de beginnin,
en now I sees de endin."
William Faulkner
The Sound & The Fury
April 8, 1928

Appendix A Getting to Other Networks

Inter-connectivity has been and always will be one of the biggest goals in computer networking. The ultimate desire is to make it so one person can contact anyone else no matter where they are. A number of "gateways" between networks have been set up. They include:

AppleLink Quantum Services sells access to AppleLink, which is similar to QuantumLink for Commodore computers and PCLink for IBM PCs and compatibles. It also provides email access through the address `user@applelink.apple.com'.

ATTMail AT&T sells a commercial email service called ATTMail. Its users can be reached by writing to `user@attmail.com'.

BIX Users on BIX (the Byte Information eXchange) can be reached through the DAS gateway at `user@dcibix.das.net'.

CompuServe (CI$)
To reach a user on the commercial service CompuServe, you must address the mail as xxxxx.xxx@compuserve.com, with xxxxx.xxx being their CompuServe user ID. Normally CompuServe ids are represented as being separated by a comma (like 71999,141); since most mailers don't react well to having commas in addresses, it was changed to a period. For the above address, mail would be sent to `71999.141@compuserve.com'.

EasyNet Digital sells a service called EasyNet; users that subscribe to it can be reached with the addresses user@host.enet.dec.com or `user%host.enet@decwrl.dec.com'.

FidoNet The FidoNet computer network can be reached by using a special addressing method. If John Smith is on the node `1:2/3.4' on FidoNet, his or her email address would be `john.smith@p4.f3.n2.z1.fidonet.org' (notice how the numbers fall in place?).

MCI Mail MCI also sells email accounts (similar to ATTMail). Users can be reached with `user@mcimail.com'.

PeaceNet Users on the PeaceNet network can be reached by writing to `user@igc.org'.

This table is far from complete. In addition to sites not being listed, some services are not (nor do they plan to be) accessible from the "outside" (like Prodigy); others, like GEnie, are actively investigating the possibility of creating a gateway into their system. For the latest information, consult a list called the Inter-Network Mail Guide. It's available from a number of FTP sites, including UUNET; see Section 3.2.2 [Anonymous FTP], page 21, for more information on getting a copy of it using anonymous FTP.

Appendix B Retrieving Files via Email

For those who have a connection to the Internet, but cannot FTP, there do exist a few alternatives to get those files you so desperately need. When requesting files, it's imperative that you keep in mind the size of your request -- odds are the other people who may be using your link won't be too receptive to sudden bursts of really heavy traffic on their normally sedate connection.

Archive Servers

An alternative to the currently well over-used FTPmail system is taking advantage of the many archive servers that are presently being maintained. These are programs that receive email messages that contain commands, and act on them. For example, sending an archive server the command `help' will

usually yield, in the form of a piece of email, information on how to use the various commands that the server has available.

One such archive server is `service@nic.ddn.mil'. Maintained by the Network Information Center (NIC) in Chantilly, VA, the server is set up to make all of the information at the NIC available for people who don't have access to FTP. This also includes the WHOIS service (see Section 6.4.1 [Whois], page 57). Some sample `Subject:' lines for queries to the NIC server
are:

```
     Subject: help                          Describes available commands
     Subject: rfc 822                       Sends a copy of RFC-822
     Subject: rfc index                     Sends an index of the available
RFCs
     Subject: netinfo domain-template.txt   Sends a domain application
     Subject: whois widener                 Sends WHOIS information on
`widener'
```

More information on using their archive server can be obtained by writing to their server address service@nic.ddn.mil with a `Subject:' of help.

There are different "brands" of archive server, each with its own set of commands and services. Among them there often exists a common set of commands
and services (e.g. `index', `help', etc). Be that as it may, one should always consult the individual help for a specific server before assuming the syntax -- 100K surprises can be hard on a system.

FTP-by-Mail Servers

Some systems offer people the ability to receive files through a mock-FTP interface via email. See Section 3.2.2 [Anonymous FTP], page 21 for

a general overview of how to FTP. The effects of providing such a service varies, although a rule of thumb is that it will probably use a substantial amount of the available resources on a system.

The "original" FTP-by-Mail service, BITFTP, is available to BITNET users from the Princeton node PUCC. It was once accessible to anyone, but had to be
closed out to non-BITNET users because of the heavy load on the system.

In response to this closure, Paul Vixie designed and installed a system called FTPmail on one of Digital's gateway computers, decwrl.dec.com. Write to
`ftpmail@decwrl.dec.com' with `help' in the body of the letter for

instructions on its use. The software is undergoing constant development; once
it reaches a stable state, other sites will be encouraged to adopt it and provide the service also.

Appendix C Newsgroup Creation

Everyone has the opportunity to make a Call For Votes on the Usenet and attempt to create a newsgroup that he/she feels would be of benefit to the general readership. The rules governing newsgroup creation have evolved over the years into a generally accepted method. They only govern the "world" groups; they aren't applicable to regional or other alternative hierarchies.

Discussion

A discussion must first take place to address issues like the naming of the group, where in the group tree it should go (e.g. rec.sports.koosh vs rec.games.koosh?), and whether or not it should be created in the first place. The formal Request For Discussion (RFD) should be posted to news.announce.newgroups, along with any other groups or mailing lists at all related to the proposed topic. news.announce.newgroups is moderated. You should place it first in the `Newsgroups:' header, so that it will get mailed to the moderator only. The article won't be immediately posted to the other newsgroups listed; rather, it will give you the opportunity to have the moderator correct any inconsistencies or mistakes in your RFD. He or she will take care of posting it to the newsgroups you indicated. Also the `Followup-To:' header will be set so that the actual discussion takes place only in news.groups. If a user has difficulty posting to a moderated group, he or she may mail submissions intended for news.announce.newgroups to the address `announce-newgroups@rpi.edu'.

The final name and charter of the group, and whether it will be moderated or unmoderated, will be determined during the discussion period. If it's to be
moderated, the discussion will also decide who the moderator will be. If there's no general agreement on these points among those in favor of a new group at the end of 30 days, the discussion will be taken into mail rather than continued posting to news.groups; that way, the proponents of the group can iron out their differences and come back with a proper proposal, and make a new Request For Discussion.

Voting

After the discussion period (which is mandatory), if it's been determined that a new group really is desired, a name and charter are agreed upon, and it's been determined whether the group will be moderated (and by whom), a Call
For Votes (CFV) should be posted to news.announce.newgroups, along with any

other groups that the original Request For Discussion was posted to. The CFV should be posted (or mailed to the news.announce.newgroups moderator) as soon as possible after the discussion ends (to keep it fresh in everyone's mind).

The Call for Votes should include clear instructions on how to cast a vote. It's important that it be clearly explained how to both vote for and against a group (and be of equivalent difficulty or ease). If it's easier for you or your administrator, two separate addresses can be used to mail yes and no votes to, providing that they're on the same machine. Regardless of the method, everyone must have a very specific idea of how to get his/her vote counted.

The voting period can last between 21 and 31 days, no matter what the preliminary results of the vote are. A vote can't be called off simply because
400 "no" votes have come in and only two "yes" votes. The Call for Votes should include the exact date that the voting period will end -- only those votes arriving on the vote-taker's machine before this date can be counted.

To keep awareness high, the CFV can be repeated during the vote, provided that it gives the same clear, unbiased instructions for casting a vote as the original; it also has to be the same proposal as was first posted. The charter
can't change in mid-vote. Also, votes that're posted don't count -- only those that were mailed to the vote-taker can be tallied.

Partial results should never be included; only a statement of the specific
proposal, that a vote is in progress on it, and how to cast a vote. A mass acknowledgement ("Mass ACK" or "Vote ACK") is permitted; however, it must be presented in a way that gives no indication of which way a person voted. One way to avoid this is to create one large list of everyone who's voted, and sort it in alphabetical order. It should not be two sorted lists (of the yes and no votes, respectively).

Every vote is autonomous. The votes for or against one group can't be transferred to another, similar proposal. A vote can only count for the exact proposal that it was a response to. In particular, a vote for or against a newsgroup under one name can't be counted as a vote for or against another group with a different name or charter, a different moderated/unmoderated status, or, if it's moderated, a different moderator or set of moderators. Whew!

Finally, the vote has to be explicit; they should be of the form `I vote for the group foo.bar as proposed' or `I vote against the group foo.bar as proposed'. The wording doesn't have to be exact, your intention just has to be clear.

The Result of a Vote

At the end of the voting period, the vote-taker has to post (to news.announce.newgroups) the tally and email addresses of the votes received. Again, it can also be posted to any of the groups listed in the original CFV. The tally should make clear which way a person voted, so the results can be verified if it proves necessary to do so.

After the vote result is posted to news.announce.newgroups, there is a mandatory five-day waiting period. This affords everyone the opportunity to correct any errors or inconsistencies in the voter list or the voting procedure.

Creation of the Group

If, after the waiting period, there are no serious objections that might invalidate the vote, the vote is put to the "water test." If there were 100 more valid `YES/create' votes than `NO/don't' create votes, and at least two-thirds of the total number of votes are in favor of creation, then a newgroup control message can be sent out (often by the moderator of news.announce.newgroups). If the 100-vote margin or the two-thirds percentage isn't met, the group has failed and can't be created.

If the proposal failed, all is not lost -- after a six-month waiting period (a "cooling down"), a new Request For Discussion can be posted to news.groups, and the whole process can start over again. If after a couple of tries it becomes obvious that the group is not wanted or needed, the vote-taker should humbly step back and accept the opinion of the majority. (As life goes, so goes Usenet.)

This glossary is only a tiny subset of all of the various terms and other things that people regularly use on The Net. For a more complete (and very entertaining) reference, it's suggested you get a copy of The New Hacker's Dictionary, which is based on a VERY large text file called the Jargon File. Edited by Eric Raymond (eric@snark.thyrsus.com), it is available from the MIT Press, Cambridge, Massachusetts, 02142; its ISBN number is 0-262-68069-6. Also see RFC-1208, A Glossary of Networking Terms.

:-) This odd symbol is one of the ways a person can portray "mood" in the very flat medium of computers -- by using "smilies." This is `meta-communication', and there are literally hundreds of them, from the obvious to the obscure. This particular example expresses "happiness." Don't see it? Tilt your head to the left 90 degrees. Smilies are also used to denote sarcasm.

address resolution Conversion of an Internet address to the corresponding physical address. On an ethernet, resolution requires broadcasting on the local area network.

administrivia Administrative tasks, most often related to the maintenance of mailing lists, digests, news gateways, etc.

anonymous FTP Also known as "anon FTP"; a service provided to make files available to the general Internet community -- see Section 3.2.2 [Anonymous FTP], page 21.

ANSI The American National Standards Institute disseminates basic standards like ASCII, and acts as the United States' delegate to the ISO. Standards can be ordered from ANSI by writing to the ANSI Sales Department, 1430 Broadway, New York, NY 10018, or by telephoning (212) 354-3300.

archie A service which provides lookups for packages in a database of the offerings of countless of anonymous FTP sites. See Section 3.3.1 [archie], page 25 for a full description.

archive server An email-based file transfer facility offered by some systems.

ARPA (Advanced Research Projects Agency) Former name of DARPA, the government agency that funded ARPAnet and later the DARPA Internet.

ARPAnet A pioneering long haul network funded by ARPA. It served as the basis for early networking research as well as a central backbone during the development of the Internet. The ARPAnet consisted of individual packet switching computers interconnected by leased lines. The ARPAnet no longer exists as a singular entity.

asynchronous Transmission by individual bytes, not related to specific timing on the transmitting end.

auto-magic Something which happens pseudo-automatically, and is usually too complex to go into any further than to say it happens "automagically."

backbone A high-speed connection within a network that connects shorter,
usually slower circuits. Also used in reference to a system that acts as a "hub" for activity (although those are becoming much less prevalent now than they were ten years ago).

bandwidth The capacity of a medium to transmit a signal. More informally,
the mythical "size" of The Net, and its ability to carry the files and messages of those that use it. Some view certain kinds of traffic (FTPing hundreds of graphics images, for example) as a "waste of bandwidth" and look down upon them.

BITNET (Because It's Time Network) An NJE-based international educational
network.

bounce The return of a piece of mail because of an error in its delivery.

btw An abbreviation for "by the way."

CFV (Call For Votes) Initiates the voting period for a Usenet newsgroup. At least one (occasionally two or more) email address is customarily included as a repository for the votes. See See Appendix C [Newsgroup Creation], page 79 for a full description of the Usenet voting process.

ClariNews The fee-based Usenet newsfeed available from ClariNet Communications.

client The user of a network service; also used to describe a computer that relies upon another for some or all of its resources.

Cyberspace A term coined by William Gibson in his fantasy novel Neuromancer to describe the "world" of computers, and the society that gathers
around them.

datagram The basic unit of information passed across the Internet. It

contains a source and destination address along with data. Large messages are broken down into a sequence of IP datagrams.

disassembling Converting a binary program into human-readable machine language code.

DNS (Domain Name System) The method used to convert Internet names to their corresponding Internet numbers.

domain A part of the naming hierarchy. Syntactically, a domain name consists of a sequence of names or other words separated by dots.

dotted quad A set of four numbers connected with periods that make up an Internet address; for example, 147.31.254.130.

email The vernacular abbreviation for electronic mail.

email address The UUCP or domain-based address that a user is referred to with. For example, the author's address is brendan@cs.widener.edu.

ethernet A 10-million bit per second networking scheme originally developed by Xerox Corporation. Ethernet is widely used for LANs because it can network a wide variety of computers, it is not proprietary, and components
are widely available from many commercial sources.

FDDI (Fiber Distributed Data Interface) An emerging standard for network technology based on fiber optics that has been established by ANSI. FDDI specifies a 100-million bit per second data rate. The access control mechanism uses token ring technology.

flame A piece of mail or Usenet posting which is violently argumentative.

FQDN (Fully Qualified Domain Name) The FQDN is the full site name of a system, rather than just its hostname. For example, the system lisa at Widener University has a FQDN of lisa.cs.widener.edu.

FTP (File Transfer Protocol) The Internet standard high-level protocol for transferring files from one computer to another.

FYI An abbreviation for the phrase "for your information." There is also a series of RFCs put out by the Network Information Center called FYIs; they address common questions of new users and many other useful things. See [RFCs], page 73 for instructions on retrieving FYIs.

gateway A special-purpose dedicated computer that attaches to two or more
networks and routes packets from one network to the other. In particular, an Internet gateway routes IP datagrams among the networks it connects.

Gateways
route packets to other gateways until they can be delivered to the final destination directly across one physical network.

header The portion of a packet, preceding the actual data, containing source and destination addresses and error-checking fields. Also part of a message or news article.

hostname The name given to a machine. (See also FQDN.)

IMHO (In My Humble Opinion) This usually accompanies a statement that may
bring about personal offense or strong disagreement.

Internet A concatenation of many individual TCP/IP campus, state, regional, and national networks (such as NSFnet, ARPAnet, and Milnet) into one
single logical network all sharing a common addressing scheme.

Internet number The dotted-quad address used to specify a certain system.
The Internet number for the site cs.widener.edu is 147.31.254.130. A resolver
is used to translate between hostnames and Internet addresses.

interoperate The ability of multi-vendor computers to work together using a common set of protocols. With interoperability, PCs, Macs, Suns, Dec VAXen, CDC Cybers, etc, all work together allowing one host computer to communicate with and take advantage of the resources of another.

ISO (International Organization for Standardization) Coordinator of the main networking standards that are put into use today.

kernel The level of an operating system or networking system that contains the system-level commands or all of the functions hidden from the user. In a Unix system, the kernel is a program that contains the device drivers, the memory management routines, the scheduler, and system calls. This
program is always running while the system is operating.

LAN (Local Area Network) Any physical network technology that operates at
high speed over short distances (up to a few thousand meters).

mail gateway A machine that connects to two or more electronic mail systems (especially dissimilar mail systems on two different networks) and transfers mail messages among them.

mailing list A possibly moderated discussion group, distributed via email

from a central computer maintaining the list of people involved in the discussion.

mail path A series of machine names used to direct electronic mail from one user to another.

medium The material used to support the transmission of data. This can be copper wire, coaxial cable, optical fiber, or electromagnetic wave (as in microwave).

multiplex The division of a single transmission medium into multiple logical channels supporting many simultaneous sessions. For example, one network may have simultaneous FTP, telnet, rlogin, and SMTP connections, all going at the same time.

net.citizen An inhabitant of Cyberspace. One usually tries to be a good net.citizen, lest one be flamed.

netiquette A pun on "etiquette"; proper behavior on The Net. See Section 4.13 [Usenet Netiquette], page 37.

network A group of machines connected together so they can transmit information to one another. There are two kinds of networks: local networks and remote networks.

NFS (Network File System) A method developed by Sun Microsystems to allow computers to share files across a network in a way that makes them appear as if they're "local" to the system.

NIC The Network Information Center.

node A computer that is attached to a network; also called a host.

NSFnet The national backbone network, funded by the National Science Foundation and operated by the Merit Corporation, used to interconnect regional (mid-level) networks such as WestNet to one another.

packet The unit of data sent across a packet switching network. The term is used loosely. While some Internet literature uses it to refer specifically to data sent across a physical network, other literature views the Internet as a packet switching network and describes IP datagrams as packets.

polling Connecting to another system to check for things like mail or news.

postmaster The person responsible for taking care of mail problems, answering queries about users, and other related work at a site.

protocols A formal description of message formats and the rules two computers must follow to exchange those messages. Protocols can describe low-level details of machine-to-machine interfaces (e.g., the order in which bits and bytes are sent across a wire) or high-level exchanges between allocation programs (e.g., the way in which two programs transfer a file across the Internet).

recursion The facility of a programming language to be able to call functions from within themselves.

resolve Translate an Internet name into its equivalent IP address or other DNS information.

RFD (Request For Discussion) Usually a two- to three-week period in which
the particulars of newsgroup creation are battled out.

route The path that network traffic takes from its source to its destination.

router A dedicated computer (or other device) that sends packets from one
place to another, paying attention to the current state of the network.

RTFM (Read The Fantastic Manual) . This anacronym is often used when someone asks a simple or common question. The word `Fantastic' is usually replaced with one much more vulgar.

SMTP (Simple Mail Transfer Protocol) The Internet standard protocol for transferring electronic mail messages from one computer to another. SMTP specifies how two mail systems interact and the format of control messages they exchange to transfer mail.

server A computer that shares its resources, such as printers and files, with other computers on the network. An example of this is a Network File System (NFS) server which shares its disk space with other computers.

signal-to-noise ratio When used in reference to Usenet activity, this describes the relation between amount of actual information in a discussion, compared to their quantity. More often than not, there's substantial activity
in a newsgroup, but a very small number of those articles actually contain anything useful.

signature The small, usually four-line message at the bottom of a piece of email or a Usenet article. In Unix, it's added by creating a file `.signature' in the user's home directory. Large signatures are a no-no.

summarize To encapsulate a number of responses into one coherent,

usable
message. Often done on controlled mailing lists or active newsgroups, to help
reduce bandwidth.

synchronous Data communications in which transmissions are sent at a fixed rate, with the sending and receiving devices synchronized.

TCP/IP (Transmission Control Protocol/Internet Protocol) A set of protocols, resulting from ARPA efforts, used by the Internet to support services such as remote login (telnet), file transfer (FTP) and mail (SMTP).

telnet The Internet standard protocol for remote terminal connection service. Telnet allows a user at one site to interact with a remote timesharing system at another site as if the user's terminal were connected directly to the remote computer.

terminal server A small, specialized, networked computer that connects many terminals to a LAN through one network connection. Any user on the network can then connect to various network hosts.

TEX A free typesetting system by Donald Knuth.

twisted pair Cable made up of a pair of insulated copper wires wrapped around each other to cancel the effects of electrical noise.

UUCP (Unix to Unix Copy Program) A store-and-forward system, primarily for Unix systems but currently supported on other platforms (e.g. VMS and personal computers).

WAN (Wide-Area Network) A network spanning hundreds or thousands of miles.

workstation A networked personal computing device with more power than a standard IBM PC or Macintosh. Typically, a workstation has an operating system such as unix that is capable of running several tasks at the same time.
It has several megabytes of memory and a large, high-resolution display. Examples are Sun workstations and Digital DECstations.

worm A computer program which replicates itself. The Internet worm (see Section 8.1 [The Internet Worm], page 63) was perhaps the most famous; it successfully (and accidentally) duplicated itself on systems across the Internet.

wrt With respect to.

"I hate definitions."

Benjamin Disraeli

Vivian Grey, bk i chap ii

Bibliography

What follows is a compendium of sources that have information that will be of use to anyone reading this guide. Most of them were used in the writing of the booklet, while others are simply noted because they are a must for any good net.citizen's bookshelf.

Books

Comer, Douglas E. (1991). Internetworking With TCP/IP, 2nd ed., 2v. Prentice Hall: Englewood Cliffs, NJ.

Davidson, John (1988). An Introduction to TCP/IP. Springer-Verlag: Berlin.

Frey, Donnalyn, and Adams, Rick (1989). !@%:: A Directory of Electronic Mail Addressing and Networks. O'Reilly and Associates: Newton, MA.

Gibson, William (1984). Neuromancer. Ace: New York, NY.

LaQuey, Tracy (1990). Users' Directory of Computer Networks. Digital Press: Bedford, MA.

Levy, Stephen (1984). Hackers: Heroes of the Computer Revolution. Anchor Press/Doubleday: Garden City, NY.

Partridge, Craig (1988). Innovations in Internetworking. ARTECH House: Norwood, MA.

Quarterman, John S. (1989). The Matrix: Computer Networks and Conferencing Systems Worldwide. Digital Press: Bedford, MA.

Raymond, Eric (ed) (1991). The New Hacker's Dictionary. MIT Press: Cambridge, MA.

Stoll, Clifford (1989). The Cuckoo's Egg. Doubleday: New York.

Tanenbaum, Andrew S. (1988). Computer Networks, 2d ed. Prentice-Hall: Englewood Cliffs, NJ.

Todinao, Grace (1986). Using UUCP and USENET: A Nutshell Handbook. O'Reilly and Associates: Newton, MA.

The Waite Group (1991). Unix Communications, 2nd ed.. Howard W. Sams & Company: Indianapolis.

Periodicals & Papers

Barlow, J. Coming Into The Country. Communications of the ACM 34:3 (March 1991): 2. Addresses "Cyberspace" -- John Barlow was a co-founder of the EFF.

Collyer, G., and Spencer, H. News Need Not Be Slow. Proceedings of the 1987 Winter USENIX Conference: 181-90. USENIX Association, Berkeley, CA (January 1987).

Denning, P. The Internet Worm. American Scientist (March-April 1989): 126-
128.

_____.The Science of Computing: Computer Networks. American Scientist (March-April 1985): 127-129.

Frey, D., and Adams, R. USENET: Death by Success? UNIX REVIEW (August 1987): 55-60.

Gifford, W. S. ISDN User-Network Interfaces. IEEE Journal on Selected Areas in Communications (May 1986): 343-348.

Ginsberg, K. Getting from Here to There. UNIX REVIEW (January 1986): 45.

Hiltz, S. R. The Human Element in Computerized Conferencing Systems. Computer Networks (December 1978): 421-428.

Horton, M. What is a Domain? Proceedings of the Summer 1984 USENIX Conference: 368-372. USENIX Association, Berkeley, CA (June 1984).

Jacobsen, Ole J. Information on TCP/IP. ConneXions -- The Interoperability
Report (July 1988): 14-15.

Jennings, D., et al. Computer Networking for Scientists. Science (28 February 1986): 943-950.

Markoff, J. "Author of computer `virus' is son of U.S. electronic security
expert." New York Times (Nov. 5, 1988): A1.

_____."Computer snarl: A `back door' ajar." New York Times (Nov. 7, 1988): B10.

McQuillan, J. M., and Walden, D. C. The ARPA Network Design Decisions. Computer Networks (1977): 243-289.

Ornstein, S. M. A letter concerning the Internet worm. Communications of the ACM 32:6 (June 1989).

Partridge, C. Mail Routing Using Domain Names: An Informal Tour. Proceedings of the 1986 Summer USENIX Conference: 366-76. USENIX Association, Berkeley, CA (June 1986).

Quarterman, J. Etiquette and Ethics. ConneXions -- The Interoperability Report (March 1989): 12-16.

_____.Notable Computer Networks. Communications of the ACM 29:10 (October 1986). This was the predecessor to The Matrix.

Raeder, A. W., and Andrews, K. L. Searching Library Catalogs on the Internet: A Survey. Database Searcher 6 (September 1990): 16-31.

Seeley, D. A tour of the worm. Proceedings of the 1989 Winter USENIX Conference: 287-304. USENIX Association, Berkeley, CA (February 1989).

Shulman, G. Legal Research on USENET Liability Issues. ;login: The USENIX
Association Newsletter (December 1984): 11-17.

Smith, K. E-Mail to Anywhere. PC World (March 1988): 220-223.

Stoll, C. Stalking the Wily Hacker. Communications of the ACM 31:5 (May 1988): 14. This article grew into the book The Cuckoo's Egg.

Taylor, D. The Postman Always Rings Twice: Electronic Mail in a Highly Distributed Environment. Proceedings of the 1988 Winter USENIX Conference: 145-153. USENIX Association, Berkeley, CA (December 1988).

U.S. Gen'l Accounting Ofc. Computer Security: Virus Highlights Need for Improved Internet Management. GAO / IMTEC - 89 - 57, (1989). Addresses the Internet worm.

"And all else is literature."

Paul Verlaine
The Sun, New York

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From comp.mail.misc Sat Jul 11 17:29:41 1992
From: brendan@cs.widener.edu (Brendan Kehoe)
Subject: Zen and the Art of the Internet, Second Edition
Followup-To: misc.books.technical
Date: 8 Jul 1992 08:54:04 -0400
Organization: Widener University Computer Science Dept, Chester PA
Message-ID: <13eohcINNmh8@betty.cs.widener.edu>
Reply-To: guide-bugs@cs.widener.edu (Brendan Kehoe)

Zen and the Art of the Internet: A Beginner's Guide---your navigator's guide to the many twists and turns that come with being comfortable with the Internet. Published by Prentice Hall, its Second Edition is due to begin shipping in the middle of July (a couple of weeks). It has an ISBN of 0-13-010778-6, and it costs $22. There are discounts available for large quantity and educational orders.

Zen is primarily written for people that're comfortable with computers, but may not have had much (if any) exposure to networks in general. No one operating system is targeted; it's purposely "Operating System-neutral." Whether you use VM, VMS, Unix, DOS, or Billy's Virtual Machine, you should find this information useful. Even if you've been using the Net for years, you'll probably find something in Zen that you hadn't realized existed before.

Zen discusses how to decypher domain names; use email well; what telnet is and
what's available using it; Usenet news (including a lot on proper netiquette);
FTP & archie; the various services that're out there, in their many forms; and
a variety of other topics.

It also features a chapter (my personal favorite) called ``What You'll Hear About''. Therein are described the different organizations that are concerned
with or active on the Net, happenings like the Internet Worm and Cliff Stoll's
wily hacker, and discussions of other net lore as well. I think you'll find Zen to be a good read, and not anything like the dry technical manuals that so
often proliferate our book shelves. The first edition was received incredibly
well by the Net in the past few months. (Send mail to archive-server@cs.widener.edu with the command `send zen hints' in the body of your message to get instructions on how to get the first edition. It will continue
to be distributed, irregardless of what future editions may come out.)

Opened with a foreword by Ed Vielmetti, Vice President of MSEN, the second edition offers roughly 30 pages of new information, and has been completely "refinished" front to back, with every page rewritten or changed in some way. You'll find it to be much cleaner and more complete than the first; everything
in the first edition has been supplemented or improved. It sports a more complete glossary, an extensive bibliography, and a number of other reference features. I've directly incorporated the suggestions of dozens of folks on the net, in the hopes of making it exactly the kind of book you need.

Let Zen be your guide through Cyberspace. Comments on either edition are welcome; please send them to guide-bugs@cs.widener.edu

--
Brendan Kehoe, Sun Network Manager
brendan@cs.widener.edu
Widener University Chester, PA

Putting your home PC on the Internet: Summary and Compendium

25 Jan 1991

I'd like to thank all the folks who took the time to respond to my questions about how to get the home PC hung on the internet. Here's a summary of the responses as I understand them, followed by the complete text of all responses so you can draw your own conclusions. I regret that this summary is not very comprehensive or authoritative (not that netnews ever is) but it does indicate directions to proceed in.

There were two questions I asked: 1) how to get assigned an internet address and get physically hooked in to the internet, and 2) failing this, how to get an e-mail and news feed. I specified that I didn't want to discuss software (not that it's not important), just how to get physically and administratively hooked up. I also sent a query to the group rec.ham-radio.packet asking what people thought of using amateur packet radio as the connection to the outside world. These responses are also attached below.

0. Background information

People often confuse the terms "internet address" and "domain name" (probably because e-mail is generally addressed to a domain name, not an internet address). An internet address is a 32-bit number that is assigned to each node on the internet. It's usually written in four bytes, for instance the address of max.berkeley.edu is 128.32.178.63. A domain name is a name like max.berkeley.edu. You don't have to be an internet node to get an official domain name, but if you aren't one, you have to tell them the name of an internet node that will take care of forwarding your mail off the internet. To get more info about registering a domain name in the "us" domain, ftp to nic.ddn.mil and get netinfo:us-domain.txt. There is no registration fee.

Note that although both the domain name system and the internet addressing are heirarchical, they have nothing to do with each other. The internet address heirarchy is related to physical connection, but the domain name heirarchy is administrative.

1. Getting an internet address

A basic problem with getting on the internet is that the US gov't, which is footing the bill for most of the internet, doesn't want anyone on there unless some gov't agency will vouch that you are doing research or other work for them. So if you do contract work for Uncle Sam in your spare time, you might get your patron agency to back you. The relevant document is netinfo:internet-number-template.txt on nic.ddn.mil. I don't think there's any fee, and you get 256 internet addresses to do with as you please.

If, however, you are not a budding Beltway Bandit, it becomes a matter of who you know. Suppose you have buddies at the local university or bomb plant. They might be willing and able to lend you an address out of their pool. Strictly speaking, they aren't supposed to do this

unless you are using the net for uses related to working for them, but it's been known to happen anyhow.

Which of these options you select also affects the way you can hook in, covered next.

2. Physical connections

The expensive way of getting connected is to rent a phone line from you to some local organization, and pay them to deal with the other end. Somebody sent a copy of recent NEARnet rates. A small operation could get hooked up at 9600 baud for a $10,750 installation charge, and $7000 per year exclusive of leased line charges. The cost of the leased line obviously depends on where you are, but according to UUNET's AlterNet blurb, they cost $3000 per year and up. NEARnet serves New England, I suppose there are similar organizations in other parts of the country but I don't know who they are.

UUNET runs AlterNet (just mentioned) and they estimate the following charges for a 9600 baud connection. Initial charge is $2750, and annual fee of $3000 exclusive of phone company charges. They mention that they also support dial-up connections, which might save a bundle on phone charges. Alternet has a few hubs spaced around the country and a couple in Europe. To get info on AlterNet, send mail to info@uunet.uu.net.

Several respondents also mentioned PSI. I have requested info from them, but don't have it yet.

The above choices are not only a bit expensive, they also will not get you on the Internet unless you have the aformentioned government sponsorship. If you have a friend with a hooked up network, you can try to talk him into running a SLIP protocol connection over a dial-up modem to one of his machines. As I mentioned above, this is not strictly on the up-and-up, but is enormously cheaper.

Another possibility that occurred to me was to make the outside connection via amateur packet radio. I don't know anything about packet radio myself, but the replies I got indicated the following. It's not legal to use amateur radio for any business purposes. Nothing is supposed to be transmitted over amateur radio unless it's been read by someone with a license. And there's some question about the legality of unattended operation. Nonetheless, it seems some hams are doing stuff like this. I don't have any idea what kind of equipment costs are involved.

3. How about just mail and news?

The other option is to forget the internet and just get a news and mail feed via UUCP. Basicly you buy a modem and locate someone who already has mail and news who will let you call in and grab them. Possible feeds are UUNET (send mail to info@uunet.uu.net) or many nixpub sites (listed in a period posting in pubnet.nixpub and comp.misc) and probably thousands of others. UUNET apparently costs something like $400 a year plus phone charges; some of sites in the nixpub list are free. Someone suggested to look in comp.mail.maps to find invitations for UUCP feeds. Fidonet and PSI are also mentioned

as possible feeds.

One thing to bear in mind is that if you want a registered domain name, you must have a internet site that agrees to forward your mail. I believe UUNET and PSI take care of this for you, but if you just pick someone out of comp.mail.maps to feed you, you will have to hunt down your internet site separately. I understand that Fidonet sites all have registered domain names, albiet peculiar looking ones.

4. Other things to try

One of the responses below suggests sending a query to hostmaster@nic.ddn.mil. I have, but the reply just told me how to register a domain name in the US domain. I haven't pursued this further.

As mentioned above, info on UUNET can be gotten by sending your US mail address (no kidding!) to info@uunet.uu.net. I don't have this packet yet, so I can't tell you what's in it. Also, some info can be gotten by anon FTP from uunet.uu.net in the directory uunet-info.

Info on PSI is reportedly available from info@psi.com.

I don't know where to find info about fidonet.

- Dave Cottingham
  dc@caveat.berkeley.edu

That's the summary, now here's all the stuff I got:

From: MX%"wjb@cogsci.cog.jhu.edu" 15-JAN-1991 10:03:00.85
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:wjb@cogsci.cog.jhu.edu>
Received: from cogsci.cog.jhu.edu by MAX.BERKELEY.EDU with SMTP; Tue, 15 Jan 1991 10:02:54 PST
Received: by cogsci.cog.jhu.edu (4.0/SMI-4.0) id AA00400; Tue, 15 Jan 91 13:06:25 EST
Date: Tue, 15 Jan 91 13:06:25 EST
From: wjb@cogsci.cog.jhu.edu (William J. Bogstad)
Message-ID: <9101151806.AA00400@cogsci.cog.jhu.edu>
To: dc@max.berkeley.edu
Subject: Re: Q: how to make home PC an internet node?
Newsgroups: comp.misc,comp.os.minix,comp.sys.nsc.32k,comp.unix.xenix.sco
In-Reply-To: <00942BD0.3790B740@max.berkeley.edu>
Organization: JHU Cognitive Science Center, Baltimore, MD
X-MX-Warning: Warning -- Invalid "CC" header.
CC:

In article <00942BD0.3790B740@max.berkeley.edu> you write:
>It sure would be great if my PC at home were on the internet. I'm
>sure this must be possible, since there are plenty of smallish
>businesses on the internet. However, a perusal of the documents at
>nic.ddn.mil shows only how to launch a new network, which requires

>divine intervention from a government agency, and is definitely of a
>grander scale than what I have in mind.

 There should have been information there about getting an address.
You might try contacting the postmaster at the large Ohio State USENET
site. (Don't remember the name off hand.) I've seen messsage from him in
the past about providing mail/news help to people and he should point you in
the right direction. You might also look into CSNET, UUNET, and PSINET??
all of which have TCP/IP networks and may have dial-up TCP/IP capability.
(Which is probably what you want. Having a dedicated line to your home
could get expensive.) Also look into the SLIP and/or PPP protocols which
are available for the PC and are used to implement TCP/IP over dial-up lines.
If you have good connections at local Internet sites, you might be able to
get somebody to assign you an address there and use dial-up connections.

>
>I'm hoping that someone out there who's done this can tell me how to
>go about getting assigned an internet address, and what kind of
>physical connection they use and to where, and just how massive a
>financial outlay is required. (Software is another issue, but I was
>going to worry about that later.)

 A high speed modem may be all you need as far as additional
hardware. (9600 or 19200 baud) Telebit would probably be a good choice.

>...
>And finally, if there is a more appropriate place to post this,
>please let me know. (Intensive scrutiny of the list of active
>newgorups turned up none which really seemed right, but these
>seemed slightly plausible.)

 The mail groups or tcp-ip groups might have been better. You might
try finding the archives for the tcp-ip groups. They should have
information.

    Good Luck,
    Bill Bogstad

From: MX%"<pacolley@violet.waterloo.edu>" 15-JAN-1991 12:20:40.11
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:pacolley@violet.waterloo.edu>
Received: from violet.waterloo.edu by MAX.BERKELEY.EDU with SMTP; Tue, 15 Jan
          1991 12:20:16 PST
Received: by violet.waterloo.edu id <AA00170>; Tue, 15 Jan 91 15:24:27 EST
Date: Tue, 15 Jan 91 15:24:27 EST
From: Paul Colley <pacolley@violet.waterloo.edu>
Message-ID: <9101152024.AA00170@violet.waterloo.edu>
To: dc@max.berkeley.edu
Subject: Re: Q: how to make home PC an internet node?
Newsgroups: comp.misc,comp.os.minix,comp.sys.nsc.32k,comp.unix.xenix.sco
In-Reply-To: <00942BD0.3790B740@max.berkeley.edu>
Organization: University of Waterloo
X-MX-Warning: Warning -- Invalid "CC" header.
CC:

In article <00942BD0.3790B740@max.berkeley.edu> you write:

>It sure would be great if my PC at home were on the internet.

>   just how massive a
>financial outlay is required.

$35.00 one-time fee for an internet-style mail address through UUnet.

Actual internet-style connection is substantially more ($800/month? I
think I remember for Alternet, don't have it in front of me).

Anyways, UUnet does both (the internet stuff from uunet is called
"Alternet").

Write info@uunet.uu.net for details.

>mail via uucp. I know one way to do this, which is to get in contact
>with one of the sites on the NIXPUB list. If anybody knows a better
>way, I'd like to hear about it.

Post to a *.uucp group distributed near you & also Email
postmaster@"local sites" and ask for someone who is willing
to give you a feed. To find local sites, look in the UUCP maps
(either on your favourite machine, or in the newsgroup comp.mail.maps).
The UUCP map for some sites lists an invitation for new UUCP mail
or news feeds; most sites are willing to give a mail feed if you
ask nicely, but news is much harder to come by. Almost impossible
to come by if you aren't running a high-speed modem. But, again,
uunet will give you a feed if all else fails.

Also, again, uunet does this---$35.00/month + $2.00/hour or so.

The information I have about Alternet is on paper, so you're out of luck;
ask uunet to send you a copy (that's what I did).

I appended to the bottom of this message the info from uunet on registering
a domain style address.

Have fun.

Probably, if you're associated with a University, you can do an internet
connection for free to them; look for information on TCP/IP and SLIP
(Internet Protocol, Serial Line Internet Protocol (i.e., for
modems), ...I think that's what these acronyms stand for)

Disclaimer: I'm a UUCP only site, so I haven't actually done any of this;
use this info at your own risk, I'm not associated with the University,
the government, UUnet, or anyone else mentioned in this, etc, etc, ...

- Paul Colley
  pacolley@violet.waterloo.edu

>From operator@uunet.UU.NET Thu Jan 10 16:37:03 1991
Received: from uunet.UU.NET by violet.waterloo.edu with SMTP

id <AA24620>; Thu, 10 Jan 91 16:37:03 EST
Received: by uunet.UU.NET (5.61/1.14)
id AA23825; Thu, 10 Jan 91 16:36:32 -0500
From: operator@uunet.UU.NET (UUNET Postmaster)
Message-Id: <9101102136.AA23825@uunet.UU.NET>
Subject: Re: Registering site?
To: pacolley@violet (Paul Colley)
Date: Thu, 10 Jan 91 16:36:31 EST
In-Reply-To: <9101101531.AA14426@violet.waterloo.edu>; from "Paul Colley" at Jan 10, 91 10:31 am
X-Mailer: ELM [version 2.3 PL10]
Status: RO

Hello,

>
> The README in comp.mail.maps seems to suggest that it's better to
> register in the "UUCP Zone", whatever that is, and gives this
> address...
>

Please find below some info regarding domain registration and application form
for registering.

BACKGROUND:

A "zone" is a registry of domains kept by a particular organization. A zone registry is "authoritative", that is, the master copy of the registry is kept by the zone organization, and this copy is, by definition, always up-to-date. Copies of this registry may be distributed to other places and kept in caches, but these caches are not authoritative because they may be out of date. An authoritative answer is required for certain decisions, such as "this mail cannot be delivered because there is no such domain", or "the name you have chosen is available and is now assigned uniquely to you."

You need a registered domain name to use software (including smail) which supports domain addresses. This name must be unique in the world, and must be registered with the appropriate registry. You also need to be in a domain that has a forwarder from the INternet.

Currently, the domain tree in the USA has three major top level domains: COM for companies, EDU for educational institutions, and GOV for government entities. Three other top level names exist: MIL, NET, ORG, but are somewhat specialized. For the most part, countries other than the USA are using the ISO 3166 2 letter abbreviation for their country as a top level.

The second level is generally the name of the organization, using the shortest possible abbreviation that is clear and unique, thus ATT, DEC, IBM, HP, etc. The choice of exact name is up to the organization, and longer names, such as Berkeley.EDU or Tektronix.COM are perfectly acceptable. Just remember that people must type the name, as well as see it displayed. Only the second level domain name need be registered.

Not all countries use the second level for the organization. In particular, Australia and Britain have set up second level domains OZ.AU and AC.UK for their academic communities, and put the organization at the third level.

The third and subsequent levels, if used, should be organizational units within the organization. Try to keep the number of levels to a minimum, since people have to type the names. More than four total levels (country, org, org-unit1, and org-unit2) should rarely be needed. The actual organizational units to be used are up to you, for example, they might be departments, or they might be machine names. You do not need to register levels beneath the second level.

CHOSING NAMES:

Domain names are case independent. uucpnames MUST be all lower case.

"vax", "u3b20", and the like are terrible host names, because sooner or later you'll have more than one vax, or more than one 3b20, and the names will be confusing. We recommend organizational names, with any subdomains based on the department or project the machine is used for. We highly discourage use of a nonorganizational uucpname as the second level domain name. Of course, in order to keep the names reasonably short and to avoid duplicating names in the heirarchy, some compromise will be needed. For example, csvax.CS.UND.EDU is redundant, but RISC.CS.UND.EDU might be a good name for the computer used by the RISC project in the CS department.

Please note that you should support both RFC 976 and the documents it refers to, in particular RFC 822 and RFC 920. This means, for example:

(a) The name "postmaster" on all machines visible to the outside should be forwarded to the technical contact. This can be easily done with an alias in /usr/lib/aliases, if your site runs sendmail or smail release 2.0 or beyond.

(b) Your machine should not alter valid RFC 822 headers, such as From:, of mail it generates or forwards. Many machines running sendmail have a bug which adds uucpname! to the front of such addresses. Installing smail will fix the bug, because mail passed through the machine is not passed through sendmail. We hope to make a fix to sendmail available, also, at a later date.

COSTS:

UUNET charges a one time fee of $35 for processing the forms and setting up the servers. This fee does NOT include a connection to the uunet computer. There is no registration charge for UUNET customers.

Payment should be sent to:

UUNET Communications Services
3110 Fairview Park Drive, Suite 570
Falls Church, VA 22042

+1 703 876 5050
uunet!domain-request

Please indicate the name of your domain and the uucp name of your gateway machine on your payment so that we may properly credit you. Registration can not be completed until payment is received (except for UUNET subscribers).

Information about UUNET's other services can be obtained by sending your postal address to uunet!info

IMPLEMENTATION DETAILS:

We will notify you via mail to "postmaster" in your domain when your domain is registered. Please make sure such an address exists in your domain. You can NOT use your domain name in outgoing mail until registration is completed, although it is OK to install smail (using the host.UUCP domain) ahead of time. We do recommend that you set up to accept incoming mail for your domain name ahead of time, if this is convenient.

Several steps are needed before your registration is complete. Some of these steps are approval by the NIC, setting up the nameservers, and setting up the forwarder. Seeing your domain published in the UUCP map is not, by itself, sufficient (or necessary) for the use of your domain name.

FORWARDERS:

A forwarder is a kind of mail bridge host between the Internet (formerly called the ARPANET) and UUCP. The nameserver structure directs all Internet mail for your domain to the forwarder, and the forwarder passes the mail from Internet into UUCP. Forwarders can also forward your mail from UUCP to Internet, but it is not strictly necessary to use your forwarder for this, since mail to any of the published UUCP->Internet gateways can do this. If you use a forwarder other than uunet please have the postmaster or a system administrator at the forwarder send uunet a message granting permission to use that system as a forwarder.

To register your domain, you need to have a forwarder. If you know of an Internet site (such as uunet) that is willing to be a forwarder for your domain, let us know. As a last resort, uunet can be a forwarder for you even if you are not directly connected. HOWEVER, we require that you have the postmaster or system administrator at the site that is directly connected to uunet and will route your mail send uunet a message of permission before we start forwarding mail through them.

THE APPLICATION:

To register your domain with the NIC, we need to send in the following form. Questions 4,7,8 and 9 are already answered for you. Do not change them.

Answer questions 0,1,2,3,5,6 and 10 and return THE ENTIRE FORM to

uunet!domain-request. PLEASE do not just return the questions you answer and do not reformat the application. It creates extra work for us, as we have to copy your answers back onto the form we originally sent you, and will delay registration.

[THE FORM STARTS HERE.]

(0a) Specify what machine you want to be your forwarder. If you are directly connected to uunet, uunet can be your forwarder. If you are not directly connected, then you need to find some other site to be your forwarder OR get the permission of a site that IS directly connected to uunet to allow your arpanet mail to be forwarded through them. We must receive the permission of the uunet site or the other forwarder directly from that forwarder.

Who will be your forwarder:

For Example: uunet.uu.net

(0b) Specify the uucpname registered in the UUCP maps of the system which will act as the mail gateway for your domain. This is optional, but highly recommended, for domains which do not use uunet.uu.net as forwarder. UUNET subscribers using uunet.uu.net as forwarder may simply give the name of the account.

What is the name of your mail gateway:

[NETINFO:DOMAIN-TEMPLATE.TXT] [10/90 DM]

To establish a domain, the following information must be sent to the NIC Domain Registrar (HOSTMASTER@NIC.DDN.MIL). Questions may be addressed to the NIC Hostmaster by electronic mail at the above address, or by phone at (415) 859-3695 or (800) 235-3155.

NOTE: The key people must have electronic mailboxes and NIC "handles," unique NIC database identifiers. If you have access to "WHOIS", please check to see if you are registered and if so, make sure the information is current. Include only your handle and any changes (if any) that need to be made in your entry. If you do not have access to "WHOIS", please provide all the information indicated and a NIC handle will be assigned.

(1) The name of the top-level domain to join
(EDU, COM, MIL, GOV, NET, ORG).

1. Top-level domain:

(2) The name of the domain (up to 12 characters). This is the name that will be used in tables and lists associating the domain with the domain server addresses. [While, from a technical standpoint, domain names can be quite long we recommend the use of shorter, more user-friendly names.]

2. Complete Domain Name:

(3) The name and address of the organization establishing the domain.

3a. Organization name:

3b. Organization address:

(4) The date you expect the domain to be fully operational.

4. Date operational: Now operational.

(5) The NIC handle of the administrative head of the organization -- or this person's name, mailing address, phone number, organization, and network mailbox. This is the contact point for administrative and policy questions about the domain. In the case of a research project, this should be the principal investigator.

NOTE: Both the Administrative and the Technical/Zone contact of a domain MUST have a network mailbox, even if the mailbox is to be within the proposed domain.

Administrative Contact

5a. NIC Handle (if known) :
5b. Name (Last, First) :
5c. Organization:
5d. Mail Address:

5e. Phone Number:
5f. Net Mailbox :

(6) The NIC handle of the technical contact for the domain -- or the person's name, mailing address, phone number, organization, and network mailbox. This is the contact point for problems concerning the domain or zone, as well as for updating information about the domain or zone.

Technical and Zone Contact

6a. NIC Handle (if known):
6b. Name (Last, First) :
6c. Organization:
6d. Mail Address:

6e. Phone Number:
6f. Net Mailbox :

(7) Domains must provide at least two independent servers that provide the domain service for translating names to addresses for hosts in this domain.

* If you are applying for a domain and a network number assignment simultaneously and a host on your proposed network will be used as a server for the domain, you must wait until you receive your network number assigment and have given the server(s) a netaddress before sending in the domain application. Sending in the domain application without complete information in Sections 7 and 8 of this template will result in the delay of the domain registration.

Also, establishing the servers in physically separate locations and on different PSNs and/or networks is strongly recommended.

NOTE: All new hosts acting as servers will appear in the DNS root servers but will not apppear in the HOSTS.TXT file unless otherwise requested.

Primary Server: HOSTNAME, NETADDRESS, HARDWARE, SOFTWARE

7a. Primary Server Hostname: uunet.UU.NET
7b. Primary Server Netaddress: 192.48.96.2
7c. Primary Server Hardware: SEQUENT-S81
7d. Primary Server Software: UNIX

(8) The Secondary server information.

8a. Secondary Server Hostname: seismo.CSS.GOV
8b. Secondary Server Netaddress: 192.12.141.25
8c. Secondary Server Hardware: SUN-3/160
8d. Secondary Server Software: UNIX

8a. Secondary Server Hostname: cerberus.pa.dec.com
8b. Secondary Server Netaddress: 16.1.0.3
8c. Secondary Server Hardware: VAX
8d. Secondary Server Software: UNIX

(9) If any currently registered hosts will be renamed into the new domain, please specify old hostname, netaddress, and new hostname.

For example:

BAR-FOO2.XYZ.COM (26.8.0.193) -> FOO2.BAR.COM
BAR-FOO3.XYZ.COM (192.7.3.193) -> FOO3.BAR.COM
BAR-FOO4.ARPA (34.6.0.193) -> FOO4.BAR.COM

NOTE: Hostname changes to MILNET hosts must be approved by the MILNET Manager - MILNETMGR@DDN-CONUS.DDN.MIL.

(10) Please describe your organization briefly.

For example: Our Corporation is a consulting organization of people working with UNIX and the C language in an

electronic networking environment. It sponsors two technical conferences annually and distributes a bimonthly newsletter.

PLEASE ALLOW AT LEAST 30 WORKING DAYS FOR PROCESSING THIS APPLICATION

[THE FORM ENDS HERE.]

For further information contact the DDN/INTERNET Network Information Center (NIC):

Via electronic mail: HOSTMASTER@NIC.DDN.MIL
Via telephone: (800) 235-3155
Via postal mail: SRI International
DDN Network Information Center
333 Ravenswood Avenue
EJ286
Menlo Park, CA 94025

RECOMMENDED READING (available from the NIC)

Feinler, E.J.; Jacobsen, O.J.; Stahl, M.K.; Ward, C.A., eds. DDN Protocol Handbook: Menlo Park, CA: SRI International, DDN Network Information Center; 1985 December; NIC 50004 and NIC 50005 and NIC 50006. 2749 p.

Garcia-Luna-Aceves, J.J.; Stahl, M.K.; Ward, C.A., eds. Internet Protocol Handbook: The Domain Name System (DNS) Handbook. Menlo Park, CA: SRI International, Network Information Systems Center; 1989 August; 219 p. AD A214 698.

Postel, J.B.; Reynolds, J.K. Domain Requirements. Marina del Rey, CA: University of Southern California, Information Sciences Inst.; 1984 October; RFC 920. 14 p. (NIC.DDN.MIL RFC:RFC920.TXT).

Harrenstien, K.; Stahl, M.K.; Feinler, E.J. DoD Internet Host Table Specification. Menlo Park, CA: SRI International, DDN Network Information Center; 1985 October; RFC 952. 6 p. (NIC.DDN.MIL RFC:RFC952.TXT). Obsoletes: RFC 810

Harrenstien, K.; Stahl, M.K.; Feinler, E.J. Hostname Server. Menlo Park, CA: SRI International, DDN Network Information Center; 1985 October; RFC 953. 5 p. (NIC.DDN.MIL RFC:RFC953.TXT). Obsoletes: RFC 811

Partridge, C. Mail Routing and the Domain System. Cambridge, MA: BBN Labs., Inc.; 1986 January; RFC 974. 7 p. (NIC.DDN.MIL RFC:RFC974.TXT).

Lazear, W.D. MILNET Name Domain Transition. McLean, VA: MITRE Corp.; 1987 November; RFC 1031. 10 p. (NIC.DDN.MIL RFC:RFC1031.TXT).

Stahl, M.K. Domain Administrators Guide. Menlo Park, CA: SRI International, DDN Network Information Center; 1987 November; RFC

1032. 14 p. (NIC.DDN.MIL RFC:RFC1032.TXT).

Lottor, M. Domain Administrators Operations Guide. Menlo Park, CA: SRI International, DDN Network Information Center; 1987 November; RFC 1033. 22 p. (NIC.DDN.MIL RFC:RFC1033.TXT).

Mockapetris, P. Domain Names - Concepts and Facilities. Marina del Rey, CA: University of Southern California, Information Sciences Inst.; 1987 November; RFC 1034. 55 p. (NIC.DDN.MIL
RFC:RFC1034.TXT). Updated-by: RFC 1101
Obsoletes: RFC 973; RFC 882; RFC 883

Mockapetris, P. Domain names - Implementation and Specification. Marina del Rey, CA: University of Southern California, Information Sciences Inst.; 1987 November; RFC 1035. 55 p. (NIC.DDN.MIL
RFC:RFC1035.TXT). Updated-by: RFC 1101
Obsoletes: RFC 973; RFC 882; RFC 883

Mockapetris, P. DNS Encoding of Network Names and Other Types. Marina del Rey, CA: University of Southern California, Information Sciences Inst.; 1989 April; RFC 1101. 14 p. (NIC.DDN.MIL RFC:RFC1101.TXT).
Updates: RFC 1034; RFC 1035

---

postmaster@uunet.uu.net (I.C)

From: MX%"sblair@upurbmw.dell.com" 15-JAN-1991 12:36:09.47
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:uudell!upurbmw.dell.com!sblair@cs.utexas.edu>
Received: from cs.utexas.edu by MAX.BERKELEY.EDU with SMTP; Tue, 15 Jan 1991 12:36:00 PST
Posted-Date: Tue, 15 Jan 91 15:02:55 CST
Received: from uudell by cs.utexas.edu (5.64/1.93) via UUCP id AA24489; Tue, 15
Jan 91 14:40:29 -0600
Received: from upurbmw by uudell.dell.com (5.61/smail2.5b/06-30-87) id AA19766;
Tue, 15 Jan 91 14:25:48 -0600
Received: by upurbmw.dell.com. (4.1/SMI-4.1) id AA03063; Tue, 15 Jan 91 15:02:55 CST
Date: Tue, 15 Jan 91 15:02:55 CST
From: sblair@upurbmw.dell.com (Steve Blair)
Message-ID: <9101152102.AA03063@upurbmw.dell.com.>
To: dc@max.berkeley.edu, support@uudell
Subject: Re: Q: how to make home PC an internet node?

[not a marketing person, or marketing hype included(;>)]

You may well want to consider purchasing DELL's SYS V.4,

as it has SLIP built *into* it. Then you could SLIP into
*.berkeley.edu(I know of several hosts there) that allow
SLIP access.

This would be the *easiest* way to do it. Just purchase
the s/w, &/or a machine(small hype(!!) from us, and then
you'd be on the 'net.

Of course, doing this would also allow things like ftp,
and etc...

For more information on DELL's SYS V.4 UNIX, drop a line to

info@uudell.dell.com

regards,

steve blair UNIX DIVISION
sblair@upurbmw.dell.com

From: MX%"wood@acf4.NYU.EDU" 15-JAN-1991 12:48:39.45
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:wood@acf4.NYU.EDU>
Received: from acf4.NYU.EDU by MAX.BERKELEY.EDU with SMTP; Tue, 15 Jan 1991
          12:48:32 PST
Received: by acf4.NYU.EDU (5.61/1.34) id AA16815; Tue, 15 Jan 91 15:53:08
-0500
Date: Tue, 15 Jan 91 15:53:08 -0500
From: wood@acf4.NYU.EDU (David Wood)
Message-ID: <9101152053.AA16815@acf4.NYU.EDU>
To: dc@max.berkeley.edu (Dave Cottingham)
Subject: Re: Q: how to make home PC an internet node?
Newsgroups: comp.misc,comp.os.minix,comp.sys.nsc.32k,comp.unix.xenix.sco
In-Reply-To: article <00942BD0.3790B740@max.berkeley.edu> of 15 Jan 91 12:03
EST

 Since I 'work' at NYU, it would be acceptable to go and
 have a talk with the network manager for NYU. If you are
 connected with UC Berkeley, you might look for the net
 manager there.

 David Wood   wood@david.ultra.nyu.edu
 New York University   ...!uunet!theway!lab!wood
 212-998-3363
    __o
  -\<, "Brain. Brain. What is brain?"
  O' O   Kara the Eymorg, "Spock's Brain", Stardate 5432.3

From: MX%"rfarris@rfengr.com" 15-JAN-1991 20:11:33.78
To: DC

CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:serene!rfarris@UCSD.EDU>
Received: from ucsd.edu by MAX.BERKELEY.EDU with SMTP; Tue, 15 Jan 1991
          20:11:26 PST
Received: from serene.UUCP by ucsd.edu; id AA18054 sendmail 5.64/UCSD-2.1-sun
          via UUCP Tue, 15 Jan 91 20:10:38 -0800
To: dc@max.berkeley.edu
Subject: Re: Q: how to make home PC an internet node?
Newsgroups: comp.misc,comp.os.minix,comp.sys.nsc.32k,comp.unix.xenix.sco
In-Reply-To: <00942BD0.3790B740@max.berkeley.edu>
Organization: RF Engineering, Del Mar, California
Date: Tue, 15 Jan 91 20:08:26 PST
From: rfarris@rfengr.com (Rick Farris)
Message-ID: <9101152008.aa17159@serene.rfengr.com>

In article <00942BD0.3790B740@max.berkeley.edu> you write:

> I'm hoping that someone out there who's done this can tell
> me how to go about getting assigned an internet address, and
> what kind of physical connection they use and to where, and
> just how massive a financial outlay is required.

I have an Internet address, but I haven't taken the next
step onto the Internet. PSI will give you a dial-up slip
connection for (I think) $250/month. The only equipment you
need is a Telebit modem. The drawback is that if you're not
in a "gateway" city, the long distance phone bills will kill
you. (I'm not -- the closest is LA, a $20/hr bill)

I believe the next step up is a dedicated line (again to
either PSI or uunet's Alternet service) and I think those
costs are in the ~$2500/month range. Plus an X.25 interface
which is not cheap.

I'd be interested in a summary of whatever you find out.

> If this turns out to be impossible, I figure I'll settle for
> news and mail via uucp. I know one way to do this, which is
> to get in contact with one of the sites on the NIXPUB list.
> If anybody knows a better way, I'd like to hear about it.

That's about how it's done. Actually, if you're in
Berkeley, I'd give the postmaster at UCB (look in the maps)
a voice call and ask for mail connections. Since mail
doesn't generate a lot of traffic, he'll probably be happy
to accomodate you. While you're on the phone, ask him if he
knows where you can get a news feed. He may be willing to
feed you, or if not, he may know someone he feeds that will
feed you.

As a last resort, get "Reach Out California" and call me for
news. (2 hrs a day for a full feed.)

Oh, and don't forget uunet. $35/month plus connect time.

--
Rick Farris RF Engineering POB M Del Mar, CA 92014 voice (619) 259-6793
rfarris@rfengr.com   ...!ucsd!serene!rfarris   serenity bbs 259-7757

From: MX%"wolf@grasp2.univ-lyon1.fr" 15-JAN-1991 23:06:08.70
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:wolf@grasp2.univ-lyon1.fr>
Received: from grasp2.univ-lyon1.fr by MAX.BERKELEY.EDU with SMTP; Tue, 15 Jan
          1991 23:06:01 PST
Received: by grasp2.univ-lyon1.fr (AIX 1.3/4.03) id AA03954; Wed, 16 Jan 91
          08:11:19 +0100
From: wolf@grasp2.univ-lyon1.fr (Christophe Wolfhugel)
Message-ID: <9101160711.AA03954@grasp2.univ-lyon1.fr>
Subject: Re: Q: how to make home PC an internet node?
To: dc@max.berkeley.edu
Date: Wed, 16 Jan 91 8:11:18 MET
In-Reply-To: <9101152241.AA11259@grasp1.univ-lyon1.fr>; from "Dave Cottingham"
    at Jan 15, 91 5:03 pm
X-Mailer: ELM [version 2.3 PL11]

In his message, Dave Cottingham said:
|It sure would be great if my PC at home were on the internet. [...]

  I see 2 possibilities for you: the first as you said is to get your
  own attachment, but this will be very expensive, and I don't think
  that's interesting for just one or 2 machines.

  What would be more interesting is that your node get an attribution
  from an existing subnetwork you can call by phone. That would cost
  you just the negotiation of an attribution is this subnet, without
  having to bother about an IP domain.

  Hope this help.

--
Christophe Wolfhugel | Email: wolf@grasp1.univ-lyon1.fr
INSA Lyon - Departement Informatique | Fax: (+33) 72 44 08 00
69621 Villeurbanne Cedex, France | (Attn-To: Wolfhugel - C 210)

  Disclaimer: these are my own opinions, not my employer's.

From: MX%"ames!claris!portal!cup.portal.com!dbell@cad.Berkeley.EDU" 16-JAN-1991 01:49:41.27
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:ames!claris!portal!cup.portal.com!dbell@cad.Berkeley.EDU>

Received: from cad.Berkeley.EDU by MAX.BERKELEY.EDU with SMTP; Wed, 16 Jan 1991
          01:49:33 PST
Received: from ames.arc.nasa.gov by cad.Berkeley.EDU (5.61/1.42) id AA24274;
          Wed, 16 Jan 91 01:53:32 -0800
From: ames!claris!portal!cup.portal.com!dbell@cad.Berkeley.EDU
Received: by ames.arc.nasa.gov (5.64/1.2); Wed, 16 Jan 91 01:54:00 -0800
Received: by claris.com (4.1/SMI-3.2) id AA22268; Wed, 16 Jan 91 01:06:37 PST
Received: by portal.unix.portal.com (1.90) id AA00579; Tue, 15 Jan 91 22:42:57
          PST
Received: by hobo.corp.portal.com (4.0/4.0.3 1.6) id AA02662; Tue, 15 Jan 91
          22:42:57 PST
To: dc@max.berkeley.edu (Dave Cottingham)
Subject: Re: Q: how to make home PC an internet node?
Lines: 19
Date: Tue, 15 Jan 91 22:42:56 PST
Message-ID: <9101152242.3.5187@cup.portal.com>
X-Origin: The Portal System (TM)

Dave, as I understand it, you have to talk some site into
giving you a feed. This entails a modem line in, lots of mass storage,
(you DID want *everything*, didn't you?), and pretty high fees,
usually based on the traffic, over which you have litle control.

Your other choice, that of getting mail and news via uucp, is
a lot easier and cheaper. I use Portal Communications, in
Cupertino (South Bay). For $10 per month, we get unlimited
use of a large system of local BBs, Usenet email, and news.
They have a fairly sophisticated news reader interface, and
archive many groups for quite long periods. I know this is
a toll call for you, but you might try it out for a few months,
and also look for a similar service in the North or East Bay.

They can be reached in Cupertino at (408) 973-9111 by voice,
or log in at (408) 725-0561 or 725-1930 for info online.
(1200 or 2400 bps, 8,N,1)

Dave   dbell@cup.portal.com

From: MX%"<warren@PWS.BULL.COM>" 16-JAN-1991 09:25:43.28
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:warren@PWS.BULL.COM>
Received: from SLUG.PWS.BULL.COM by MAX.BERKELEY.EDU with SMTP; Wed, 16 Jan
          1991 09:25:35 PST
Received: by SLUG.PWS.BULL.COM (vers 4.1) for dc@max.berkeley.edu (from
          warren@PWS.BULL.COM (Warren J. Lavallee)) id
          <AA16343@SLUG.PWS.BULL.COM>; Wed, 16 Jan 91 12:26:52 EST
Message-ID: <9101161726.AA16343@SLUG.PWS.BULL.COM>
Date: Wed, 16 Jan 91 12:26:52 EST
From: warren@PWS.BULL.COM (Warren J. Lavallee)
Reply-To: <warren@PWS.BULL.COM>
To: dc@max.berkeley.edu
Subject: Re: Q: how to make home PC an internet node?

Newsgroups: comp.misc,comp.os.minix,comp.sys.nsc.32k,comp.unix.xenix.sco
References: <00942BD0.3790B740@max.berkeley.edu>

In comp.unix.xenix.sco you write:
>I'm hoping that someone out there who's done this can tell me how to
>go about getting assigned an internet address, and what kind of
>physical connection they use and to where, and just how massive a
>financial outlay is required. (Software is another issue, but I was
>going to worry about that later.)

Here's how I'd do it. BIG BUCKS... NEARnet is only New England though, you'd have to find your local network service provider.

NEARnet FEE SCHEDULE
January 1, 1990

Annual Membership Dues

Member Class	Type	Annual Revenue/Budget	Dues Amount
University/	Small	<$50M	$ 1,000
Non-Profit	Medium	$50-200M	$ 2,500
	Large	$200-500M	$ 5,000
	Very Large	>$500M	$ 7,500
Industry/	Entrepreneurial	<$10M	$ 1,000
Government	Small	$10-50M	$ 5,000
	Medium	$50-200M	$10,000
	Large	$200M-1B	$15,000
	Very Large	>$1B	$20,000

Annual Service Fees (These do not include leased line costs.)

Connection Data Rate	Service Fee
9.6Kb/s	$ 6,000
56Kb/s	$ 9,000
500Kb/s	$15,000
T1 (1.54Mb/s)	$24,000
10 Mb/s microwave	$36,000

Annual Leased Line Costs

NEARnet will provide purchasing services for leased telephone lines for member organizations. The options available and their costs will vary per member location.

One Time Installation Fees

Self Service Installation*: Medium	Estimated Fee
9.6Kb/s leased line	$10,750
56Kb/s leased line	$ 9,750
500Kb/s leased line	$20,500
T1 leased line	$20,500
10 Mb/s microwave	$50,000

*For full service installation add $2,500 to the self service fee.

Please call NEARnet at (617) 873-8730 for an exact quotation for your site.

NEARnet is operated on the basis of full-cost recovery. Charges are designed

to recover the full costs of providing service to the NEARnet members. Membership dues cover the costs of management, administration, and user services. Service fees cover the costs of network operations, maintenance, depreciation and backbone circuits. Installation fees cover the costs of providing equipment to connect members to the network. Fees are subject to periodic review and change by the NEARnet Steering Committee.

From: MX%"<jgreco@archimedes.math.uwm.edu>" 16-JAN-1991 10:09:42.70
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:jgreco@archimedes.math.uwm.edu>
Received: from uwm.edu by MAX.BERKELEY.EDU with SMTP; Wed, 16 Jan 1991 10:09:33
PST
Received: by uwm.edu; id AA15804; Wed, 16 Jan 91 12:13:57 -0600
Received: by archimedes.math.uwm.edu; id AA18979; Wed, 16 Jan 91 12:13:55 CST
Date: Wed, 16 Jan 91 12:13:55 CST
From: Joe Greco <jgreco@archimedes.math.uwm.edu>
Message-ID: <9101161813.AA18979@archimedes.math.uwm.edu>
To: dc%max.berkeley.edu@uwm.edu
Subject: Re: Q: how to make home PC an internet node?
Newsgroups: comp.misc,comp.os.minix,comp.sys.nsc.32k,comp.unix.xenix.sco
In-Reply-To: <00942BD0.3790B740@max.berkeley.edu>
Organization: University of Wisconsin, Milwaukee - Department of Mathematics
X-MX-Warning: Warning -- Invalid "CC" header.
CC:

In comp.sys.nsc.32k article <00942BD0.3790B740@max.berkeley.edu>, you wrote:
:It sure would be great if my PC at home were on the internet. I'm
:sure this must be possible, since there are plenty of smallish
:businesses on the internet. However, a perusal of the documents at
:nic.ddn.mil shows only how to launch a new network, which requires
:divine intervention from a government agency, and is definitely of a
:grander scale than what I have in mind.

You have a few choices:

1) find a site that is already on the Internet and bum a SLIP gateway off of the host. More on this later.

2) Be assigned a new address in the namespace. This is what you saw on nic.ddn.mil.... mega bucks, and you still have to obtain a network *link* (more bucks).

3) Go uucp. This is cheap, cost effective, and easy.

:I'm hoping that someone out there who's done this can tell me how to
:go about getting assigned an internet address, and what kind of
:physical connection they use and to where, and just how massive a
:financial outlay is required. (Software is another issue, but I was
:going to worry about that later.)
:
:If this turns out to be impossible, I figure I'll settle for news and
:mail via uucp. I know one way to do this, which is to get in contact
:with one of the sites on the NIXPUB list. If anybody knows a better

:way, I'd like to hear about it.
:
:And finally, if there is a more appropriate place to post this,
:please let me know. (Intensive scrutiny of the list of active
:newgorups turned up none which really seemed right, but these
:seemed slightly plausible.)
:
:Please mail replies to me, if there's interest I'll summarize. Somewhere.
:
:Thanks,
:Dave Cottingham
:dc@max.berkeley.edu

A SLIP gateway is the most economical way to do this. You find a host willing to let you do it. They will assign you an internet name and IP number... something in their domain. (cottingham.berkeley.edu?) ... your home machine will dial in and "log in" to this machine, which will establish an Internet connection. This is much easier if your home machine is a UNIX machine.

This requires a modem on each end. Higher speed modems are nicer but more expensive. It may also require a "router," if your home PC is not capable of the hard work. A router is a cheap dedicated computer running something like pcroute. This adds to the cost....

Finding a willing host is the harder part, though.

.... Joe

--
Joe Greco - University of Wisconsin, Milwaukee - Department of Mathematics
jgreco@archimedes.math.uwm.edu USnail: Joe Greco
Voice: 414/321-6184   9905 W. Montana Ave.
Data: 414/321-9287 (Happy Hacker's BBS) West Allis, WI 53227-3329
ICBM: 43 05 20 N 87 53 10 W
#include <witty_and_humorous_saying.h>
Disclaimer: I don't speak for the Math Department, the University, or myself.

From: MX%"sungate!glen@uunet.UU.NET" 16-JAN-1991 10:11:28.92
To: DC
CC:
Subj: PC Network Hookup

Return-Path: <@MAX.BERKELEY.EDU:sungate!glen@uunet.UU.NET>
Received: from uunet.UU.NET by MAX.BERKELEY.EDU with SMTP; Wed, 16 Jan 1991
          10:11:20 PST
Received: from sungate.UUCP by uunet.UU.NET (5.61/1.14) with UUCP id AA10141;
          Wed, 16 Jan 91 13:15:56 -0500
From: sungate!glen@uunet.UU.NET
Message-ID: <9101161815.AA10141@uunet.UU.NET>
To: dc@max.berkeley.edu
Subject: PC Network Hookup
Date: Wed Jan 16 10:57:32 1991

Hello, Dave!

I got your article as follows:

> From: dc@max.berkeley.edu (Dave Cottingham)
> Newsgroups: comp.misc,comp.os.minix,comp.sys.nsc.32k,comp.unix.xenix.sco
> Subject: Q: how to make home PC an internet node?
> Message-ID: <00942BD0.3790B740@max.berkeley.edu>
> Date: 15 Jan 91 17:03:03 GMT
> Sender: usenet@ucbvax.BERKELEY.EDU
> Reply-To: dc@max.berkeley.edu (Dave Cottingham)
> Organization: University of California, Berkeley

> It sure would be great if my PC at home were on the internet. I'm
> sure this must be possible, since there are plenty of smallish
> businesses on the internet. However, a perusal of the documents at
> nic.ddn.mil shows only how to launch a new network, which requires
> divine intervention from a government agency, and is definitely of a
> grander scale than what I have in mind.

Depending on what type of PC you have, you can definitely get hooked
up to the net. SCO produces a short version of UNIX (called Xenix)
which should satisfy your needs - a version is even available for
an 8088-XT based machine.

> I'm hoping that someone out there who's done this can tell me how to
> go about getting assigned an internet address, and what kind of
> physical connection they use and to where, and just how massive a
> financial outlay is required. (Software is another issue, but I was
> going to worry about that later.)

Now, getting a true internet registration cannot be done under Xenix,
because it lacks some of the communications systems needed to perform
true internet connections. From my experience, you need a minimum
386-based PC, with 2M RAM, at LEAST a 40MB hard drive, and SCO UNIX.

If you don't mind being in another domain, instead of having your own,
you don't need UNIX. I, for example, have a machine called "sungate",
but I'm "in" the UUNET domain. So, instead of being glen@sungate.ORG,
I am glen%sungate@uunet.UU.NET... makes no difference to me, but I'm
running Xenix, and that's just me. Being in the UUNET domain as I am,
I still have full access to news and mail, and 24-hour support from
them for changes and problems.

Getting news and mail requires a minimum 286-PC, and SCO-Xenix with
a minimum of 20MB hard drive and 1M RAM. If you want to store news
for a while, you should probably have more space. I have 25 newsgroups
coming in here, and they require 10MB for two weeks storage.

If you just want mail access, you can do it on an 86-XT machine with
640K and as little as 10MB of hard drive space. SCO's Xenix-86 will
do that job nicely.

If you have the hardware, the software reatils for about $400 from
SCO. Send a message to info@sco.COM for up-to-date pricing, and a
sales referral.

> If this turns out to be impossible, I figure I'll settle for news and
> mail via uucp. I know one way to do this, which is to get in contact
> with one of the sites on the NIXPUB list. If anybody knows a better
> way, I'd like to hear about it.

In any event, many people choose to hook up to a number of networks. The most popular of these is probably UUNET Communications in Fairfax, VA. They offer a full news feed, mail service, FTP's and other services. You can reach them at postmaster@uunet.UU.NET for info; however, I can tell you that, to become a uunet member costs $35/month plus $2/hour connect. There is no setup charge. UUNET can help you register a domain with all the proper people. This is provided free to members, and costs $35 for non members. The uunet postmaster can provide you with more info.

For me, I started out not knowing what "uucp" was, and learned everything I know from SCO and UUNET. I recommend you contact them; however, feel free to re-contact me. I'd be happy to help you get set up and, since I'm in the uunet domain, I can get assistance from them for you very quickly. You can reach me again at   glen%sungate@uunet.UU.NET .

Hope this helps!

From: MX%"mjohnsto@govt.shearson.com" 16-JAN-1991 13:39:27.60
To: DC
CC:
Subj: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:slcpi!govt.shearson.com!
mjohnsto@uunet.UU.NET>
Received: from uunet.UU.NET by MAX.BERKELEY.EDU with SMTP; Wed, 16 Jan 1991
          13:39:21 PST
Received: from slcpi.UUCP by uunet.UU.NET (5.61/1.14) with UUCP id AA02277;
          Wed, 16 Jan 91 16:43:57 -0500
Received: from slhsu.slhcmg.shearson.com by govt.shearson.com (4.0/SMI-4.0)
id
          AA10872; Wed, 16 Jan 91 15:54:49 EST
Received: from admin8780.slhcmg.shearson.co by slhsu.slhcmg.shearson.com
          (4.0/SMI-4.1) id AA23419; Wed, 16 Jan 91 15:54:49 EST
Date: Wed, 16 Jan 91 15:54:49 EST
From: mjohnsto@govt.shearson.com (Mike Johnston)
Message-ID: <9101162054.AA23419@slhsu.slhcmg.shearson.com>
Received: by admin8780.slhcmg.shearson.com (4.0/SMI-4.1) id AA02806; Wed, 16
          Jan 91 15:54:55 EST
To: dc@max.berkeley.edu (Dave Cottingham)
In-Reply-To: dc@max.berkeley.edu's message of 15 Jan 91 17:03:03 GMT
Subject: Q: how to make home PC an internet node?

   It sure would be great if my PC at home were on the internet. I'm
   sure this must be possible, since there are plenty of smallish
   businesses on the internet. However, a perusal of the documents at
   nic.ddn.mil shows only how to launch a new network, which requires
   divine intervention from a government agency, and is definitely of a
   grander scale than what I have in mind.

Ok, I'll give it to you straight. Unless you're prepared to spend several thousand

dollars for hardware and pay connect costs to the telco of several hundred to several
thousand a month I won't get into it. If you are send email. 8-)

> If this turns out to be impossible, I figure I'll settle for news and mail via uucp. I know one way to do this, which is to get in contact with one of the sites on the NIXPUB list. If anybody knows a better way, I'd like to hear about it.

Easy enough. Run SCO Xenix on your PC along with smail 2.5 or smail3.1 and B or C news.
Get a connection with either UUNET or PSI. PSI runs about 75/month for unlimited news
mail etc.

> And finally, if there is a more appropriate place to post this, please let me know. (Intensive scrutiny of the list of active newgorups turned up none which really seemed right, but these seemed slightly plausible.)

Probably the right place since you have a PC and you'll be running something close
to what is used by most people who use this group.

--
Michael R. Johnston mjohnsto@shearson.com || mjohnstonn@mcimail.com
System Administrator UUCP: uunet!slcpi!mjohnsto
Lehman Brothers Inc. Phone: (212) 640-9116
"Unix Uber Alles!"

From: MX%"isishq!kesrith!rjbeeth@watmath.waterloo.edu" 17-JAN-1991 03:09:11.54
To: DC
CC:
Subj: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:isishq!kesrith!rjbeeth@watmath.waterloo.edu>
Received: from watmath.waterloo.edu by MAX.BERKELEY.EDU with SMTP; Thu, 17 Jan
1991 03:09:04 PST
Received: from isishq.UUCP by watmath.waterloo.edu with UUCP id <AA03177>; Thu,
17 Jan 91 06:09:59 EST
Received: by isishq.fidonet.org (DistNet 5.42B) via UUCP; Thu, 17 Jan 91
03:52:46 EST for max.berkeley.edu!dc
Received: by kesrith.uucp (DistNet 5.32B) via UUCP; Wed, 16 Jan 91 23:22:13 EST
for max.berkeley.edu!dc
To: isishq!max.berkeley.edu!dc@watmath.waterloo.edu
From: isishq!kesrith!rjbeeth@watmath.waterloo.edu (Rick Beetham)
Subject: Q: how to make home PC an internet node?
In-Reply-To: <00942BD0.3790B740@max.berkeley.edu>
Message-ID: <188290838D5.35B@kesrith.uucp>
Date: Wed, 16 Jan 91 23:22:11 EST
Organization: Distnet Beta Leaf Node
X-Mailer: DistNet [version 5.35B]

In <00942BD0.3790B740@max.berkeley.edu> (Dave Cottingham) writes:

> It sure would be great if my PC at home were on the internet. I'm
> sure this must be possible, since there are plenty of smallish
> businesses on the internet. However, a perusal of the documents at
> nic.ddn.mil shows only how to launch a new network, which requires
> divine intervention from a government agency, and is definitely of a
> grander scale than what I have in mind.
>
> I'm hoping that someone out there who's done this can tell me how to
> go about getting assigned an internet address, and what kind of
> physical connection they use and to where, and just how massive a
> financial outlay is required. (Software is another issue, but I was
> going to worry about that later.)
>
> If this turns out to be impossible, I figure I'll settle for news and
> mail via uucp. I know one way to do this, which is to get in contact
> with one of the sites on the NIXPUB list. If anybody knows a better
> way, I'd like to hear about it.
> Thanks,
> Dave Cottingham
> dc@max.berkeley.edu

Dave,

Not sure if this fits exactly what you are looking for or not. Is it that you don't know how to register your address or is it that you don't know how to go about creating a site for yourself at home?

If it is the latter then I think it should be fairly straight forward. I originally contacted UNIFORUM trying to just get access to email & USENET News. Through my contacts there they put me in contact with a local outfit (SKAN) who were working on a new software product called DISTNET. I was fortunate enough to be given an offer to become a Beta Tester for them, which has worked out extremely well for me in that 1) I have developed a very good friendship with Doug Thompson - without a doubt the driving force behind the program and 2) NEWS and email access to the network via my own PC. It is great!

I have heard of several products that are available for DOS machines that will allow them to do this. DistNet is very similar to another product called WAFFLE, I have downloaded WAFFLE and taken a look at the documentation and found it very confusing and intimidating (after having become used to DistNet) I have also heard of several others called UUPC and I believe UULINK. DistNet is designed to be simple to set up, simple to use and simple to maintain. The hardware necessary to run the program can be very simple (even an XT) - I myself started on a 286 with a hard-disk and a 2400 baud modem. I think the weekest link is the modem 2400 baud is very very slow for transfering a lot of mail and wish I could afford a telebit modem for much faster transfers.

DistNet is now going into it's final stages of Beta Testing before being released into the open arena. The whole key to setting up any sort of "leaf node" as DistNet calls my PC is to have a host that is already connected to the network and has email and news capability.

If you already have a host available then all you really need is a PC with hard disk (if you are planning to get a lot of NEWS I recommend planning 30 Megs of hard disk for it) and a fast modem that can communicate with it (9600 HST, Telebit, etc).

As for the software itself I will let the introduction to the manual talk for itself:
"DistNet is a subset implementation of unix uucp mail and news for MS-DOS computers. Its overall structure and operations will look quite familiar to those experienced with unix uucp.

This version of DistNet is designed to enable a DOS PC to become a uucp site and interact with a uucp host exactly as any other uucp site does over the modem.

To use it you must, therefore, have a site to call, and that site must give you a uucp login account and you must agree with the postmaster there as to what your site name will be.

UUCP stands for Unix-to-Unix-CoPy, and is one of the most popular and common (and thus one of the most useful) electronic mail systems in use in the world today. A vast world of networking is accessible to uucp/modem users who have compatible software through existing links between many uucp machines and the internet, and through the uucp mapping project which makes it possible for connected sites to exchange mail with millions of computer users all over the world.

This package includes user interface software to enable you to read and write mail messages, along with uucico to conduct uucp sessions with other uucp sites, and uux and uuxqt to sort and file both inbound and outbound mail. Aliases, forward, paths, and signature files may be created along with multiple user accounts for the machine running DistNet version 5.

DistNet also includes utilities to facilitate exchanging other files with direct uucp neighbours, as well as transferring files by mail to those who are not direct uucp neighbours. All of these are (to the best of our knowledge) wholly compatible with unix systems.

The DOS user will encounter frequent 'unixisms' since this software is essentially a subset of the capabilities unix users often take for granted. The difference is, this runs on DOS, and thus contains some 'DOSisms' which will strike the ear of the unix user as unfamiliar.

Most of the central capabilities of uucp are accessible to the DistNet user in a form fully compatible with common practice and standards in use in the unix electronic mail world.

In addition this package contains a menu program which integrates all the pieces into a user-friendly installation which requires very little experience to operate. The system configuration can be inspected or altered through another menu program, accessible through the main menu program or the command line such that the user never need pay detailed attention to the inevitably complex"

I don't have a firm date for the actual release of their software
but if you need more information then I do recommend you talking to
Doug directly. He can be reached by the following means.

 UUCP: isishq!testsys!doug   DNS: doug@isishq.fidonet.org
 Voice: 613-722-4724   Fido: Doug Thompson on 1:163/162
 POST: P.O. Box 3041, Stn C., Ottawa, K1Y 4J3, CANADA

Hope this rather long response (sorry I do get carried away with
myself) is helpful to you. Good luck in your quest - I have found
that there are a lot of good and very helpful people out here and I
am sure that you will shortly get all the answers you need.

Take Care,
        Rick Beetham

--
{...}isishq!kesrith!rjbeeth | Nepean, Ontario
rjbeeth@isishq.fidonet.org

From: MX%"rfarris@rfengr.com" 17-JAN-1991 10:22:30.93
To: DC
CC:
Subj:

Return-Path: <@MAX.BERKELEY.EDU:serene!rfarris@UCSD.EDU>
Received: from ucsd.edu by MAX.BERKELEY.EDU with SMTP; Thu, 17 Jan 1991
          10:22:24 PST
Received: from serene.UUCP by ucsd.edu; id AA10148 sendmail 5.64/UCSD-2.1-sun
          via UUCP Thu, 17 Jan 91 09:40:48 -0800
From: rfarris@rfengr.com (Rick Farris)
X-Mailer: SCO System V Mail (version 3.2)
To: dc@max.berkeley.edu
Date: Thu, 17 Jan 91 9:25:43 PST
Message-ID: <9101170925.aa13490@serene.rfengr.com>

To: dc@max.berkeley.edu
CC: dc@max.berkeley.edu
In-reply-to: dc@max.berkeley.edu's message of Wed, 16 Jan 1991 10:53:23 PST
<00942ca8.cbb8f080.3051@max.berkeley.edu>
Subject: Q: how to make home PC an internet node?

> Could you tell me how you went about getting an internet
> address?

I'm not sure whether you mean an Internet address like this:

 rfarris@rfengr.com

or one like this:

 141.193.1.1

In the case of the first, you have to find a mail forwarder

that is on the Internet. Uunet is the most accessible. If
you choose to open an account with uunet they will do the
paperwork to get you set up for free. As a matter of fact,
I think uunet will process the paperwork for anyone for $35
or so, but if you don't connect with them you have to find
another mail forwarder.

In the case of the second, write to hostmaster@nic.ddn.mil
and they will send you a form to fill out. (You have to
have the first address before you can be assigned a
numerical IP address.)

--
Rick Farris RF Engineering POB M Del Mar, CA 92014 voice (619) 259-6793
rfarris@rfengr.com   ...!ucsd!serene!rfarris   serenity bbs 259-7757

From: MX%"greg%turbo.atl.ga.us@mathcs.emory.edu" 18-JAN-1991 15:32:08.56
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:greg@turbo.atl.ga.us>
Received: from emory.mathcs.emory.edu by MAX.BERKELEY.EDU with SMTP; Fri, 18
          Jan 1991 15:31:59 PST
Received: from turbo.UUCP by emory.mathcs.emory.edu (5.59/2.15.EUCC-MathCS)
via
          UUCP id AA07454 ; Fri, 18 Jan 91 18:33:37 EST
Return-Path: greg@turbo.atl.ga.us
Received: by turbo.atl.ga.us (1.63/waf) via UUCP; Fri, 18 Jan 91 17:12:07
EST
          for dc@max.berkeley.edu
To: dc@max.berkeley.edu (Dave Cottingham)
Subject: Re: Q: how to make home PC an internet node?
From: greg%turbo.atl.ga.us@mathcs.emory.edu (Greg Montgomery)
Message-ID: <w7PZV3w163w@turbo.atl.ga.us>
Date: Fri, 18 Jan 91 17:12:07 EST
In-Reply-To: <00942BD0.3790B740@max.berkeley.edu>
Organization: Montgomery Consultants, Inc.

dc@max.berkeley.edu (Dave Cottingham) writes:

> It sure would be great if my PC at home were on the internet. I'm
> sure this must be possible, since there are plenty of smallish
> businesses on the internet. However, a perusal of the documents at
> nic.ddn.mil shows only how to launch a new network, which requires
> divine intervention from a government agency, and is definitely of a
> grander scale than what I have in mind.
 I'm sure it's pretty expensive. I have a internet address, but am
 actually just a UUCP node. This is what many companies do. I think for
 Internet access, you have to have a leased line, and pay charges to
 UUNet or whoever your provider is. It won't be cheap. It's much easier
 just to get an Internet adddress, but stay UUCP...

Greg Montgomery | Montgomery Consultants, Inc. | Atlanta, Georgia, U.S.A

Internet: greg@turbo.atl.ga.us | Home of the '96
UUCP: {rutgers,ogcise,gatech}!emory!turbo!greg | Olympics!

From: MX%"railnet!rad@usenet.INS.CWRU.Edu" 18-JAN-1991 18:41:58.79
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:ncoast!nshore!railnet!
rad@usenet.INS.CWRU.Edu>
Received: from usenet.INS.CWRU.Edu by MAX.BERKELEY.EDU with SMTP; Fri, 18 Jan
1991 18:41:52 PST
Received: from ncoast.UUCP by usenet.INS.CWRU.Edu with UUCP
(5.61+ida+/CWRU-1.4-UUCPGW) id AA20315; Fri, 18 Jan 91 21:46:30
-0500
(from ncoast!nshore!railnet!rad for dc@max.berkeley.edu)
Received: by ncoast.ORG (smail2.5) id AA02253; 18 Jan 91 15:02:11 EST (Fri)
Received: by nshore.uucp (/\=-/\ Smail3.1.18.1 #18.32) id
<m0ix16B-0000pAC@nshore.uucp>; Fri, 18 Jan 91 13:46 EST
Received: by railnet.UUCP (1.63/waf) via UUCP; Fri, 18 Jan 91 12:33:42 EST
for
dc@max.berkeley.edu
To: dc@max.berkeley.edu (Dave Cottingham)
Subject: Re: Q: how to make home PC an internet node?
From: railnet!rad@usenet.INS.CWRU.Edu (Rick DeMattia)
Message-ID: <RaDZV1w163w@railnet.UUCP>
Date: Fri, 18 Jan 91 12:33:38 EST
In-Reply-To: <00942BD0.3790B740@max.berkeley.edu>
Organization: Railnet BBS +1 216 883 6298

dc@max.berkeley.edu (Dave Cottingham) writes:

> It sure would be great if my PC at home were on the internet. I'm
> sure this must be possible, since there are plenty of smallish
> businesses on the internet. However, a perusal of the documents at
> nic.ddn.mil shows only how to launch a new network, which requires
> divine intervention from a government agency, and is definitely of a
> grander scale than what I have in mind.
>
If you have $30,000 to spare I think you will enjoy putting your home system
on the Internet. On the other hand, if you want Usenet news and uucp mail,
you can run Waffle software ($30 to register the MS-DOS shareware version).
It works!

Check out newsgroup alt.bbs.waffle for more information.

From: MX%"jpq@laue.ms.nwu.edu" 20-JAN-1991 11:14:05.55
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:jpq@laue.ms.nwu.edu>
Received: from laue.ms.nwu.edu by MAX.BERKELEY.EDU with SMTP; Sun, 20 Jan
1991
11:13:58 PST
Received: from ewald.ms.nwu.edu by laue.ms.nwu.edu (4.1/SMI-NWU-1.01) id

AA00910; Sun, 20 Jan 91 13:13:28 CST
Date: Sun, 20 Jan 91 13:13:28 CST
From: jpq@laue.ms.nwu.edu (John Quintana)
Message-ID: <9101201913.AA00910@laue.ms.nwu.edu>
Received: by ewald.ms.nwu.edu (4.1/SMI-NWU-1.01) id AA02750; Sun, 20 Jan 91
13:22:43 CST
To: dc@max.berkeley.edu
Subject: Re: Q: how to make home PC an internet node?
Newsgroups: comp.misc,comp.os.minix,comp.sys.nsc.32k,comp.unix.xenix.sco
In-Reply-To: <00942BD0.3790B740@max.berkeley.edu>
Organization: Academic Computing and Network Services, Evanston, Il.
X-MX-Warning: Warning -- Invalid "CC" header.
CC:

In article <00942BD0.3790B740@max.berkeley.edu> you write:
>It sure would be great if my PC at home were on the internet. I'm
>sure this must be possible, since there are plenty of smallish
>businesses on the internet. However, a perusal of the documents at
>nic.ddn.mil shows only how to launch a new network, which requires
>divine intervention from a government agency, and is definitely of a
>grander scale than what I have in mind.
>
>I'm hoping that someone out there who's done this can tell me how to
>go about getting assigned an internet address, and what kind of
>physical connection they use and to where, and just how massive a
>financial outlay is required. (Software is another issue, but I was
>going to worry about that later.)
>
>If this turns out to be impossible, I figure I'll settle for news and
>mail via uucp. I know one way to do this, which is to get in contact
>with one of the sites on the NIXPUB list. If anybody knows a better
>way, I'd like to hear about it.
>
>And finally, if there is a more appropriate place to post this,
>please let me know. (Intensive scrutiny of the list of active
>newgorups turned up none which really seemed right, but these
>seemed slightly plausible.)
>
>Please mail replies to me, if there's interest I'll summarize. Somewhere.
>
>Thanks,
>Dave Cottingham
>dc@max.berkeley.edu

You only need to do 2 things. 1) Get a copy of a uucp mailer/news reader availiable for DOS. I use FSUUCP which can be obtained from wuarchive.wustl.edu or polyslo.calpoly.edu. Its very easy to set up. 2) Get a local unix machine to give you a news feed. I see your in the Physics Dept at Berkeley (I did my undergrad there). You should be able to swing a news/mail UUCP account from one of the local machines. I see that max.berkeley.edu is a VMS system;so you might have to go over to EECS or somebody that has a UNIX box somewhere. After you have your account, you just have to be registered with a local nameserver. They place a record in the nameserver tables that says that all mail to your home machine should actually be sent to the UNIX box. You then poll the UNIX box at your leisure to get your mail. I have a timer on my PC that picks up my mail once a day while I'm asleep. Hope this helps.

- John

From: MX%"voder!nsc!jrr@ucbvax.Berkeley.EDU" 21-JAN-1991 19:44:38.50
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:voder!nsc!jrr@ucbvax.Berkeley.EDU>
Received: from ucbvax.Berkeley.EDU by MAX.BERKELEY.EDU with SMTP; Mon, 21 Jan 1991 19:44:30 PST
Received: from voder.UUCP by ucbvax.Berkeley.EDU (5.63/1.42) id AA17110; Mon, 21 Jan 91 19:40:56 -0800
Received: from nsc.UUCP by voder.nsc.com (5.61/1.34) with UUCP id AA25565 for max.berkeley.edu!dc; Mon, 21 Jan 91 17:57:17 -0800
Received: by nsc.nsc.com (5.61/1.34) id AA11370 for dc; Mon, 21 Jan 91 17:24:31
-0800
Date: Mon, 21 Jan 91 17:24:31 -0800
From: voder!nsc!jrr@ucbvax.Berkeley.EDU (Jerry Roe)
Message-ID: <9101220124.AA11370@nsc.nsc.com>
To: dc@max.berkeley.edu
Subject: Re: Q: how to make home PC an internet node?
Organization: National Semiconductor, Santa Clara

In article <00942BD0.3790B740@max.berkeley.edu> you write:
>It sure would be great if my PC at home were on the internet. I'm
>sure this must be possible, since there are plenty of smallish
>businesses on the internet. However, a perusal of the documents at
>nic.ddn.mil shows only how to launch a new network, which requires
>divine intervention from a government agency, and is definitely of a
>grander scale than what I have in mind.

Dave,

I think you'll find it to cost a bit more than you want to spend.
Here at National we still don't have a "true" Internet connection; we're
just well-connected UUCP-wise and our Telebits get a good workout (we're
a news-feed site for a number of others) {:^). That's supposedly going
to change sometime this year, but it requires (unless the rules have
changed) an up-front $$ layout for some kind of network interface equip-
ment and then a dedicated line to your site (as in T1 or something
similar). However, unless your goal is to have ftp access, it's not
much of a handicap because we do have an Internet domain name (nsc.com)
so mail, news, etc. works just fine. You might be able to do the same.

Good luck.

Jerry Roe
National Semiconductor

Article 11878 of comp.misc:
Path: agate!apple!julius.cs.uiuc.edu!psuvax1!psuvm!ysub!doug
From: DOUG@ysub.ysu.edu (Doug Sewell)

Newsgroups: comp.misc
Subject: Re: Q: how to make home PC an internet node?
Message-ID: <91016.224746DOUG@ysub.ysu.edu>
Date: 17 Jan 91 03:47:46 GMT
References: <00942BD0.3790B740@max.berkeley.edu>
Distribution: usa
Organization: Youngstown State University VM system (YSUB)
Lines: 58

(note: this followup is only going to comp.misc)
A couple of ideas:

1. If I was running 2400-baud or less, I wouldn't run TCP/IP, I'd settle for UUCP.
   MS-DOS based programs for usenet news and e-mail are Waffle, fsuucp, and the soon-to-be-released fsbbs (I believe it's in beta).
   Waffle is a multiple-user system that can be configured as a bbs, or with separate user-names for husband/wife/each kid/etc. I believe FSBBS has the same facilities. FSUUCP is more single-user oriented, based on the docs I've read. I'm looking into setting up Waffle.
   For more information, look in alt.bbs or alt.bbs.waffle.

2. To run TCP from home, you'll probably want to run some type of dial-up IP connection. There are several MS-DOS TCP software packages that can use FTP Software's packet driver interface - KA9Q is probably what I'd pick for home use. You need a 'packet driver' that speaks a protocol you can use - there's one for SLIP (serial-line IP) that will run with KA9Q. PPP is a more-sophisticated dial-up protocol - I don't know much about it - and I don't know if there's a MS-DOS packet driver for it yet. Check comp.protocols.tcp-ip.ibmpc for more information.

3. You need a site to connect to. Sometimes universities or employers will offer this to you for free or a reasonable price. Sites on the 'nixpub' public-access unix lists may be able to set you up with a UUCP newsfeed/mail.

4. The easiest way to get a domain-name is to get one in the .us domain - there's no charge, you can fill out the application by e-mail. You need to know what configuration you're using (TCP or UUCP) and have it somewhat-working before you can answer the questions. I don't remember where you can ftp the information from, but if nothing else you can e-mail Ann Westine (westine@isi.edu) and ask for information - Ann is the domain-coordinator for the .us domain.

   If your connection is uucp, you can go with the more-traditional 7-or-less-characters.uucp site name. In this case, your entry should go into the UUCP maps.

   The Waffle docs talk about getting a UUCP connection. Some of the ideas would be equally applicable for TCP connections.

5. USR HST modems are not particularly good for UUCP use. The Telebit Trailblazer seems to be the "standard" modem for high-speed UUCP connections. I probably would choose a V.32 modem of some sorts, but all of this is based on discussions in alt.bbs.

Most of the software is available via anon FTP from wuarchive.wustl.edu -
look in /mirrors/msdos/bbs for waffle, /mirrors/msdos/uucp for fsuucp,
and /mirrors/msdos/ka9q-tcpip (I think - I'm doing this all from memory).

Hope this helps.

--
Doug Sewell, Tech Support, Computer Center, doug@ysub.bitnet
Youngstown State University, Youngstown, OH 44555 doug@ysub.ysu.edu
Blessed are the pessimists, for they have made backups.

Article 11903 of comp.misc:
Xref: agate comp.misc:11903 comp.os.minix:14510 comp.sys.nsc.32k:1538
comp.unix.xenix.sco:1465
Path: agate!apple!usc!samsung!uunet!dsuvax!ghelmer
From: ghelmer@dsuvax.uucp (Guy Helmer)
Newsgroups: comp.misc,comp.os.minix,comp.sys.nsc.32k,comp.unix.xenix.sco
Subject: Re: Q: how to make home PC an internet node?
Message-ID: <1991Jan19.184735.12103@dsuvax.uucp>
Date: 19 Jan 91 18:47:35 GMT
References: <00942BD0.3790B740@max.berkeley.edu> <155838@felix.UUCP>
Distribution: usa
Organization: Dakota State University
Lines: 44

In <155838@felix.UUCP> asylvain@felix.UUCP (Alvin "the Chipmunk" Sylvain)
writes:
>In article <00942BD0.3790B740@max.berkeley.edu> dc@max.berkeley.edu (Dave
Cottingham) writes:
>> It sure would be great if my PC at home were on the internet. I'm
>> sure this must be possible, since there are plenty of smallish
>> businesses on the internet. However, a perusal of the documents at
>> nic.ddn.mil shows only how to launch a new network, which requires
>> divine intervention from a government agency, and is definitely of a
>> grander scale than what I have in mind.
>There is interest. [...]

Sites attached to the internet such that they send may send packets across
NSFnet or other parts of the federally funded internet must have some
relation to institutions or groups that are doing research under federal
funding or are educational institutions. It's hard to find out exactly
where the line is drawn, but this could rule out home ip sites unless
one is involved with federal research or a university. If you are
involved like this, it shouldn't be too hard to talk to your network
administration and find out details of how to connect remotely to
your IP net, if they will allow it.

Otherwise, you will have to either be rich or have a
real good reason to be on an IP net. Two commercial internet
providers are UUNET Communications, which runs AlterNET, and PSI,
which runs PSInet. These two providers give services which range from
9600 baud dialup to T1 (1.544Mbaud) dedicated IP service. You can't
send packets from AlterNET or PSInet across NSFnet or the DDN
unless you, once again, are doing federal research or are involved
with a university. This makes the AlterNET and PSInet services
good for connecting geographically separated portions of a company's
network, but poor for your average Joe at home that wants to

FTP stuff from NSFnet sites. AlterNET and PSInet people will
help take care of the site setup and administration details, but
they get paid well to do that.

If we could just get the feds to change their restrictions on the
use of the NSF & other backbones... 1/2 :-)

Followups should probably go to email, since there isn't a usenet
group that discusses this subject.
--
More information that you couldn't have existed another day without, from:
Guy Helmer   helmer@sdnet.bitnet, uunet!dsuvax!ghelmer
work: DSU Computing Services   (605) 256-5315
play: MidIX System Support Services - Crufty Hacks 'R' Us   (605) 256-2788

From: MX%"ben%banzai.pcc.com@griffin.UVM.EDU" 23-JAN-1991 09:39:37.67
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:banzai!ben@griffin.UVM.EDU>
Received: from uvm-gen.uvm.edu by MAX.BERKELEY.EDU with SMTP; Wed, 23 Jan
1991
          09:39:29 PST
Received: by UVM.EDU (5.64+/1.08) id AA17455; Wed, 23 Jan 91 12:42:19 -0500
Received: by banzai.PCC.COM (smail2.5) id AA02456; 23 Jan 91 12:37:39 EST
(Wed)
To: dc@max.berkeley.edu
Subject: Re: Q: how to make home PC an internet node?
Newsgroups: comp.misc,comp.os.minix,comp.sys.nsc.32k,comp.unix.xenix.sco
In-Reply-To: <00942BD0.3790B740@max.berkeley.edu>
Organization: The People's Computer Company
X-MX-Warning: Warning -- Invalid "CC" header.
CC:
Message-ID: <9101231237.AA02452@banzai.PCC.COM>
Date: 23 Jan 91 12:37:38 EST (Wed)
From: ben%banzai.pcc.com@griffin.UVM.EDU (Ben Deliduka)

One way to get an internet address for a PC at home, is to get a FIDO address
(look for local FIDO BBS's and check with them about getting an address)

after you have that, sent FIDO-NET Mail to 325/101 (James Pallack) and ask
him for the required programs, as he has such a gateway working here in
Vermont, and I have passed several files and such through that gateway to
and from work...

- Ben

From: MX%"halcyon!ralphs@sumax.seattleu.edu" 24-JAN-1991 23:40:39.36
To: DC
CC:
Subj: Re: Q: how to make home PC an internet node?

Return-Path: <@MAX.BERKELEY.EDU:halcyon!ralphs@sumax.seattleu.edu>
Received: from sumax.seattleu.edu by MAX.BERKELEY.EDU with SMTP; Thu, 24 Jan
          1991 23:40:30 PST
Received: by sumax.seattleu.edu id AA17968 (5.64+/IDA-1.3.4 for

dc@max.berkeley.edu); Thu, 24 Jan 91 23:50:24 -0800
Received: by halcyon.uucp (1.64/waf) via UUCP; Thu, 24 Jan 91 20:44:26 PST
for
dc@max.berkeley.edu
To: dc@max.berkeley.edu (Dave Cottingham)
Subject: Re: Q: how to make home PC an internet node?
From: halcyon!ralphs@sumax.seattleu.edu (Ralph Sims)
Comments: The 23:00 News - +1 206 292.9048
Message-ID: <qccBw1w164w@halcyon.uucp>
Date: Thu, 24 Jan 91 20:44:25 PST
In-Reply-To: <00942BD0.3790B740@max.berkeley.edu>
Organization: The 23:00 News

dc@max.berkeley.edu (Dave Cottingham) writes:

> I'm hoping that someone out there who's done this can tell me how to
> go about getting assigned an internet address, and what kind of
> physical connection they use and to where, and just how massive a
> financial outlay is required. (Software is another issue, but I was
> going to worry about that later.)

Send mail to info@psi.com. They operate a network that has direct
dialup internet addressing. They are a tad pricey, but should
offer what you want. They have a multitude of services, including
Usenet and email, sortof like uunet but geared more towards the
commercial end.

From: MX%"<torbortc@clutx.clarkson.edu>" 15-JAN-1991 10:42:10.13
To: DC
CC:
Subj: Re: Q: Is packet radio hookup to internet feasible?

Return-Path: <@MAX.BERKELEY.EDU:torbortc@clutx.clarkson.edu>
Received: from omnigate.clarkson.edu by MAX.BERKELEY.EDU with SMTP; Tue, 15
Jan
1991 10:42:03 PST
Received: from clutx.clarkson.edu by omnigate.clarkson.edu id aa09344; 15 Jan
91 13:07 EST
Received: by clutx.clarkson.edu (5.54/5.17) id AA12390; Tue, 15 Jan 91
13:07:13
EST
Date: Tue, 15 Jan 91 13:07:13 EST
From: Tadd <torbortc@clutx.clarkson.edu>
Message-ID: <9101151807.AA12390@clutx.clarkson.edu>
To: dc@max.berkeley.edu
Subject: Re: Q: Is packet radio hookup to internet feasible?

dc@max.berkeley.edu (Dave Cottingham):
> I think having my PC at home be an internet node would be quite
> convenient. I'm wondering if packet radio is a good (or legal) way of
> doing this. If anyone is doing this, how do you get an internet
> address assigned to you?
>
> Please mail replies to me, if there's interest, I'll summarize.
>
> Thanks,
> Dave Cottingham

> dc@max.berkeley.edu

Dave,
  This has been covered on this net before (several times in the past 6 months
in fact). The upshot has been that making a linkup so that a Ham can telnet to you over internet and then use your station is legal and fine. To have a ham read internet mail without going over the radio (i.e. a local console on the internet computer) and then having that ham post those articles he finds of interrest onto ham packet is legal and fine. THe questionable stuff is where a ham can log onto an internet machine via packet and then play around out on the internet, including reading mail and news. That would not be legal unless ALL of the stuff that he has access to is previewed by a ham.
Also, using ham for a link between two "internet" machines is not legal as the traffic between the machines could have lots of non-ham traffic across it.
  You might find the part 97 rules interresting to read. I'm sure there's a copy on the internet someplace. (I hope there is).

The neat project would be to define a mod to the news header that internet currently uses to include a 'read by a ham' spot that would include the ham's callsign. Then at your gateway between ham and internet you could check for that semiphore and pass or not pass the traffic depending on it. Hmmmm...

=8^)

From: MX%"gt4393c@prism.gatech.edu" 15-JAN-1991 11:21:35.86
To: DC
CC:
Subj: Re: Q: Is packet radio hookup to internet feasible?

Return-Path: <@MAX.BERKELEY.EDU:gt4393c@prism.gatech.edu>
Received: from hydra.gatech.edu by MAX.BERKELEY.EDU with SMTP; Tue, 15 Jan 1991
          11:21:29 PST
Received: from richsun11.gatech.edu by hydra.gatech.edu (5.61/3.1) id AA16178;
          Tue, 15 Jan 91 14:26:03 -0500
Received: by prism.gatech.edu (4.1/1.0) id AA19642; Tue, 15 Jan 91 14:25:57 EST
Date: Tue, 15 Jan 91 14:25:57 EST
From: gt4393c@prism.gatech.edu
Message-ID: <9101151925.AA19642@prism>
To: dc@max.berkeley.edu
Subject: Re: Q: Is packet radio hookup to internet feasible?
Newsgroups: rec.ham-radio.packet
In-Reply-To: <00942BD1.3B27CB40@max.berkeley.edu>
Organization: Georgia Institute of Technology
X-MX-Warning: Warning -- Invalid "CC" header.
CC:

Hey There,

This question keeps popping up, along with the usual legality debate. The debate usually centers around the feasibility of filtering unwanted text

strings, business communications, etc.

The bottom line seems to be that it would be nigh impossible to automatically monitor and filter all incoming traffic so to make it suitable for packet radio.

I know ... our club had this idea about 5 years ago ... it seems to pop up on this board about every month or so.

73,
-Ivan KB5BBD gt4393c@prism.gatech.edu

From: MX%"xanadu!jeff@uunet.UU.NET" 16-JAN-1991 10:36:12.05
To: DC
CC:
Subj: Re: Q: Is packet radio hookup to internet feasible?

Return-Path: <@MAX.BERKELEY.EDU:xanadu!jeff@uunet.UU.NET>
Received: from uunet.UU.NET by MAX.BERKELEY.EDU with SMTP; Wed, 16 Jan 1991 10:36:00 PST
Received: from xanadu.UUCP by uunet.UU.NET (5.61/1.14) with UUCP id AA18093; Wed, 16 Jan 91 13:40:33 -0500
Received: by xanadu (4.1/SMI-4.0.2) id AA05045; Wed, 16 Jan 91 10:17:34 PST
Date: Wed, 16 Jan 91 10:17:34 PST
From: xanadu!jeff@uunet.UU.NET (Jeff Crilly N6ZFX)
Message-ID: <9101161817.AA05045@xanadu >
To: xanadu!max.berkeley.edu!dc@uunet.UU.NET
Subject: Re: Q: Is packet radio hookup to internet feasible?
Newsgroups: rec.ham-radio.packet
In-Reply-To: <00942BD1.3B27CB40@max.berkeley.edu>
Organization: Xanadu Operating Company
X-MX-Warning: Warning -- Invalid "CC" header.
CC:

In article <00942BD1.3B27CB40@max.berkeley.edu> you write:
>I think having my PC at home be an internet node would be quite
>convenient. I'm wondering if packet radio is a good (or legal) way of
>doing this. If anyone is doing this, how do you get an internet
>address assigned to you?
>
>Please mail replies to me, if there's interest, I'll summarize.
>
>Thanks,
>Dave Cottingham
>dc@max.berkeley.edu

People will tell you this is illegal. Or at least that the persone providing the packet/internet gateway would be open to the problem of passing traffic on the air that might be illegal. Anyhow, last night I monitored some tcpip transmissions. And the headers on the smtp packets were from amdahl.com. So some folks are doing it. Also the message talked about how wonderful packet radio was and that there was gateways to the internet. I just caught this in trace mode. If you hear any responses of folks doing this, please let me know.

Jeff Crilly (N6ZFX)
AMIX Corporation 2345 Yale Street Palo Alto, CA 94306
jeff@markets.amix.com, {uunet,sun}!markets!jeff, N6ZFX@N6IIU.#NOCAL.CA.USA

From: MX%"Mark@ARDSLEY.Business.UWO.CA" 19-JAN-1991 23:30:22.38
To: DC
CC:
Subj: In-Reply-To: Q: Is packet radio hookup to internet feasible?

Return-Path: <@MAX.BERKELEY.EDU:Mark@ARDSLEY.Business.UWO.CA>
Received: from ucbvax.Berkeley.EDU by MAX.BERKELEY.EDU with SMTP; Sat, 19 Jan 1991 23:30:15 PST
Received: from [129.100.1.23] by ucbvax.Berkeley.EDU (5.63/1.42) id AA25759; Sat, 19 Jan 91 23:34:27 -0800
Received: from ardsley.business.uwo.ca by ria.ccs.uwo.ca with SMTP; (id AA15628) Sun, 20 Jan 91 02:33:40 -0500
Date: Sun, 20 Jan 91 02:09:10 EST
From: "Mark Bramwell" <Mark@ARDSLEY.Business.UWO.CA>
Message-ID: <13946.Mark@ARDSLEY.Business.UWO.CA>
To: DC@max.Berkeley.EDU (Dave Cottingham)
Reply-To: Mark@ARDSLEY.Business.UWO.CA
Subject: In-Reply-To: Q: Is packet radio hookup to internet feasible?

My machine (this machine) is on the internet. I work in the computer dept at the local university and I simply assigned myself a non 44.x.x.x address, otherwise known as a 'real' ip address. Works great. I can send/receive internet mail, and I can also ftp to any ip address. My address at home is 129.100.29.33

Legal? Who knows, ask me no questions, and I tell you no lies....

The only 'complaints' I have ever seen where from some hams who eventually started doing the same thing.

I do not use the link for business, I simply receive info-hams, info-packet, and IBMPC-L via smtp. The only legal issue is probally the un-attended running of a packet station.

I feel that most people forget that it is only a hobby, to be enjoyed, and not
something to fight about at all times.

PS: I am at 1200 baud now, but I just bought a pair of mfj 2400 TNCs. Hope to speed up the link.

Maybe next year, DSY modems for real speed!

> Date: 15 Jan 91 17:10:19 GMT
> From: DC%max.Berkeley.EDU@ucbvax.Berkeley.EDU (Dave Cottingham)
> Subject: Q: Is packet radio hookup to internet feasible?
> To: packet-radio@ucsd.edu
>
> I think having my PC at home be an internet node would be quite
> convenient. I'm wondering if packet radio is a good (or legal) way of
> doing this. If anyone is doing this, how do you get an internet
> address assigned to you?

>
> Please mail replies to me, if there's interest, I'll summarize.
>
> Thanks,
> Dave Cottingham
> dc@max.berkeley.edu
>
> ------------------------------
>
> End of Packet-Radio Digest
> ****************************
>

=-=-=-

Ireland

University College Cork
University College Dublin

University College Dublin

Telnet PACX.UCD.IE or 137.43.1.6
At Which service do you require please? type library
Hit enter

To exit type E and hit enter.

University College Cork

Telnet VAX1.UCC.IE or 143.239.1.2
At the Userid: prompt, enter LIBRARY and wait a few seconds

It is assumed that you are emulating a DEC VT ASCII terminal.

OPAC = DOBIS/LIBIS

To exit, press CONTROL-X

Israel

ALEPH

Bar-Ilan University
Ben-Gurion University
Haifa University
Hebrew University
Technion
Tel Aviv University
Weizmann Institute of Science

ALEPH (Automated Library Expandable Program - Hebrew University)

To gain access to any of the network OPACS, telnet to any one of the following university library computers:

Central ALEPH Computer	Telnet RAM2.HUJI.AC.IL or 128.139.4.207
Bar-Ilan University	Telnet ALEPH.BIU.AC.IL or 132.70.9.36
Ben-Gurion University	Telnet BGULIB.BGU.AC.IL
Haifa University	Telnet LIB.HAIFA.AC.IL or 132.74.1.100
Hebrew University	Telnet ALEPH.HUJI.AC.IL or 128.139.4.207
Technion	Telnet LIB.TECHNION.AC.IL or 132.68.1.20
Tel Aviv University	Telnet TAUVAX.TAU.AC.IL or 132.66.32.6
Weizmann Institute of Science	Telnet WISLIB.WEIZMANN.AC.IL or 132.76.64.14

The username to use is ALEPH. No password is required.

You will be greeted with a Terminal Selection menu which is rather complicated. Below is a sample menu, followed by some pointers and suggestions.

```
                          ******************
                          TERMINAL SELECTION
                          ******************
```

Sample Menu:

```
-----------
1.  Visual 55/65
2.  VT100
3.  VT102
4.  Visual 220
5.  TTY
9.  PC
10. Elbit DS2000
11. VT220 protocol (VT220,VT320,VT340,VT420,Visual603, etc.)
Terminal types for soft fonts: Users from Abroad
17. VT320
18. VT420
19. Visual 603
Terminal types for soft fonts: Israeli Users
27. VT320
28. VT420
29. Visual 603
```

Pointers and Suggestions:

```
------------------------
1. Generally speaking, try terminal types 2, 5, or 11.
   They will enable you to search in English and other
   Latin alphabets (French, Spanish, transliterated Cyrillic, etc.)
   If you are accessing the system via TN3270 choose terminal type 5.

2. Hebrew and other soft fonts:
   ALEPH supports soft font alphabets (Hebrew, Cyrillic, Arabic, Greek,
etc.).

   For users from abroad the soft font terminal types are 17, 18, or 19.
   You must have a VT320 or VT420 or Visual 603 terminal/emulation to display
   these fonts.
```

A great deal of material has ben cataloged in Hebrew, and a lesser amount in Arabic. Cyrillic cataloging has only just begun. Some Arabic records have been cataloged in transliterated Hebrew, and some Cyrillic records have been cataloged in transliterated English. Consult each OPAC for specific details.

Suggestions for Israeli Internet Users:
---

1. If you are interested in Hebrew, and own a pc bought in Israel, use the Hebrew Kermit program (HKermit), written at Hebrew University, to connect to ALEPH. You should be using a vt100 emulation, and your pc must have an EGA card.

   To obtain HKermit

   ```
   ftp noa.huji.ac.il
   login: anonymous
   password: your_full_name
   cd pub
   set file type binary
   get mskermit.ini
   ```

   Please note that the file is an initialization file. It is recommended that you create a separate directory in which you keep a copy of your mskermit.exe and the special mskermit.ini. Use this directory for accessing ALEPH. Choose terminal type 3 when you use Hebrew Kermit.

2. If you have a VT220 protocol terminal with a standard Hebrew chip using standard Hebrew ASCII mapping you can display Hebrew. The Hebrew used is DEC 8-bit ASCII. Choose terminal type 11.

3. Terminal types 1 and 4 have a Hebrew chip specially adapted and only available in Israel.

4. Hebrew and Other Soft Fonts:
   If you have a VT320 or VT420 or Visual 603 with a Hebrew chip, use terminal types 27, 28, and 29 to display Hebrew and other soft font alphabets.

****
ONLINE ALEPH
****

Once inside ALEPH, you will generally see a Main Menu Screen from which you can begin to search the online catalog. Instructions are available in Hebrew and English. To change from one language to another type a question mark "?".

Use the LB command to switch from one library OPAC to another, all the while maintaining your ALEPH session. The switch will be transparent to you. At times a library might be inaccessible. This is generally at night, when maintenance jobs are running that lock certain files. If this happens switch to another library in the network.

To exit Aleph type STOP.

****

FOR MORE INFORMATION, CONTACT:

Aleph Yissum (Program Development): Judy Levi,
MASTER%RAM8.DECNET@VMS.HUJI.AC.IL
Phone: 972-2-584020 Fax: 972-2-617721

Bar-Ilan University: Eliza Bar Magen, S05505@VM.BIU.AC.IL,
Phone: 972-3-5318493 Fax: 972-3-349233

Ben-Gurion University: Dalia Censor, DALIA@BGULIB.BGU.AC.IL
Phone: 972-57-461410 FAX:

Haifa University: Elhanan Adler, ELHANAN@LIB.HAIFA.AC.IL
Phone: 972-4-240288 Fax: 972-4-257753

Hebrew University: Janet Lefkovitz, JANET@VMS.HUJI.AC.IL
Phone: 972-2-882134 Fax: 972-2-322435

Technion: Judy Koren, LBJUDY@VMSA.TECHNION.AC.IL
Phone: 972-4-292501 Fax: 972-4-233501

Tel Aviv University: Passana Aleksandrowicz, MASTERH@TAUVAX.TAU.AC.IL
Phone: 972-3-6428272 Fax: 972-3-6410296

Weizmann Institute: Hedva Milo, RAMILO@WEIZMANN.WEIZMANN.AC.IL
Phone: 972-8-343295 Fax: 08-466966

Italy

Servizio Bibliotecario Nazionale

Servizio Bibliotecario Nazionale

Telnet IUAVCD.UNIVE.IT or 157.138.207.250
At the first login prompt, enter biblio
At the second login prompt enter opac
Choose the terminal type and configure it.

You can choose a terminal that uses Kermit. You will find the profile, prepared by IUAV Central Library, in /usr2/iuav-net/mskermit.ini. If you make this choice, you have first to choose vt220 as terminal type and IBMKER for SBN.

Remember to save every change you made and if, when you exit, the system asks you to cancel a file, type y.

You can also use a generic keyboard using control sequences (CTRL + Key). This way should consent you to access different terminals. Read carefully the table below.

TABLE OF CORRISPONDENCE

ENTER:	CTRL+x	TAB:	CTRL+i
RESET:	CTRL+r	BACKTAB:	CTRL+b
CLEAR:	CTRL+c	HOME:	CTRL+o
EXIT:	CTRL+e		
UP:	CTRL+k	DOWN:	CTRL+j
LEFT:	CTRL+h	RIGHT:	CTRL+l
Ins-mode:	CTRL+w	Toggle-status:	CTRL+t
F1:	CTRL+z	F2:	CTRL+m
F3:	CTRL+a	F4:	CTRL+y
F5:	CTRL+f	F7:	CTRL+v
F8:	CTRL+n	F9:	CTRL+u
F10:	CTRL+d	F11:	CTRL+g

5. Enter 'UTENTE 1' or 'UTENTE2' or so on up to 'UTENTE10 as USERID. Enter the same for PASSWORD.

To move across the screen use TAB (CTRL + i) and BACKTAB (CTRL + b). Using TAB and BACKTAB the cursor automatically goes to the beginning of the field.

Using arrow keys UP, DOWN, LEFT, RIGHT (CTRL + k j l h) could cause same problem if you write in a protected area. If this should happen, press the RESET Key (CTRL + r).

To move on the next page, when the system displays 'MORE...' on the right low corner of the screen, use CLEAR (CTRL + c).

To see the status-line press CTRL + t.

6. To exit press CTRL + e.

The Venice SBN (Servizio Bibliotecario Nazionale) includes the following libraries:

Biblioteca Nazionale Marciana

Library of Querini Foundation
Libraries of the University Institute of Architecture of Venice (IUAV)
Library of ASAC (La Biennale di Venezia)
Library of Cini Foundation
Library of Istituto Veneto di Scienze, Lettere ed Arti
Library of Levi Foundation.

You can search the catalogue in a simple way following the instructions displayed by the system or using STAIRS. The English version of the STAIRS manual will soon be available.

Instructions prepared by laura@iuavbc.unive.it who you should contact if you encounter difficulties.

Listserv documents

What is LISTSERV? What is Revised LISTSERV?
Frequently asked questions about LISTSERV
List of all known LISTSERV lists
Revised LISTSERV: Database Functions

List of all LISTSERV lists

known to LISTSERV@JHUVM on 1 Apr 1993 14:38

Network-wide ID	Full address	List title
(NOMEMAIORDOQ...	TESTE-L@BRUFMG	Lista de teste do LCC
'AMALGAM'	AMALGAM@DEARN	Dental AMALGAM and MERCURY Poisoning
'AMERSTDY'	AMERSTDY@MIAMIU	(Peered) American Studies
'CLIO-L'	CLIO-L@MIAMIU	(Peered) A description of your list goes her+
'CUFS-L'	CUFS-L@MIAMIU	(Peered) A discussion of the CUFS system
'DARS-L'	DARS-L@MIAMIU	Degree Audit Reporting System Discussion List
'ECONET'	ECONET@MIAMIU	(Peered) A discussion of Ecological and Envi+
'EDUCATIONAL-...	ERL-L@TCSVM	Educational Research List (TCSVM)
'GER301-L'	GER301-L@MIAMIU	(Peered) Conversations in German about asylb+
'I-AMIGA-UIUC...	I-AMIGA@UIUCVMD	Archive of I-AMIGA list elsewhere on net (Do+
'IBSCG'	IBSCG@MIAMIU	(Peered) International Business School Compu+
'INTERDIS'	INTERDIS@MIAMIU	(Peered) A discussion of Interdisciplinary S+
'KKY-L'	KKY-L@MIAMIU	(Peered) KKPsi/TBS Distribution List
'LONG'	LONG@MIAMIU	(Peered) A discussion of the long term plan +
'MCUG-L'	MCUG-L@MIAMIU	(Peered) Alternative Colorful Postings
'MUMAIL-L'	MUMAIL-L@MIAMIU	(Peered) Miami University Mail exchange disc+
'NEW-SUPERCOM...	S-COMPUT@BNANDP11	(Peered) SuperComputers list (BNANDP11)
	S-COMPUT@TCSVM	(Peered) SuperComputers list (TCSVM)
	S-COMPUT@UGA	(Peered) SuperComputers List (UGA)
	S-COMPUT@USCVM	(Peered) SuperComputers list (USCVM)
'NIH-GUIDE'	NIHGUIDE@TCSVM	NIH Guide List (TCSVM)
	NIHGGC-L@UBVM	NIH Grants and Contracts Distribution List
'OCCSA'	OCCSA@MIAMIU	(Peered) Ohio Collegiate Service Association+
'PCSA-L'	LANWORKS@MIAMIU	(Peered) A discussion of Digital's PCSA prod+
'SINOECOL'	SINOECOL@MIAMIU	(Peered) Sino-Ecologists Club Overseas Forum
'SUSIG'	SUSIG@MIAMIU	(Peered) A discussion on Teaching in the Mat+
'UPDATE-ELECT...	UPNEWS@MARIST	Update Electronic Music Newsletter
'11DARS-L'	11DARS-L@UIUCVMD	BIG TEN DEGREE AUDIT REPORTING SYSTEM DISCUS+
"ECONLIST"	CORRYFEE@HASARA11	List of the Faculty of Economics, University+
AAASHRAN	AAASHRAN@GWUVM	AAAS Human Rights Action Network
AAASMSP	AAASMSP@GWUVM	AAAS Minority Perspectives on Ethics in Scie+
AARPUB-L	AARPUB-L@JPNIMRTU	AAR Electronic Publication list
AASCU-L	AASCU-L@UBVM	American Association of State Colleges and U+
AASNET-L	AASNET-L@UHUPVM1	African American Student Network

AATG	AATG@INDYCMS	American Association of Teachers of German
AAUA-L	AAUA-L@UBVM	American Association of University Administr+
AAUFD-L	AAUFD-L@UNBVM1	AAU Faculty Development Committee List
AAUP-L	AAUP-L@PSUVM	Assoc. of American University Presses
AAVLD-L	AAVLD-L@UCDCVDLS	American Assoc of Vet Lab Diagnosticians
ABE-L	ABE-L@BRLNCC	Forum da Associacao Brasileira de Estatistica
ABEP-L	ABEP-L@BRUFSC	Associacao de Brasileiros Estudantes e Pesqu+
ABILITY	ABILITY@ASUACAD	Journal for the study and advancement of the+
ABLE-L	ABLE-L@ASUACAD	ABILITY Journal - Discussion & submission
ABOG-L	ABOG-L@UCSBVM	UCSB Academic Business Officers Group (ABOG)
	ABOG-L@UCSFVM	UCSF Academic Business Officers Group
ABSLST-L	ABSLST-L@CMUVM	Association of Black Sociologists
ABSTRACT	ABSTRACT@TAMVM1	LINGUIST-ABSTRACTS
ACADDR-L	ACADDR-L@MCGILL1	Academic Computing Centre Directors Forum
ACADEMIC	ACADEMIC@BRUFMG	Forum de Ciencia Computacional
ACADV	ACADV@NDSUVM1	ACADV Academic Advising Forum
ACC-L	ACC-L@GITVM1	ACC-L: "Advanced Computer Controls Discussio+
ACCESS-L	ACCESS-L@INDYCMS	Microsoft Access Database Discussion List
	ACCESS-L@UNBVM1	Land Information Access Discussion Forum
ACCUTEMB	ACCUTEMB@UOGUELPH	ACCUTEMB LIST
ACCY-L	ACCY-L@UHUPVM1	ACCY-L Accounting Distribuation List
ACDGIS-L	ACDGIS-L@AWIIMC12	Geographische Informationssysteme
ACES-L	ACES-L@UNBVM1	Atlantic Congress of Engineering Students (F+
ACEWEST	ACEWEST@WSUVM1	Ag Communicators in Education
ACHNEWS	ACHNEWS@UCSBVM	Newsletter of the Association for Computers +
ACLA-L	ACLA-L@WSUVM1	Association of Collegiate Licensing Administ+
ACM-L	ACM-L@OHSTVMA	ACM-L List for discussing ACM; gatewayed wit+
	ACM-L@UCF1VM	Florida ACM Student Chapter Discussion List
ACMMEX-L	ACMMEX-L@ITESMVF1	ACM MEXICO
ACMR-L	ACMR-L@UHCCVM	Association for Chinese Music Research Netwo+
ACMSTCHP	ACMSTCHP@SUVM	ACM Student Chapters
ACORN-L	ACORN-L@GREARN	ACORN computers Discussion List
ACRL	ACRL@UICVM	Association of College and Research Librarie+
ACS-L	ACS-L@POLYVM	IBM Advanced Control System Discussion list
ACSALF	ACSALF@UQUEBEC	Association canadienne des sociologues et de+
ACSOFT-L	ACSOFT-L@WUVMD	Academic Software Development
ACTIV-L	ACTIV-L@MIZZOU1	Activists Mailing List
ACTNOW-L	ACTNOW-L@BROWNVM	College Activism/Information List
ACTOR-L	ACTOR-L@HEARN	Actor: a discussion platform for user of the+
ACUA-L	ACUA-L@UVMVM	acua-l
ACUHOI-L	ACUHOI-L@PSUVM	Coll. & Univ. Housing Officers Int.

ADA-LAW	ADA-LAW@NDSUVM1	ADA Law
ADAPT-L	ADAPT-L@AUVM	Library Adaptive Technology
ADDICT-L	ADDICT-L@KENTVM	Academic & Scholarly discussion of addiction+
ADLTED-L	ADLTED-L@UREGINA1	Canadian Adult Education Network
ADMIN-L	ADMIN-L@ALBNYDH2	NYS DEPARTMENT OF HEALTH ADMINISTRATIVE INFO+
	ADMIN-L@BRUFSC	(Peered) Forum ADMIN-L - Discussao de assunt+
	ADMIN-L@UCSFVM	UCSF Network Administrators List
ADMINSEC	ADMINSEC@UTORONTO	Netnorth Administrative Secretary
ADMRA-L	ADMRA-L@ALBNYDH2	ADIRONDACK MEDICAL RECORDS ASSOCIATION LIST
ADND-L	ADND-L@PUCC	(Peered) Advanced Dungeons and Dragons discu+
	ADND-L@UTARLVM1	(Peered) Advanced Dungeons and Dragons discu+
ADQ	ADQ@UQUEBEC	Association des demographes du Quebec
ADR-L	ADR-L@ALBNYVM1	ADR Database Products Discussion List
ADS-L	ADS-L@UGA	American Dialect Society
ADVANC-L	ADVANC-L@IDBSU	ADVANC-L@IDBSU - USERS OF THE GEAC ADVANCE L+
ADVANCED	ADVANCED@JPNIMRTU	ADVANCED COURSE USER
ADVICE-L	ADVICE-L@JPNTUVM0	Technical Assistance for Users at JPNTOHOK
ADVISE-L	ADVISE-L@EBCESCA1	(Peered) User Services List
	ADVISE-L@NDSUVM1	(Peered) User Services List
	ADVISE-L@UBVM	(Peered) User Services List
	ADVISE-L@UGA	(Peered) User Services List
	ADVISE-L@UIUCVMD	ADVISE-L (log files only)
ADVISERS	ADVISERS@UWAVM	ADVISERS
ADVISORS	ADVISORS@TECHNION	ADVISORS - TECHNION CC user support discussi+
AEDNET	AEDNET@SUVM	AEDNET Mail Server
AEICNR	AEICNR@UWAVM	AEICNR
AEJMC93L	AEJMC93L@CMUVM	1993 AEJMC Papers
AERAMC-L	AERAMC-L@UAFSYSB	American Education Research Association - Me+
AESRG-L	AESRG-L@MIZZOU1	Applied Expert Systems Research Group List
AFAM-L	AFAM-L@MIZZOU1	African-American Research
AFAS-L	AFAS-L@KENTVM	African American Studies and Librarianship
AFRICA-L	AFRICA-L@BROWNVM	(Peered) FORUM PAN-AFRICA (Peer Distribution+
	AFRICA-L@BRUFMG	(Peered) FORUM PAN-AFRICA
	AFRICA-L@BRUFPB	(Peered) FORUM PAN-AFRICA
	AFRICA-L@VTVM2	(Peered) FORUM PAN-AFRICA (Peer Distribution+
AFRICANA	AFRICANA@WMVM1	Information Techonlogy and Africa
AFROAM-L	AFROAM-L@HARVARDA	CRITICAL ISSUES IN AFRICAN AMERICAN LIFE AND+
AF4H-L	AF4H-L@VTVM1	Airfield 4H Center
AG-EXP-L	AG-EXP-L@NDSUVM1	AG-EXP-L Ag Expert Systems
AGEN-KS	AGEN-KS@RUTVM1	ASAE Knowledge Systems Discussion List
AGENET-L	AGENET-L@UTORONTO	CARNET Discussion
AGENG-L	AGENG-L@DGOGWDG1	Agricultural Engineering and Intelligent Con+
AGFTECH	AGFTECH@DEARN	AGF-Subnetz-Koordinatoren
AGRIC-L	AGRIC-L@UGA	Agriculture Discussion

AGRIS-L	AGRIS-L@IRMFAO01	The Food and Agriculture Organization Libra+
AHC-L	AHC-L@DGOGWDG1	Association for History & Computing
AHL	AHL@GWUVM	American Health Line News Service
AI-TEST	AI-TEST@TRMETU	AI Test List
AIB-CUR	AIB-CUR@ICINECA	Discussione Associazione Italiana Biblioteche
AIBI-L	AIBI-L@UOTTAWA	The Computerised Analysis of Biblical Texts +
AIBIBL	AIBIBL@PLEARN	ACADEMIC INITIATIVE IBM , PROJECT "LIBRARY S+
AICS-L	AICS-L@UBVM	Architectures for Intelligent Control System+
AIDE	AIDE@UDESVM	Liste d'aide et de suggestions pour l'U. de +
AIDS	AIDS@EBCESCA1	(Peered) Sci.Med.AIDS Newsgroup
	AIDS@RUTVM1	(Peered) Sci.Med.AIDS Newsgroup
	AIDS@USCVM	(Peered) Sci.Med.AIDS Newsgroup
AIDS_INTL	ICECA@RUTVM1	Intl Committee for Elec Comm on AIDS
AIDSBKRV	AIDSBKRV@UICVM	AIDSBKRV - AIDS Book Review Journal
AIESEC-L	AIESEC-L@KENTVM	List for national membership of AIESEC
AIR-L	AIR-L@VTVM1	Institutional Researchers/University Planners
AIRCRAFT	AIRCRAFT@GREARN	The Aircraft Discussion List
AIRLINE	AIRLINE@CUNYVM	The Airline List
AISDIRS	AISDIRS@CUVMC	AIS Directors
AISTFDM	AISTFDM@CUVMC	AIS Task Force Data Management
AISTFLAN	AISTFLAN@CUVMC	AIS Task Force LAN Management
AISTFLDR	AISTFLDR@CUVMC	AIS Task Force Leaders
AISTFMFD	AISTFMFD@CUVMC	AIS Task Force Mainframe Direction
AISTFNI	AISTFNI@CUVMC	AIS Task Force Network Integration
AISTFP	AISTFP@CUVMC	AIS Task Force Program Global List For Every+
AISTFPUI	AISTFPUI@CUVMC	AIS Task Force Presentation / User Interface
AISTFTBM	AISTFTBM@CUVMC	AIS Task Force Technology Business Management
AIX-L	AIX-L@PUCC	IBM AIX Discussion List
AIXESA-L	AIXESA-L@RPITSVM	AIXESA Discussion List
AIXL	AIXL@ICNUCEVM	AIX Working Group Discussion List
AIXNEWS	AIXNEWS@PUCC	IBM AIX News to Mail Distribution
AIX370-L	AIX370-L@UWAVM	AIX370 Discussion List
AJBS-L	AJBS-L@PUCC	Association of Japanese Business Studies List
AJCUASD	AJCUASD@GUVM	AJCU Arts and Sciences Deans
AJCUAVP	AJCUAVP@GUVM	AJCU Academic Vice Presidents
AJCUCOMM	AJCUCOMM@GUVM	AJCU Communications Committee
AJCUCOMP	AJCUCOMP@GUVM	AJCU Computer Center Directors
AJCUILL	AJCUILL@GUVM	AJCU Law Librarians/Interlibrary Loan Contac+
AJCUNEWS	AJCUNEWS@GUVM	AJCU News for those not on other AJCU lists
AJCUPRES	AJCUPRES@GUVM	AJCU Presidents
ALA	ALA@UICVM	ALA Filelist
ALA-WO	ALA-WO@UICVM	ALA Washington Office Update
ALACOUN	ALACOUN@UICVM	ALA Council
ALACRO-L	ALACRO-L@UICVM	ALACRO-L List Discussion list ALA - CRO

ALAMEMB	ALAMEMB@UICVM	ALA Membership Committee
ALATREAS	ALATREAS@UICVM	ALA Treasurer-COPES Chair-ALA Finiancial Sta+
ALBION-L	ALBION-L@UCSBVM	British and Irish History
ALCOHOL	ALCOHOL@LMUACAD	ALCOHOL & DRUG STUDIES
ALCTS	ALCTS@UICVM	ALCTS List
ALEPHINT	ALEPHINT@TAUNIVM	International ALEPH Users List
ALF-L	ALF-L@YORKVM1	Academic Librarian's Forum
ALG-GEOL	ALG-GEOL@JPNYITP	Preprint server for Algebraic Geometry
ALGCOMP	ALGCOMP@BRLNCC	Forum de Computacao Algebrica
ALGNEWS	ALGNEWS@GWUVM	Algeria News List
ALLIN1-L	ALLIN1-L@SBCCVM	ALL-IN-1 Managers and Users mailing list.
ALLMUSIC	ALLMUSIC@AUVM	Discussions on all forms of Music
	ALLMUSIC@UFRJ	ALLMUSIC PEERED LIST
ALPHA-L	ALPHA-L@LEPICS	L3 Alpha physics block analysis diagram group
ALTLEARN	ALTLEARN@SJUVM	Alternative Approaches to Learning Discussio+
ALUMNET	ALUMNET@TRINITY	ALUMNET (Trinity University Alumni) discussi+
ALUMNI-L	ALUMNI-L@UCSBVM	UCSB GSE Alumni Announcement List
AMATH-IL	AMATH-IL@TAUNIVM	Applied Mathematics in Israel List
AMCA-L	AMCA-L@MCGILL1	Alumni and Friends of Croatian Universities
AMERCATH	AMERCATH@UKCC	AMERCATH - A DISCUSSION LIST ON THE HISTORY +
AMFCH-L	AMFCH-L@UCHCECVM	Noticias Acerca de la Cooperacion Franco-Chi+
AMI-HARD	AMI-HARD@UMAINECS	Re-distribution of Comp.sys.amiga.hardware f+
AMI-TECH	AMI-TECH@UMAINECS	Re-distribution of Comp.sys.amiga.tech group+
AMIA-L	AMIA-L@UKCC	Association for Moving Image Archivists
AMIA-37	AMIA-37@UMAB	AMIA-37 American Medical Informatics Associa+
AMIED-L	AMIED-L@MCGILL1	American Medical Informatics Association Edu+
AMIEDC-L	AMIEDC-L@UBVM	AMIA Education PSG Administrative Committee +
AMIGA-TR	AMIGA-TR@TREARN	Turk Amiga'cilar listesi...
AMIGAHAR	AMIGAHAR@DEARN	AMIGAGHAR COMP.SYS.AMIGA.HARDWARE redist.
AMINT-L	AMINT-L@PSUVM	Academy of Management International
AMLG-L	AMLG-L@IUBVM	AMLG Mail Distribution List
AMLIT-L	AMLIT-L@MIZZOU1	American Literature Discussion Group
AMSSIS-L	AMSSIS-L@UAFSYSB	AMS/SIS Discussion
AMUSIC-D	AMUSIC-D@AUVM	ALLMUSIC Digest
AMWEST-H	AMWEST-L@DOSUNI1	(Peered) AmWest-H - American West History Fo+
	AMWEST-H@UMRVMB	(Peered) AmWest-H - American West History Fo+
	AMWEST-H@USCVM	(Peered) AmWest-H - American West History Fo+
ANCANACH	ANCANACH@UABDPO	Clan Henderson Society of US/Canada
ANCIEN-L	ANCIEN-L@ULKYVM	History of the Ancient Mediterranean
ANDESIS	ANDESIS@ANDESCOL	Renovacion Curricular en Sistemas y Computac+

ANEST-L	ANEST-L@UBVM	Anesthesiology Discussion List
ANGLICAN	ANGLICAN@AUVM	Episcopal Mailing List
ANIME-L	ANIME-L@VTVM1	Japanese animedia and other animation news.
ANKIETA	ANKIETA@PLEARN	A SPECIAL LIST ANKIETA
ANN-LOTS	ANN-LOTS@NDSUVM1	Indexing Forum for Annotated Lists-of-Things
ANNONSTD	ANNONSTD@BITNIC	Announcements of new ANSI and OSI draft stan+
ANSAX-L	ANSAX-L@WVNVM	ANSAXNET Discussion Forum
ANSIREXX	ANSIREXX@PSUVM	Documents from X3J18 - ANSIREXX standards co+
ANSP-L	ANSP-L@BRUSPVM	Rede ANSP
ANSWER-L	ANSWER-L@EMUVM1	Emory Computing Questions and Answers
ANTAC-L	ANTAC-L@BRUFSC	(Peered) FORUM ANTAC-L - Associacao Nacional+
ANTHRO-L	ANTHRO-L@UBVM	General Anthropology Bulletin Board
ANU-NEWS	ANU-NEWS@NDSUVM1	ANU-NEWS Discussion
ANYSUG-L	ANYSUG-L@ALBNYDH2	Albany New York SAS User's Group
AOBULL-L	AOBULL-L@ALBNYDH2	NEW YORK STATE DEPARTMENT OF HEALTH AREA OFF+
AOSVS-L	AOSVS-L@TRMETU	AOS/VS Operating System Discussion List AOSV+
AOUNET-L	AOUNET-L@UMDD	AOU Legislative Alert System
APAGJ	APAGJ@GWUVM	APA Grand Junction Discussion List
APASD-L	APASD-L@VTVM2	APA Research Psychology Network
APASLN	APASLN@GWUVM	APA Science Leaders Network
APASPAN	APASPAN@GWUVM	APA Scientific Grassroots Network
APB-L	APB-L@LAVALVM1	Advancement of Paradigmatic Behaviorism
APB-UL-L	APB-UL-L@LAVALVM1	Avancement du behaviorisme paradigmatique - +
APC	APC@FRMOP11	Amicale du personnel du CNUSC (bureau)
APDA	APDA@PUCC	American Parlimentary Debate Association
APICS	APICS@UBVM	UB A. P. I. C. S. Discussion List
APIII-L	APIII-L@BRUSPVM	Associacao de Programas de Integracao e Info+
APL-ERS	APL-ERS@IRLEARN	UCD APL Interest Group
APL-L	APL-L@UNBVM1	APL Language Discussion
APLEDU-L	APLEDU-L@UNBVM1	APL in Education
APO-L	APO-L@PURCCVM	Alpha Phi Omega
APO90-L	APO90-L@PSUVM	Alpha Phi Omega Section 90
APPC-L	APPC-L@AUVM	APPC Discussion List
APPL-L	APPL-L@PLTUMK11	Computer applications in science and educati+
APPLENET	APPLENET@TECMTYVM	Lista de Discusion sobre la red AppleTalk en+
APPLE2-L	APPLE2-L@BROWNVM	Apple II List
APPLICAT	APPLICAT@BITNIC	(Peered) Applications under BITNET
	APPLICAT@DEARN	(Peered) Applications under BITNET
	APPLICAT@HEARN	(Peered) Applications under BITNET
	APPLICAT@MARIST	(Peered) Applications under BITNET
	APPLICAT@UGA	(Peered) Applications under BITNET
APRX-NET	APRX-NET@TECHNION	APRX-NET -
APSSCNET	APSSCNET@MCGILL1	American Psychological Society Student Caucus
AQUA-L	AQUA-L@UOGUELPH	Aquaculture Discussion List
AQUIFER	AQUIFER@IBACSATA	Pollution and grondwater recharge

ARACHNET	ARACHNET@UOTTAWA	An Association of Electronic Discussion Grou+
ARCANA	ARCANA@UNCCVM	ARCANA Discussion List for the Study of the +
ARCH-L	ARCH-L@DGOGWDG1	(Peered) Archaeology List
	ARCH-L@TAMVM1	(Peered) Archaeology List
ARCHIVES	ARCHIVES@INDYCMS	Archives & Archivists
ARCITRON	ARCITRON@KENTVM	Architronic: The Electronic Journal of Archi+
ARCLIB-L	ARCLIB-L@IRLEARN	Mailing List for Irish and UK Architectural +
ARCLIST	ARCLIST@UCLACN1	Administrative Resource Center Participants
AREXX-L	AREXX-L@UCF1VM	Amiga REXX Discussion List
ARGUS-L	ARGUS-L@YALEVM	ARGUS Collections Management List
ARICA-L	ARICA-L@BRUFSC	ARICA-L - Lista de discussao sobre a ESCOLA +
ARIE-L	ARIE-L@IDBSU	ARIE-L@IDBSU - Discussion of the RLG Ariel d+
ARIEL	ARIEL@USACHVM1	"Software Estadistico Ariel"
ARIZSLS	ARIZSLS@ARIZVM1	Library Science Conference
ARKNET-L	ARKNET-L@UAFSYSB	Arkansas State Network Discussions
ARLIS-L	ARLIS-L@UKCC	ART LIBRARIES SOCIETY DISCUSSION LIST
ARMS-L	ARMS-L@BUACCA	Arms-L Mailing List
ARNOMAN	ARNOMAN@ICNUCEVM	Configurazioni cisco su MAN Toscana
ARNOTEDM	ARNOTEDM@PUCC	Recipients of Alumni Records Death Memo
ARPABBS	ARPABBS@TCSVM	(Peered) Arpanet Bulletin-Boards
	ARPABBS@UBVM	(Peered) Arpanet Bulletin-Boards
ARRTECH	ARRTECH@TECHNION	Technion's architecture faculty general list
ARTCRIT	ARTCRIT@YORKVM1	Art Criticism Discussion Forum
ARTIST-L	ARTIST-L@UAFSYSB	Student Artist Discussions
ARTMGT-L	ARTMGT-L@BINGVMB	Arts Management Discussion Group
ARTSMIN	ARTSMIN@MCGILL1	Minutes and discussion for Faculty of Arts
ARUCC-L	ARUCC-L@RYERSON	Association of Registrar's of the Universiti+
AS-ACADE	AS-ACADE@UCHCECVM	Asociacion de Academicos Fac. de Cs. Fis. y +
ASA-L	ASA-L@TAMVM1	African Students Association Discussion List
ASAT-DIS	ASAT-DIS@UNLVM	AG-SAT Special Bulletins
ASAT-INC	ASAT-INC@UNLVM	AG-SAT International Council
ASAT-POC	ASAT-POC@UNLVM	AG-SAT Production Operations Council
ASAT-REC	ASAT-REC@UNLVM	AG-SAT Research Council
ASCD-SCI	ASCD-SCI@PSUVM	Alliance for Teaching of Science
ASCUE-L	ASCUE-L@PURCCVM	Short list title goes here
ASEE-IED	ASEE-IED@ETSUADMN	Industrial Engineering Division of ASEE
ASEH-L	ASEH-L@TTUVM1	AMERICAN SOCIETY OF ENVIRONMENTAL HISTORIANS
ASHE-L	ASHE-L@MIZZOU1	Association for the Study of Higher Educatio+
ASIANAD	ASIANAD@JPNSUT00	Asia(JP,KR,TW) Node Administrator
ASIMOV-L	ASIMOV-L@UTDALLAS	Discussion of Isaac Asimov's works
ASIPP-L	ASIPP-L@ULKYVM	Chinese Plasma Physics Forum
ASIS-L	ASIS-L@UVMVM	ASIS-L: American Society for Information Sci+
ASISMI	ASISMI@WAYNEST1	ASIS Michigan Chapter Discussion List

ASKSAM-L ASKSAM-L@VTVM1 For users of askSam: A Free-form Information+
ASPIRE-L ASPIRE-L@IUBVM ASPIRE-L: Linkages for Students from Asean N+
ASRC-L ASRC-L@LEPICS Discussion of AXL3 Smallest Resolvable Clust+
ASSEMBLER-LIST ASM370@DEARN (Peered) IBM 370 Assembly Programming Discus+
ASM370@EBCESCA1 (Peered) IBM 370 Assembly Programming Discus+
ASM370@OHSTVMA (Peered) IBM 370 Assembly Programming Discus+
ASM370@UCF1VM (Peered) IBM 370 Assembly Programming Discus+
ASM370@UGA (Peered) IBM 370 Assembly Programming Discus+
ASSESS ASSESS@UKCC ASSESS - Assessment in Higher Education
ASSMPC ASSMPC@USACHVM1 "Assembly for the IBM-PC"
ASTR-L ASTR-L@UIUCVMD Theatre History Discussion List - Amer. Soc.+
ASTRA ASTRA@ICNUCEVM Earn test ASTRA Database
ASTRA-UG ASTRA-UG@ICNUCEVM ASTRA Users Group Discussion List
ASTRADG ASTRADG@ICNUCEVM test Database
ASTRO ASTRO@UQUEBEC Cette liste permet l'echange d'information s+
ASTRO-PL ASTRO-PL@JPNYITP Preprint server for Astrophysics
ASTROL-L ASTROL-L@BRUFPB FORUM FOR ASTROLOGICAL DISCUSSION
ASUNOVEL ASUNOVEL@ASUACAD ASUNOVEL
ASYSM-L ASYSM-L@UA1VM Associate Members of the ASM (Association of+
AS400-L AS400-L@PCCVM Discussion forum on the use of AS400 systems
AT-NET AT-NET@TECHNION AT-NET - Approximation theory network
ATALK-L ATALK-L@WUVMD Campuswide Appletalk Discussion List
ATHENA ATHENA@ITOCSIVM ATHENA Progetto polo UNIX
ATLANT-L ATLANT-L@UNBVM1 Atlantic Canada Region Computing Centre Staff
ATLANTIS ATLANTIS@HARVARDA ATLANTIS - American Theological Library Disc+
ATLAS-TI ATLAS-TI@DB0TUI11 Discussion about ATLAS-TI
ATLWS ATLWS@MSU WA Global Village
ATMTUG-L ATMTUG-L@TAMVM1 "ATMTUG-L (TAMU TeX Users Group Discussion l+
ATP-EMTP ATP-EMTP@NDSUVM1 ATP-EMTP Electromagnetic Transients Program
ATTEND ATTEND@BITNIC BITNET Technical Meeting Attendees
ATTENDBF ATTENDBF@BITNIC BITNET BOF Registration only
AUDIO-L AUDIO-L@ITESMVF1 Audio discussion list
AUDITORY AUDITORY@MCGILL1 Research in auditory perception
AULCCD AULCCD@ASUACAD AULC-CD List
AUSTEN-L AUSTEN-L@MCGILL1 A digest for readers of Jane Austen.
AUTISM AUTISM@SJUVM SJU Autism and Developmental Disablities List
AUTO-L AUTO-L@TECHNION Remote Autolog Software Problem List
AUTOCAD AUTOCAD@OHSTVMA AUTOCAD Autocad Discussion List
AUTOCAT AUTOCAT@UVMVM AUTOCAT: Library cataloging and authorities +

AUTOMILK	AUTOMILK@UMDD	Automated Milking Systems
AUTORACE	AUTORACE@INDYCMS	AUTORACE a Discussion of Auto Racing
AUTOS-L	AUTOS-L@TRITU	The List For Classic And Sports Cars
AVIATION	AVIATION@BRUFPB	General Aviation List
AVM-L	AVM-L@PURCCVM	AVMEDIA uses file server, but does not run a+
AVSFORUM	AVSFORUM@TAMVM1	CSC Academic Vax Private Forum
AWARDS-B	AWARDS-B@OSUVM1	Commerce Business Daily - Awards
AWARE-L	AWARE-L@UKANVM	Discussion of the dual platform authoring pr+
AWAY-L	AWAY-L@TREARN	AWAY Software Package Development List
AWR-L	AWR-L@TTUVM1	A WRITER'S REPERTOIRE
AXE-LIST	AXE-LIST@MCGILL1	Quebec Litterature Studies
AXE-TALK	AXE-TALK@MCGILL1	AXE-Talk (Quebec Litterature Studies Discuss+
AXIOM	AXIOM@NDSUVM1	AXIOM Computer Algebra System
AXSLIB-L	AXSLIB-L@BITNIC	EASI Project list
AYN-RAND	AYN-RAND@IUBVM	Moderated Discussion of Objectivist Philosop+
AYUDA1	AYUDA1@USACHVM1	"Consultas y Soluciones"
AYUDA2	AYUDA2@USACHVM1	"Lista interna para la Unidad de Soporte Tec+
AYUDA4	AYUDA4@USACHVM1	"Lista para PRUEBAS de la Unidad de Soporte +
BABL-L	BABL-L@MITVMA	Boston Area Business Librarians Discussion L+
BABSON	BABSON@HARVARDA	Discussions on Organizational Design of Acad+
BACIS-L	BACIS-L@UKANVM	KU BACIS Staff
BACKS-L	BACKS-L@UVMVM	BACKS-L: Research on low back pain, disabili+
BALT-L	BALT-L@UBVM	(Peered) Baltic Republics Discussion List
	BALT-L@UKACRL	(Peered) Baltic Republics Discussion List
BALTUVA	BALTUVA@MCGILL1	BALTUVA: Issues & questions of concern to ob+
BANNER-L	BANNER-L@WVNVM	Student Information System Discussions
BANYAN	BANYAN-L@AKRONVM	Banyan Networks Discussion List
BAPTIST	BAPTIST@UKCC	BAPTIST--Open Baptist Mailing List
BATCH-L	BATCH-L@PURCCVM	Purdue BATCH discussion list
	BATCH-L@VTVM1	Virginia Tech Batch Facility Users List
BATCHX-L	BATCHX-L@UFRJ	BATCHX - Discussoes e Informacoes
BAYSGI-L	BAYSGI-L@SJSUVM1	Bay Area SGI Users Group
BA275A	BA275A@UMSLVMA	UNIVERSITY OF MISSOURI - Bill Meade - BA275A
BA275B	BA275B@UMSLVMA	UNIVERSITY OF MISSOURI - Bill Meade - BA275B
BA471	BA471@UMSLVMA	UNIVERSITY OF MISSOURI - Bill Meade - BA471
BBS-L	BBS-L@SAUPM00	Discussion forum about BBSs, creation, usage+
BCLASS	BCLASS@UMSLVMA	UNIVERSITY OF MISSOURI - BITNET SHORT COURSE
BCS-L	BCS-L@NMSUVM1	Business Computer Systems Class List
BCS110-L	BCS110-L@NMSUVM1	Wayne Headrick
BCS271-L	BCS271-L@NMSUVM1	Wayne Headrick
BCS371-L	BCS371-L@NMSUVM1	Wayne Headrick
BCVICOUT	BCVICOUT@UVVM	BCNet Outages and Operations - Victoria

BEACON-L	BEACON-L@MAINE	Beacon-L mailing list
BEE-L	BEE-L@ALBNYVM1	Discussion of Bee Biology
BEEF-L	BEEF-L@WSUVM1	Beef Specialists
BEER-L	BEER-L@UA1VM	Homebrew Digest Redistribution List
BEHAVIOR	BEHAVIOR@ASUACAD	Behavioral and Emotional Disorders in Childr+
BEL-HD	BEL-HD@DHDURZ1	BEL-HD BelWue/HD-Net maintenance
BELIEF-L	BELIEF-L@BROWNVM	(Peered) Personal Ideologies Discussion List
	BELIEF-L@UCF1VM	(Peered) Personal Ideologies Discussion List
BERWRO-L	BERWRO-L@UBVM	Discussion of Berkely/Wroclaw Activities List
BEST-L	BEST-L@UTORONTO	Best North America Discussion group
BETA-L	BETA-L@LEPICS	L3 Analysis Group Beta
BEVPUB-L	BEVPUB-L@VTVM1	Blacksburg Electronic Village Open Discussio+
BGEDU-L	BGEDU-L@UKCC	BGEDU-L is a forum for persons concerned wit+
BGRASS-L	BGRASS-L@UKCC	Bluegrass music discussion.
BHRD-L	BHRD-L@ALBNYDH2	BHRD-L Bureau of Health Resources Development
BI-L	BI-L@BINGVMB	Bibliographic Instruction Discussion Group
BIACT-L	BIACT-L@BROWNVM	Bisexual Activists' Discussion List
BIAL	BIAL@PLEARN	DISCUSSION LIST OF THE PLBIAL11 BIAL
BIBLIST	BIBLIST@SEARN	Topics in Nordic research library user servi+
BIBSOFT	BIBSOFT@INDYCMS	Discussion of software for citations and bib+
BIFEM-D	BIFEM-D@BROWNVM	Bisexual Women's Discussion List Digest
BIFEM-L	BIFEM-L@BROWNVM	Bisexual Women's Discussion List
BIG-LAN	BIG-LAN@EBCESCA1	Campus-Size LAN Discussion Group
	BIG-LAN@IRLEARN	UCD Distribution of BIG-LAN
	BIG-LAN@SUVM	Campus-Size LAN Discussion Group
	BIG-LAN@TECMTYVM	Selected archives of the BIG-LAN discussion +
BILDIL	BILDIL@TRMETU	Turkish Natural Language Processing Discussi+
BILFEL	BILFEL@TRITU	Bilim ve Felsefe Uzerine Tartisma Listesi
BILLING	BILLING@HEARN	Chargeback of (computer) resources
BIO-DOST	BIO-DOST@TREARN	Biyolojik Bilimlerde Calisan Turk Bilim Adam+
BIOCIS-L	BIOCIS-L@SIVM	BIOCIS-L Biology Curriculum Innovation Study
BIOMCH-L	BIOMCH-L@HEARN	Biomechanics and Movement Science listserver
BIOMED-L	BIOMED-L@MCGILL1	Assoc. of Biomedical Communications Directors
	BIOMED-L@NDSUVM1	BIOMED-L Biomedical Ethics
BIOMET-L	BIOMET-L@ALBNYDH2	BUREAU OF BIOMETRICS AT ALBNYDH2
BIOPI-L	BIOPI-L@KSUVM	Secondary Biology Teacher Enhancement PI
BIOSPH-L	BIOSPH-L@UBVM	Biosphere, ecology, Discussion List
BIOTECH	BIOTECH@UMDD	Biotechnology Discussion List
BIOVOTE	BIOVOTE@IRLEARN	BIOSCI Ballot Box
BIPM-L	BIPM-L@FRORS12	Bureau International des Poids et Mesures
BIRD_RBA	BIRD_RBA@ARIZVM1	National Birding Hotline Cooperative
BIRDBAND	BIRDBAND@ARIZVM1	Bird Bander's Forum

BIRDCHAT	BIRDCHAT@ARIZVM1	National Birding Hotline Cooperative (Chat L+
BIRDCNTR	BIRDCNTR@ARIZVM1	National Birding Hotline Cooperative (Centra+
BIRDEAST	BIRDEAST@ARIZVM1	National Birding Hotline Cooperative (East)
BIRDTRIP	BIRDTRIP@ARIZVM1	Special BIRDCHAT LOGO Project
BIRDWEST	BIRDWEST@ARIZVM1	National Birding Hotline Cooperative (West)
BISEXU-D	BISEXU-D@BROWNVM	BISEXU-L Digest
BISEXU-L	BISEXU-L@BROWNVM	Bisexuality Discussion List
BITFTP-L	BITFTP-L@EARNCC	Discussion list for BITFTP Server
BITLIB-D	BITLIB-D@UTCVM	BITLIB Distribution List
BITLIB-L	BITLIB-L@UTCVM	BITLIB Discussion List
BITNET-L	BITNET-L@BRLNCC	USUARIOS DE BITNET NO LNCC
	BITNET-L@BRUFPB	LISTA PARA OS USUARIOS DA BITNET
BITNET-2	BITNET-2@TCSVM	Discussion of BITNET II
BITNEWS	BITNEWS@BITNIC	(Peered) BITNET Network News List
	BITNEWS@DEARN	(Peered) BITNET News List
	BITNEWS@HEARN	(Peered) BITNET News List
	BITNEWS@MARIST	(Peered) BITNET News List
	BITNEWS@UGA	(Peered) BITNET News
BITNIC-LIAISON	LIAISON@TCSVM	(Peered) Network Site Liaisons
BITTECH	BITTECH@BITNIC	BITNET Technical Meeting announcements and d+
BITUSE-L	BITUSE-L@UMAB	Bitnet User's Group
BIXANET	BIXANET@JHUVM	Brainwave Systems users group
BKGAMMON	BKGAMMON@INDYCMS	Backgammon strategy
BLACKLIB	BLACKLIB@GUVM	Conference of Black Librarians
BLIND-L	BLIND-L@UAFSYSB	Computer Use by and for the Blind
BLINDNWS	BLINDNWS@NDSUVM1	Blind News Digest
BLISS-L	BLISS-L@BROWNVM	Barus Lab Interactive Speech System List
BMDP-L	BMDP-L@MCGILL1	BMDP SOFTWARE USERS
BMW92	BMW92@UVMVM	BMW92: Summer Institute for Women in Higher +
BOARD-F	BOARD-F@FRMOP11	Bureau de l'association EARN-France
BOARD-L	BOARD-L@UOTTAWA	Board of Directors of Canadian Association o+
BOD	BOD@ICNUCEVM	Earn test BOD Database
BONSAI	BONSAI@WAYNEST1	Bonsai Discussion List
BORIKEN	BORIKEN@ENLACE	BORIKEN: Cultura y sociedad de Puerto Rico
BORSA-L	BORSA-L@TREARN	Turkiye Ekonomisi ve Borsa Listesi (in Turki+
BPI	BPI@UTXVM	Business Process Improvement: Issues, opport+
BPWSP-L	BPWSP-L@ALBNYDH2	BPWSP-L Bureau of Public Water Supply Protec+
BRAILLE	BRAILLE@CSEARN	Discussion club for blinds, in Czech and Eng+
BRAIN-L	BRAIN-L@MCGILL1	Mind-Brain Discussion Group
BRAS-CON	BRAS-CON@FRORS12	Brasnet na Europa Continental
BRAS-NET	BRAS-NET@BRUFMG	Brasileiros no Exterior
	BRAS-NET@BRUFPB	Brasileiros no Exterior
	BRAS-NET@PCCVM	Brazilian Students Comn-net
BRFC-L	BRFC-L@PUCC	BITNET RFC Discussion List
BRINE-L	BRINE-L@UGA	Brine Shrimp Discussion List
BRIT-L	BRIT-L@KSUVM	Behavioral Research In Transplantation

BRS-L	BRS-L@USCVM	BRS/Search Full Text Retrieval Software Disc+
BRUNONIA	BRUNONIA@BROWNVM	Brown Alumni Discussion List
BRW1EXP	BRW1EXP@PLEARN	Discussion list for testing. BRW1EXP
BSCS-L	BSCS-L@EMUVM1	Business School Computing Support
BSRUSERS	BSRUSERS@PUCC	BSR Software discussion list.
BUCKS-L	BUCKS-L@TAMVM1	Gigabucks Discussion List
BUDDHA-L	BUDDHA-L@ULKYVM	Buddhist Academic Discussion Forum
BUDDHIST	BUDDHIST@JPNTUVM0	Forum on Indian and Buddhist Studies
BUDPRI-L	BUDPRI-L@UBVM	UB Faculty Senate Budget Priorities Committe+
BURC	BURC@TREARN	Bogazici University Graduates Communication +
BUSETH-L	BUSETH-L@UBVM	Business Ethics Computer Network
BUSH	BUSH@MARIST	Discussion of campaigning for President by G+
BUSLIB-L	BUSLIB-L@IDBSU	BUSLIB-L@IDBSU - BUSINESS LIBRARIES DISCUSSI+
BUSTALK	BUSTALK@TEMPLEVM	Cochran Research Center Discussion
B10EDP-L	B10EDP-L@PSUVM	Big10 EDP auditors list
C++USERS	C++USERS@MITVMA	Discussion list for MIT C++ Language Develop+
C+HEALTH	C+HEALTH@IUBVM	Health effects of computer use
C-ALERTL	C-ALERTL@JPNYITP	CONTENTS-Alert by Elsevier Science Publishers
C-BOARD	C-BOARD@UOTTAWA	Board of Advisors for CONTENTS Projects
C-BOWL	C-BOWL@RICEVM1	College Bowl Teams and Officials
C-L	C-L@INDYCMS	Discussion of C Programming
C_C++	C_C++@TRITU	C ve C++ Programlama Dilleri Tartisma Listesi
CA-L	CA-L@MITVMA	BITNET part of CA@Think.COM (Cellular Automa+
CA-VMNET	CA-VMNET@UTORONTO	Canadian VMNET Backbone Group
CAACSALF	CAACSALF@UQUEBEC	Conseil d'administration de l'ACSALF
CAAH	CAAH@PUCC	CONSORTIUM OF ART AND ARCHITECTURAL HISTORIA+
CACCS-L	CACCS-L@UOGUELPH	Canadian Association of Campus Computer Stor+
	CACCS-L@UOTTAWA	Canadian Association of Campus Computer Stor+
CACI-L	CACI-L@UALTAVM	Research and Advanced Study: Canada and Italy
CACUSS-L	CACUSS-L@UOGUELPH	Canadian Association of College & University+
CADAM-L	CADAM-L@SUVM	Computer Aided Design and Manufacturing (CAD+
CADE	CADE@UQUEBEC	CADE THE "CADE" NETWORK
CADLIST	CADLIST@SUVM	CAD General Discussion Group
CAEDS-L	CAEDS-L@SUVM	Computer Aided Engineering Design (CAEDS) In+
CAEJ-L	CAEJ-L@UOTTAWA	Canadian Association of Electronic Journal P+
CAFSS-L	CAFSS-L@VTVM1	CAFSS-L is a list for members of the CAFSS T+
CAG-IGBP	CAG-IGBP@UOGUELPH	CAG_IBP Information Exchange
CAHECUG	CAHECUG@WSUVM1	CAHE Computer User Group
CALCSYMB	CALCSYMB@BLIULG11	CALCSYMB General Discussion list

CALL-L	CALL-L@UNBVM1	Canadian Academic Law Libraries List
CALLCD	CALLCD@SIUCVMB	CALLCD List
CALPAR	CALPAR@ICNUCEVM	CNUCE Reparto Calcolo Vettoriale e Parallelo
CAMEL-L	CAMEL-L@SAKFU00	Discussion Forum on Camels Researches
CAN-TEST	CAN-TEST@UBVM	SUNY Canton Test List
CANADA-L	CANADA-L@MCGILL1	Canadian Issues Forum
CANALC	CANALC@YORKVM1	Canadian Association for Latin American and +
CANALC-D	CANALC-D@YORKVM1	A DIGEST of CANALC@vm1.yorku.ca Postings
CANARIE	CANARIE@UNBVM1	CANARIE Discussion List
CANCER-L	CANCER-L@WVNVM	WVNET CANCER discussion list
CANCHID	CANCHID@YORKVM1	Canadian Network on Health in International +
CANCHIDD	CANCHIDD@YORKVM1	An Occasional Digest of CANCHID@vm1.yorku.ca+
CANDG-L	CANDG-L@UCSFVM	Contract and Grant Representatives List
CANDI-L	CANDI-L@MIZZOU1	Curriculum and Instruction Department Discus+
CANDLE-L	CANDLE-L@UA1VM	Candle Products Discussion List
CANEWS	CANEWS@UVVM	CA*net Newsletter
CANINE-L	CANINE-L@PCCVM	(Peered) Discussion forum for Dog fanciers
	CANINE-L@PSUVM	(Peered) Discussion forum for Dog fanciers
CANSPACE	CANSPACE@UNBVM1	Canadian Space Geodesy Forum
CANST-LI	CANST-LI@UVMVM	CANST-LI: ACRL Canadian Studies Librarians' +
CAPES-L	CAPES-L@BRUFMG	Grupo de discussao da CAPES
CAPNOTE	CAPNOTE@GWUVM	Capital Notebook Advisory Committee List
CAR-CS	CAR-CS@CSEARN	CAROLINA - Elektronicky tydennik FSVUK
CAR-ENG	CAR-ENG@CSEARN	CAROLINA - E-mail news weekly
CARA-D	CARA-D@ICNUCEVM	CARA Donna del CNUCE
CARECON	CARECON@YORKVM1	Caribbean Economy
CAREER-L	CAREER-L@BINGVMB	SUNY-wide Career Development Organization li+
CARET	CARET@GWUVM	Capital Area Researchers in Educational Tech+
CARIB-L	CARIB-L@FRCPN11	Liste MTP Spring School of the Caribbean
CARL-L	CARL-L@UHCCVM	CARL User's Information List
CARO-DIR	CARO-DIR@ICNUCEVM	CNUCE Comunicazioni dei dipendenti col Diret+
CARR-L	CARR-L@ULKYVM	Computer-assisted Reporting & Research
CARS-L	CARS-L@SAUPM00	Discussion forum about cars.
CARUL	CARUL@LAVALVM1	Club des administrateurs de reseaux locaux d+
CASE-L	CASE-L@UCCVMA	Computer Aided Software Engineering
CASID-L	CASID-L@MCGILL1	Canadian Assoc. for the Study of Internation+
CASTOR	CASTOR@YORKVM1	American Schools of Oriental Research in Can+
CATALA	CATALA@EBCESCA1	Forum de discussio per a catalanoparlants
CATALYST	CATALYST@VTVM1	The Community Services CATALYST electronic j+
CATHOLIC	CATHOLIC@AUVM	Free Catholic Mailing List
CATIA-L	CATIA-L@SUVM	Computer Aided Three Dimensional Interactive+
CAUCE-L	CAUCE-L@UREGINA1	Canadian Association for University Continui+

CAUCE-PP Pol+	CAUCE-PP@UREGINA1	Canadian University Continuing Education
CAUSEASM Systems+	CAUSEASM@VTVM1	Constituent Group for Administrative
CAUSERIE discuter +	CAUSERIE@UQUEBEC	En francais, un "Cafe Campus" pour
CAVMEN	CAVMEN@UICVM	Chicago Area VM ENthusiasts Forum
CBA-LAB	CBA-LAB@UICVM	CBA PC Lab Faculty Support
CBDS-L Interest +	CBDS-L@SUVM	Circuit Board Design System (CBDS)
CBEHIGH h+	CBEHIGH@BLEKUL11	CBEHIGH list : Computer Based Education in
CC	CC@MCGILL1	Computing Centre Staff Names
CC-L	CC-L@NMSUVM1	NMSU Computer Center List
CCANET	CCANET@RPITSVM	Canadian Communication Association Network
CCASD-L	CCASD-L@NMSUVM1	ADP List
CCCCC-L	CCCCC-L@TTUVM1	INTERCLASS COMPUTERS & WRITING
CCCECS Erogatori +	CCCECS@ICNUCEVM	Commiss. per il Coord. dei Centri
CCCRN Research+	CCCRN@NRCVM01	Canadian Coordinating Committee for
CCD-L	CCD-L@HUMBER	(Peered) Computer Centre Directors' List
CCDOC	CCDOC@ICNUCEVM	Commissione Consuntiva CNUCE - Database
CCES-L (F+	CCES-L@UNBVM1	Congress of Canadian Engineering Students
CCESA-L	CCESA-L@NMSUVM1	NMSU Comp. Ctr. VM/ESA TEAM List
CCHD-L	CCHD-L@UNCVM1	Carolina Consortium for Human Development.
CCIJLEX	CCIJLEX@UCHCECVM	Foro de Informatica Juridica.
CCLOG-L	CCLOG-L@MIZZOU1	Campus Computing service disruption list
CCLRG-L	CCLRG-L@NMSUVM1	NMSU Comp.Ctr. Large Systems
CCMAIL-L	CCMAIL-L@OSUVM1	cc:Mail Interest Group
CCMAN-L	CCMAN-L@UGA	CND Chinese Magazine Network
CCMFS-L	CCMFS-L@NMSUVM1	NMSU Comp.Ctr. Mainframe & Shared Services
CCMFSS-L	CCMFSS-L@NMSUVM1	NMSU Comp.Ctr. MFSS Students
CCNET-L	CCNET-L@NMSUVM1	Networking List
	CCNET-L@UGA	Chinese Computing Network
CCNEWS	CCNEWS@BITNIC	Campus Computing Newsletter Editors
CCNL	CCNL@UTARLVM1	Newsletter on Chinese Community
CCOPS-L	CCOPS-L@NMSUVM1	NMSU Comp.Ctr. Operations Group
CCSSG-L	CCSSG-L@NMSUVM1	Small Systems Group List
CCSYS-L	CCSYS-L@NMSUVM1	NMSU Comp. Ctr. Systems Programming
CCUMC-L	CCUMC-L@UHCCVM	CCUMC Membership Discussion List
CDC-L	CDC-L@UALTAVM	Collections Development Committee
CDCNAD-F francais	CDCNAD-F@FRMOP11	Liste des 'Node ADministators' CDC
CDMAJOR	CDMAJOR@KENTVM	Communication Disorder Discussion List
CDNUSERS	CDNUSERS@RYERSON	CANADIAN USERS OF SCT PRODUCTS
CDPLUS-L	CDPLUS-L@UTORONTO	CDPLUS Software User Group
CDROM-L	CDROM-L@UCCVMA	CD-ROM
CDROMLAN La+	CDROMLAN@IDBSU	CDROMLAN@IDBSU - Use of CDROM Products in
CDS-ISIS CDS/ISIS +	CDS-ISIS@HEARN	Electronic user-group for Unesco's
CDSBC-L d+	CDSBC-L@UFRJ	CDSBC-L - Conselho da Sociedade Brasileira
CEC	CEC@QUCDN	Canadian Electro-Acoustics Community (CEC)
CEDA-L	CEDA-L@BRUFMG	Grupo de discussao do Centro de Ensino e

Div+
CELTIC-L CELTIC-L@IRLEARN CELTIC-L - The Celtic Culture List.
CENASIA CENASIA@MCGILL1 Former Soviet Republic - Central Asia
Politi+
CENTAM-L CENTAM-L@UBVM Central America Discussion List
CENTER-L CENTER-L@JPNTUVM0 Suggestion and Complaints to JPNTOHOK
CENTINFO CENTINFO@INDYCMS Center Availability Information
CENTRG-L CENTRG-L@UTORONTO Central Region Directors
CERN CERN@PLEARN The CERN discussion list. CERN
CERRO-L CERRO-L@AEARN Central European Regional Research
Organizat+
CESNEWS CESNEWS@BROWNVM Coalition of Essential Schools News
CETH CETH@PUCC Center for Electronic Texts in the
Humanities
CEVRE-L CEVRE-L@TRITU Cevre ve Cevre Sorunlari Uzerine Tartisma
Li+
CFD CFD@UKCC Computational Fluid Dynamics Group
CFS-D CFS-D@ALBNYDH2 Chronic Fatigue Syndrome File Storage
CFS-L CFS-L@NIHLIST Chronic Fatigue Syndrome discussion
CFIDS/ME
CFS-MED CFS-MED@NIHLIST Chronic Fatigue Syndrome/CFIDS medical
list
CFS-NEWS CFS-NEWS@NIHLIST Chronic Fatigue Syndrome Newsletter
CFIDS/ME
CGE CGE@MARIST Computer Graphics Education Newsletter
CGSA-L CGSA-L@UBVM Chinese Graduate Student Association List
CH-LADB CH-LADB@UNMVMA Latin America Data Base
CHAOPSYC CHAOPSYC@UVMVM CHAOPSYC: Discussion list of Society for
Cha+
CHEAT CHEAT@TTUVM1 Procedures Database
CHEMCOMP CHEMCOMP@HUEARN Magyar Kemikusok Egyesuletenek Kibernetika
l+
CHEMCONF CHEMCONF@UMDD Conferences on Chemistry Research and
Educat+
CHEMCORD CHEMCORD@UMDD Gen. Chem. Coordinators Discussion Group
CHEMDISC CHEMDISC@UMDD ChemConf Discussion
CHEME-L CHEME-L@PSUVM Chemical Engineering List
CHEMED-L CHEMED-L@UWF Chemistry Education Discussion List
CHEMIC-L CHEMIC-L@TAUNIVM Chemistry in Israel List
CHESS-L CHESS-L@GREARN The Chess Discussion List
CHEST-L CHEST-L@IRLEARN CHEST-L
CHGCTL-L CHGCTL-L@NMSUVM1 NMSU CC Change Control
CHICLE CHICLE@UNMVMA Chicano literature discussion list
CHILE-L CHILE-L@UCHCECVM CHILE: Foro abierto
CHILE-L@USACHVM1 Discussion regarding Chile
CHILENET CHILENET@UCHCECVM (Peered) Lista de Informaciones para la
Red +
CHILENET@UTFSM (Peered) Lista de Informaciones para la
Red +
CHIMIECH CHIMIECH@FRMOP11 Correspondants Scientifiques du GS Chimie
Mo+
CHIMIECT CHIMIECT@FRMOP11 Correspondants Techniques du GS Chimie
Molec+
CHIMIEGS CHIMIEGS@FRMOP11 Groupement Scientifique Chimie Moleculaire
CHINA CHINA@PUCC Chinese Studies list
CHINA-ND CHINA-ND@KENTVM China News Digest (US News)
CHINA-NN CHINA-NN@ASUACAD (Peered) China News Digest (Global News)

	CHINA-NN@UTARLVM1	(Peered) China News Digest (Global News)
CHINA-NT	CHINA-NT@UGA	China-Net (The Coordination Network for IFCS+
CHINANET	CHINANET@TAMVM1	CHINANET: Networking In China
CHMINF-L	CHMINF-L@IUBVM	CHEMICAL INFORMATION SOURCES DISCUSSION LIST
CHPOEM-L	CHPOEM-L@UBVM	Chinese Poem Exchange and Discussion List
CHRISTIA	CHRISTIA@ASUACAD	Practical Christian Life
CHUG-L	CHUG-L@BROWNVM	Brown University Computing in the Humanities+
CIBER-L	CIBER-L@UMDD	Dept. of Ed. Center for International Bus. E+
CICS-L	CICS-L@AKRONVM	(Peered) CICS Discussion List
	CICS-L@AWIIMC12	(Peered) CICS List
	CICS-L@MARIST	(Peered) CICS List
	CICS-L@UALTAVM	(Peered) CICS List
	CICS-L@UGA	(Peered) CICS List
	CICS-L@UTARLVM1	(Peered) CICS List
CIEE-L	CIEE-L@BRUFMG	Lista de discussao da Comissao de Informatic+
CIENCIA	CIENCIA@PTEARN	Discussao da Implementacao do Programa CIENC+
CIESIN	CIESIN@POLYVM	Polytechnic CIESIN Distribution
CINEMA-L	CINEMA-L@AUVM	Discussions on all forms of Cinema
CIO-L	CIO-L@WVNVM	Higher Education Chief Information Officers
CIRCPLUS	CIRCPLUS@IDBSU	CIRCPLUS@IDBSU - LIBRARY CIRCULATION ISSUES
CIRLNET	CIRLNET@RUTVM1	Community of Industrial Relations Librarians+
CISCO-L	CISCO-L@BLIULG11	CISCO-L Redistribution List
	CISCO-L@DEARN	CISCO Anwendergruppe
CIT$P	CIT$P@PLEARN	The Cracow Institute of Technology private d+
CIT$W	CIT$W@PLEARN	The Cracow Institute of Technology open disc+
CITERG	CITERG@FRMOP11	Centro de Intercambios Telematizados aplicad+
CIUW	CIUW@PLEARN	Lista dyskusyjna dla pracownikow CIUW
CIUW-L	CIUW-L@PLEARN	CIUW and PLEARN users discussion list CIUW-L
CIVIL-L	CIVIL-L@UNBVM1	Civil Engineering Reasearch & Education
CJ-L	CJ-L@ALBNYVM1	Discussion of beliefs and practices of Conse+
CJKLIB-L	CJKLIB-L@DHDURZ1	CJKLIB-L Distribution List
CJUST-L	CJUST-L@IUBVM	Criminal Justice Discussion List
CLAN	CLAN@FRMOP11	Cancer Liaison and Action Network
CLARION	CLARION@VMTECSLP	Clarion Language and related tools Discussio+
CLASS-L	CLASS-L@SBCCVM	Classification, clustering, and phylogeny es+
CLASSICS	CLASSICS@UWAVM	Classical Greek and Latin Discussion Group
CLASSLST	CLASSLST@UMAB	LISTSERV LIST FOR CLASS EXERCISES
CLASSM-L	CLASSM-L@BROWNVM	Classical Music List
CLASTALK	CLASTALK@WCU	Class Talk
CLAYART	CLAYART@UKCC	Ceramic Arts Discussion List
CLEV-92	CLEV-92@AKRONVM	Cleveland SIGUCCS 1992 Attendees

CLGSG-L	CLGSG-L@RICEVM1	Coalition of Lesbian and Gay Student Groups +
	CLGSG-L@TAMVM1	Coalition of Lesbian and Gay Student Groups +
CLIMLIST	CLIMLIST@OHSTVMA	CLIMLIST Climatology Distribution List
CLINALRT	CLINALRT@UMAB	Clinical Alerts from NIH
CLINTON	CLINTON@MARIST	Discussion of campaigning for President by B+
CLIOLOGY	CLIOLOGY@MSU	Theories of History
CLIPPER	CLIPPER@BRUFPB	List for Clipper and DBMS systems for IBM PC
CLOCKS	CLOCKS@SUVM	Clock/Watch Repair, Collecting, and Construc+
CLUB-USM	CLUB-USM@UTFSM	Lista de Informacion de la U.T.F.S.M y su qu+
CLUBP-L	CLUBP-L@YALEVM	Club Presidents List
CMC	CMC@RPITSVM	Computer Mediated Communication
CMIS-L	CMIS-L@UMAB	CMIS Project
CMPENET	CMPENET@PSUVM	Computer Enginerring List
CMPSU-L	CMPSU-L@PSUVM	CND Chinese Magazine Network (Service II)
CMS-PIPELINES List	CMSPIP-L@AWIIMC12	(Peered) VM/SP CMS Pipelines Discussion
	CMSPIP-L@MARIST	(Peered) VM/SP CMS Pipelines Discussion List
CMSAPPL	CMSAPPL@UKACRL	CMSAPPL LIST
CMSR4-L	CMSR4-L@UIUCVMD	CMS release 4 discussions
CMSR5-L	CMSR5-L@UIUCVMD	CMS release 5 discussions
CMSUG-L	CMSUG-L@NDSUVM1	(Peered) CMSUG-L CMS List
	CMSUG-L@UTARLVM1	(Peered) CMS User Guide List
CMSUSER	CMSUSER@UTFSM	Test list, Only for internal use.
CMUWA-L	CMUWA-L@UWAVM	(CND-CM/HXWZ Hz Service)
CNC-L	CNC-L@UVVM	China News (Canada)
CND-EP	CND-EP@IUBVM	China News Digest - Europe/Pacific
CND-OSU	CND-OSU@OHSTVMA	China News Digest (Global Service) II
CNDPSU-L	CNDPSU-L@PSUVM	China News Digest (Global Service) IV
CNDUB-L	CNDUB-L@UBVM	China News Digest (Global Service) III
CNDUWA-L	CNDUWA-L@UWAVM	(CND-US Service II)
CNEDUC-L List	CNEDUC-L@TAMVM1	Computer Networking Education Discussion
CNETIE-L (+	CNETIE-L@UALTAVM	International Centre Communication Network
CNFINFO	CNFINFO@CERNVM	List CNFINFO
CNG	CNG@ASUACAD	China News Group (ASU Local)
CNI-ARCH	CNI-ARCH@UCCVMA	CNI-Architecture and Standards WG
CNIDR-L Retrieval	CNIDR-L@UNCCVM	Networked Information Discovery and
CNPQ-L	CNPQ-L@BRUFMG	Grupo de discussao do CNPQ
CNR	CNR@ICNUCEVM	CNR Electronic Mail of C.N.R. people
CNSF-L Dis+	CNSF-L@TAMVM1	Cornell National Supercomputing Facility
	CNSF-L@UBVM	Cornell National Supercomputer Facility Anno+
CNUCE-CC	CNUCE-CC@ICNUCEVM	CNUCE Commissione Consuntiva
CNUG	CNUG@UCLACN1	UCLA Campus Network Users Group/NCs
COAACAD Li+	COAACAD@UBVM	SUNY COA Academic Subcommittee Discussion
COASTGIS	COASTGIS@IRLEARN	Coastal GIS Distribution List

COCAMED	COCAMED@UTORONTO	Computers in Canadian Medical Education
COCHCOSH	COCHCOSH@UTORONTO	COCHCOSH Discussion
COCO	COCO@PUCC	COCO - Tandy Color Computer List
COCTA-L	COCTA-L@UHCCVM	INTERCOCTA network forum
COGS	COGS@UICVM	Computing on a Grand Scale List
COGSCI-L	COGSCI-L@MCGILL1	COGNITIVE SCIENCE CENTRE
COHERENT	COHERENT@IRISHVMA	Coherent operating system
COINF-L	COINF-L@BRUFSC	FORUM COINF-L - Comite de Informatica da UFSC
COLA-L	COLA-L@UALTAVM	College on Location Analysis
COLDEV-L	COLDEV-L@UNBVM1	CLA Collections Development Interest Group
COLEXT	COLEXT@ANDESCOL	(Peered) Los Colombianos en el Exterior
	COLEXT@CUVMB	(Peered) Los Colombianos en el Exterior
COLLDV-L	COLLDV-L@USCVM	Library Collection Development List
COLT-L	COLT-L@HUMBER	(Peered) Committee on Learning Technologies +
COM-ALG	COM-ALG@NDSUVM1	COM-ALG - Commutative Algebra
COMCIV-L	COMCIV-L@IUBVM	CompCiv-L:
COMCOM-L	COMCOM-L@NMSUVM1	Stephen Bernhardt's English Class
COMDEV	COMDEV@RPITSVM	Communication & international development
COMEDIA	COMEDIA@ARIZVM1	A discussion of Hispanic Classic Theater
COMENIUS	COMENIUS@CSEARN	Discussion and forum for news on the develop+
COMICS-L	COMICS-L@UNLVM	COMICS Discussion List
COMICW-L	COMICW-L@UNLVM	COMIC Writers Workshop
COMLAW-L	COMLAW-L@UALTAVM	Computers and Legal Education
COMMCOLL	COMMCOLL@UKCC	COMMCOLL - a discussion list for community a+
COMMDIS	COMMDIS@RPITSVM	Speech disorders
COMMED	COMMED@RPITSVM	Communication education
COMMJOBS	COMMJOBS@RPITSVM	Position announcements in Communication Stud+
COMMODOR	COMMODOR@UBVM	COMMODORE COMPUTERS DISCUSSION
COMMUNET	COMMUNET@UVMVM	Communet: Community and Civic Network Discus+
COMMUNIK	COMMUNIK@UQUEBEC	Si les communications t'interessent (usagers+
COMP-CEN	COMP-CEN@UCCVMA	Computer Center Managers' Issues
COMP-SCI	COMP-SCI@TAUNIVM	Comp-Sci Distribution List
COMPIL-L	COMPIL-L@AUVM	Redistribution of comp.compilers
COMPMED	COMPMED@WUVMD	Comparative Medicine List
COMPOS	COMPOS@FINHUTC	Composing Digest
COMPSY-L	COMPSY-L@UIUCVMD	Midwest Forum for community/ecological psych+
COMPTECH	COMPTECH@TTUVM1	Computing issues at Texas Tech
COMSOC-L	COMSOC-L@AUVM	Computers and Society ARPA Digest
COMTEC-L	COMTEC-L@NMSUVM1	NCTE Scitech committee list
COMTEN-L	COMTEN-L@UCSBVM	COMTEN FEP and Related Products
COM337	COM337@PUCC	COM 337 Discussion list.
COM338	COM338@PUCC	COM 338 Discussion list.
COM470-L	COM470-L@NMSUVM1	Ken Hacker's Class
CONCHR-L	CONCHR-L@TEMPLEVM	Conservative Christian Discussion List
COND-MAL	COND-MAL@JPNYITP	Preprint server for Condensed Matter
CONFLIST	CONFLIST@UCSFVM	School of Medicine Conference List
CONFOCAL	CONFOCAL@UBVM	Confocal Microscopy List
CONFSERV	CONFSERV@PSUVM	University Conference Services
CONNECT	CONNECT@UNMVMA	IETF ISN WG Subcommittee on Connectivity

Mod+
CONS-L CONS-L@MCGILL1 CONSULTANTS FORUM
CONSALD CONSALD@UTXVM Comm. on South Asian Libraries and
Documenta+
CONSBIO CONSBIO@UWAVM CONSBIO
CONSBIO- CONSBIO-@UWAVM CONSBIO-L
CONSIM-L CONSIM-L@UALTAVM Conflict simulation Games
CONSLINK CONSLINK@SIVM Discussion on Biological Conservation
CONSLT-L CONSLT-L@IUBVM Consultation and discussion of research
and +
CONSULT CONSULT@UMSLVMA UM-St.Louis Computer Lab Consultants -
CONSU+
CONSULT@WAYNEST1 C&IT/PaSS CONSULTING LIST
CONTENTS CONTENTS@UOTTAWA Religious Studies Publications Journal
COOPCAT COOPCAT@NERVM Cooperative Cataloging Discussion Group
COOPRARE COOPRARE@FRORS12 RARE and EARN Cooperation
COORBR-L COORBR-L@BRUFMG Lista para troca de informacoes entre os
coo+
COORDCOM COORDCOM@MSU Football Info Server
CORECURR CORECURR@MSU Core Curricula
CORRIM-L CORRIM-L@UWAVM CORRIM-L COMMITTEE ON RENEWABLE RESOURCES
FO+
COSNDISC COSNDISC@BITNIC Consortium for School Networking
Discussion +
COSW-L COSW-L@ASUACAD COSW-L
COUNTY-L COUNTY-L@VTVM1 All Virginia Counties on LGNET
COUPROG COUPROG@UOGUELPH PROGRAM COMMITTEE DISCUSSION
COURTSHP COURTSHP@TAMVM1 For discussion of research and ideas
relatin+
CPAC-L CPAC-L@MARIST ConnectPac(tm) Discussion list
CPE-LIST CPE-LIST@UNCVM1 Computer Performance Evaluation.
CPGIS-L CPGIS-L@UBVM Chinese Professionals Geographic
Information+
CPI-L CPI-L@CUNYVM CPI-L: College Preparatory Initiative List
(+
CPRI-COD CPRI-COD@UMAB CPRI: Subgroup - "codes" of Work Group 3
on +
CPRI-COD@UWAVM CPRI: Subgroup - "codes" of Work Group 3
on +
CPRI-WG3 CPRI-WG3@UMAB CPRI: Work Group 3 on Codes and
Structures.
CPRI-WG3@UWAVM CPRI: Work Group 3 on Codes and
Structures.
CPRIDEMO CPRIDEMO@WUVMD Demonstration Projects Work Group of the
Com+
CPR4-L CPR4-L@UIUCVMD CP release 4 discussions
CPR5-L CPR5-L@UIUCVMD CP release 5 discussions
CPS-L CPS-L@HEARN CPS-L: Centre for Pacific Studies
Discussion+
CPSR CPSR@GWUVM Computer Professionals for Social
Responsibi+
CPT-L CPT-L@PURCCVM Mailing list for all CPT students
CPTCOOP CPTCOOP@PURCCVM CPT Co-op discussion list
CPTFAC-L CPTFAC-L@PURCCVM All CPT Faculty
CPTLAB-L CPTLAB-L@PURCCVM CPT Lab discussion list
CPTSTAFF CPTSTAFF@PURCCVM All CPT Faculty/Clerical/Admin Staff &
PSTECH

CPT155-L CPT155-L@PURCCVM CPT 155 discussion List
CPT305-L CPT305-L@PURCCVM CPT 305 discussion list
CPT365-L CPT365-L@PURCCVM CPT 365 discussion list
CPT487D CPT487D@PURCCVM CPT 487D discussion list
CREA-CPS CREA-CPS@HEARN CREA-CPS Creativity and Creative Problem Sol+
CREAD CREAD@YORKVM1 Latin American and Caribbean Electronic Dist+
CREAD-D CREAD-D@YORKVM1 Occasional Digest of CREAD@vm1.yorku.ca Post+
CREATE-L CREATE-L@ASUACAD CREATE-L
CRENBDST CRENBDST@BITNIC CREN Board and Staff Principals
CRENDOC CRENDOC@BITNIC CREN Documentation Review list
CRENLIST CRENLIST@BITNIC CREN RFP list
CRENONLY CRENONLY@BITNIC CRENONLY Board of Trustees Mailing List
CRENTECH CRENTECH@BITNIC CREN Technical Committee
CREWRT-L CREWRT-L@MIZZOU1 Creative Writing in Education for Teachers a+
CRICKET CRICKET@NDSUVM1 Cricket Redistribution
CROMED-L CROMED-L@AEARN CROatian MEDical List
CROSS-L CROSS-L@UMINN1 (Peered) CROSS-L Cross Cultural Research in +
CRP510 CRP510@UNMVMA Planning and Communications Studio
CRTNET CRTNET@PSUVM Communication Research and Theory Network
CRYPTO-L CRYPTO-L@JPNTUVM0 Forum on Cryptology and Related Mathematics
CSA-DATA CSA-DATA@UICVM Chinese Statistical Archive
CSAC CSAC@UVMVM CSAC: CSAC Conference Administation
CSACM-L CSACM-L@MIZZOU1 Mizzou Student ACM Chapter Discussion
CSAMIGA CSAMIGA@DEARN CSAMIGA COMP.SYS.AMIGA.TECH redist.
CSCI207 CSCI207@INDYCMS Learning List for CSCI207
CSEMLIST CSEMLIST@HASARA11 List of the Society of Computational Economi+
CSG-L CSG-L@UIUCVMD Control Systems Group Network (CSGnet)
CSI-L CSI-L@MAINE CSI Management
CSISU-L CSISU-L@UNCCVM Carolina SIS User Discussion
CSLESL CSLESL@PSUVM Regional DEC CSLG/ESL Discussions
CSMS93-L CSMS93-L@UMSLVMA Planning for ACM/SIGUCCS CSMS XX
CSMS94-L CSMS94-L@UMSLVMA Computer Services Management Symposium - XXI+
CSNPROJ CSNPROJ@IUBVM Community Service Project Discussion List - +
CSP-L CSP-L@TREARN Cross System Product Discussion List
CSR-L CSR-L@UALTAVM University of Alberta Center for Systems Res+
CSRNOT-L CSRNOT-L@UIUCVMD Center for the Study of Reading Contact list+
CSS-L CSS-L@UBVM Univ of Buffalo Chinese Students and Scholar+
CSSA-L CSSA-L@AUVM Chinese Student and Scholar List
CSSE-L CSSE-L@UALTAVM CSSE Discussion List.
CSSUL-L ULCSS-L@ULKYVM UofL Chinese Student group
CSSWU-L CSSWU-L@WUVMD Chinese Students List
CSTG-L CSTG-L@VTVM1 CSTG-L DISCUSSION LIST
CSTORE CSTORE@MSU MSU Computer Store
CSYS-AMI CSYS-AMI@UMAINECS Re-distribution of Comp.sys.amiga from usenet

CSYS-L	CSYS-L@UALTAVM	COPPUL Systems Group
CS1OBJ-L	CS1OBJ-L@PSUVM	Object Oriented Programming in the First Year
CS256	CS256@IPFWVM	CS256 COURSE DISCUSSION LIST
CTC-L	CTC-L@BRUFSC	Divulgacao de eventos do Centro Tecnologico +
CTURTLE	CTURTLE@NERVM	Sea Turtle Biology and Conservation
CTYTWN-L	CTYTWN-L@VTVM1	All Virginia Cities and Towns On LGNET
CUBA-L	CUBA-L@UNMVMA	Cuba today Spanish/English
CUC-L	CUC-L@FRORS12	Comite des Utilisateurs du CIRCE
CUFMA-L	CUFMA-L@SUVM	College and University Facilities Management+
CUFSTECH	CUFSTECH@CUVMC	CUFSTECH
CULTU7-L	CULTU7-L@NMSUVM1	Communication Class Project
CUMCC-L	CUMCC-L@ULKYVM	CUMREC Communication Committee
CUMREC-L	CUMREC-L@NDSUVM1	CUMREC-L Administrative computer use
CUPLE-L	CUPLE-L@UBVM	CUPLE (Physics Learning Environment) Softwar+
CUR-L	CUR-L@NCSUVM	Council on Undergraduate Research List
CURDEV-L	CURDEV-L@PSUORVM	CURDEV-L Science Curriculum Development List.
CURRENTS	CURRENTS@PCCVM	South Asian News and Culture Electronic Maga+
CURRICUL	CURRICUL@PURCCVM	CPT Curriculum Mailing List
CVUTNET	CVUTNET@CSEARN	Diskusni klub o provozu site CVUT
CW-EMAIL	CW-EMAIL@TECMTYVM	Campus-Wide Electronic Mail Systems discussi+
CWC94-L	CWC94-L@MIZZOU1	MU's 94 Computers and Writing Conference
CWIS-L	CWIS-L@WUVMD	Campus-Wide Information Systems
CYAN-TOX	CYAN-TOX@GREARN	The Cyanobacterial Toxins Discussion List
CYBER-L	CYBER-L@BITNIC	(Peered) CYBER List
	CYBER-L@DEARN	(Peered) CYBER List
	CYBER-L@HEARN	(Peered) CYBER List
	CYBER-L@MARIST	(Peered) CYBER List
	CYBER-L@UGA	(Peered) CDC Computer Discussion
CYBERLAW	CYBERLAW@WMVM1	The Law and Policy of Computer Networks
CYBSYS-L	CYBSYS-L@BINGVMB	Cybernetics and Systems
CZE-ITP	CZE-ITP@CSBRMU11	CZE-ITP Discussion on Problems of Capillary +
C18-L	C18-L@PSUVM	18th Century Interdisciplinary Discussion
C3NI-L	C3NI-L@FRMOP11	Utilisateurs C3NI
C370-L	C370-L@USCVM	C/370 Discussion List
D-ORAL-L	D-ORAL-L@NIHLIST	Oral Microbiology/Immunology Interest Group
D-PERIO	D-PERIO@NIHLIST	NIDR, Periodontal Diseases Program Discussio+
DAIRY-L	DAIRY-L@UMDD	Dairy Discussion List.
DAL-L	DAL-L@MITVMA	Data Access Language List (DAL - formerly CL+
DALNET	DALNET@WAYNEST1	Detroit Area Library Network Discussion List
DANCE-HC	DANCE-HC@CUNYVM	DANCE-HC: Dance Heritage Coalition Listserv +
DANCE-L	DANCE-L@HEARN	International folkdance and traditional danc+
DANISMAN	DANISMAN@TRITU	TUVAKA Servisleri Danisma Listesi
DANNY	DANNY@UWAVM	LISTNAME Short Oneline Description

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DARGON-L          DARGON-L@BROWNVM  Dargon Project Writers Forum
DAS-L             DAS-L@UBVM        UB Distributed Application Support
Discussio+
DASP-L            DASP-L@CSEARN     Digital Acoustic Signal Processing
DATAEASE          DEASE-L@AKRONVM   DataEase Discussion List
DATANET           DATANET@TAUNIVM   Social Sciences Data List
DATAPERF          DATAPERF@WSUVM1   DataPerfect User Group
DATPERS           DATPERS@YORKVM1   DATPERS - Dalit and Tribal Peoples
Electroni+
DATUS-L           DATUS-L@DEARN     DATUS Anwendergruppe
DBASE-L           DBASE-L@HEARN     Info-uitwisseling Ashton.Tate en
contactpers+
                  DBASE-L@NMSUVM1   (Peered) Discussion on the use of the
dBase +
                  DBASE-L@TECMTYVM  (Peered) Discussion on the use of the
dBase +
DBCLASS           DBCLASS@PURCCVM   CPT 382/482 discussion list
DBDOMAIN          DBDOMAIN@ICNUCEVM DBDOMAIN Italian Domains Database
DBGARRPE          DBGARRPE@ICNUCEVM GARR-PE Data Database Documentation of
GARR-+
DBIPNET           DBIPNET@ICNUCEVM  DBIPNET Data Database
DBLIST            DBLIST@UMAB       Databases for Dentistry
DBL3-L            DBL3-L@LEPICS     Open forum on L3 Databases
DB2-L             DB2-L@AUVM        DB2 Data Base Discussion List
DCCFUA-L          DCCFUA-L@BRLNCC   Forum do Depto. de Ciencia da Computacao
da +
DCEAK-L           DCEAK-L@DGOGWDG1  Probleme der verteilten Datenverarbeitung
DCRAVES           DCRAVES@AUVM      Washington D.C. Rave List
DCRLY-L           DCRLY-L@AUVM      Wash_DC Relay Mailing List
DDFIND-L          DDFIND-L@GITVM1   "Forum for Information Networking on
Disabil+
DDMS-L            DDMS-L@UCSBVM     Display Device Management System (DDMS)
Disc+
DDS-L             DDS-L@EMUVM1      Document Delivery Services
DEAF-L            DEAF-L@SIUCVMB    DEAF LIST
DEAFBLND          DEAFBLND@UKCC     DEAFBLND--Deaf-Blind Mailing List
DEAR-BOD          DEAR-BOD@IRLEARN  EARN Directors - open submission
DEARNADM          DEARNADM@DEARN    Node administrators/contacts of German
EARN +
DEARNDIR          DEARNDIR@DEARN    Directors of German EARN nodes/sites
DEBATE            DEBATE@LMUACAD    DEBATE
DECMCC-L          DECMCC-L@AUVM     DEC DECmcc and Related Software
DECNEWS           DECNEWS@UBVM      Digital Equipment Corporation EDU News
List
DECRDB-L          DECRDB-L@SBCCVM   Digital Equipment Corporation Relational
Dat+
DECTEI-L          DECTEI-L@UBVM     DEC's The Education Initiative Discussion
Li+
DECUS_H           DECUS_H@GREARN    Decus Hellas
DECUS_M           DECUS_M@GREARN    Decus Hellas Members List
DEELT-L           DEELT-L@BRUFMG    Professores/pesquisadores ligados aos
Deptos+
DEEPSEA           DEEPSEA@UVVM      Deep Sea and Vent News
DEF-PBX           DEF-PBX@UMDD      DEFINITY PBX Group
DEF-SEC           DEF-SEC@UMDD      DEFINITY Security Issues Group
DEF-SYSM          DEF-SYSM@UMDD     DEFINITY System Management Products Group
DEF-VP            DEF-VP@UMDD       DEFINITY Voice Processing Products Group
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DEFINITY	DEFINITY@UMDD	DEFINITY User Group
DEGAS	DEGAS@UQUEBEC	DEGAS THE "DEGAS" NETWORK
DELINKF	DELINKF@DEARN	German LINKFAIL list
DELTACHI	DELTACHI@UBVM	Delta Chi Fraternity Discussion List
DEMING-L	DEMING-L@UHCCVM	The W. Edwards Deming Forum
DEMO	DEMO@UQUEBEC	Liste de demonstration
DEMO-L	DEMO-L@IUBVM	Demonstration list for testing only
	DEMO-L@JPNSUT10	demonstration for JPNSUT20
DEMOLIST	DEMOLIST@BITNIC	Demonstration List
DENIZ-L	DENIZ-L@TRITU	Gemi Insaati/Makinalari ve Deniz Bilimleri
DENTAL	MEMBERS@UMAB	DENTAL TEST LIST
DENTAL-L	DENTAL-L@IRLEARN	Cosine Project - Dental Research unit, UCC
DENTALMA	DENTALMA@UCF1VM	For Dentistry related articles reports and
t+		
DEOS-L	DEOS-L@PSUVM	DEOS-L - The Distance Education Online
Sympo+		
DEOSNEWS	DEOSNEWS@PSUVM	DEOSNEWS - The Distance Education Online
Sym+		
DEPORTES	DEPORTES@ANDESCOL	Actividad Deportiva Mundial
DERRIDA	DERRIDA@CFRVM	A discussion of Jacques Derrida and
Deconstr+		
DESIGN-L	DESIGN-L@PSUVM	Basic and applied design (Art and
Architectu+		
	DESIGN-L@UKANVM	KU Computer Center Local Area Networking
Des+		
DESQVIEW	DESQVIEW@BRUFPB	List for Desqview and Qemm users
DEVEL-L	DEVEL-L@AUVM	Technology Transfer in International
Develop+		
DFHSM-L	DFHSM-L@UNCVM1	DFHSM Users List.
DFNMVS	DFNMVS@DEARN	(Peered) DFN-Software Diskussionsforum MVS
DFNVM	DFNVM@DEARN	(Peered) DFN-Software Diskussionsforum VM
DGTLCLAS	DGTLCLAS@MCGILL1	Discussion on Digital Media and Multi
Media +		
DHEP-L	DHEP-L@DEARN	DHEP-L
DHEPTC-L	DHEPTC-L@DEARN	DHEPTC-L
DIABETES	DIABETES@IRLEARN	International Research Project on Diabetes
DIABETIC	DIABETIC@PCCVM	Open Discussion forum for DIABETIC patient
c+		
DIAL-L	DIAL-L@BRLNCC	USUARIOS REMOTOS VIA LINHA DISCADA
DIATOM-L	DIATOM-L@IUBVM	Research on the diatom algae
DICKNS-L	DICKNS-L@UCSBVM	Charles Dickens Forum
DIET	DIET@UBVM	Support and Discussion of Weight Loss
DIGIT-L	DIGIT-L@CFRVM	DIGIT
DINI-L	DINI-L@DEARN	DINI-L Mailliste fuer die Diplomanden-und
Do+		
DIPL-L	DIPL-L@MITVMA	Discussion Group for the Game Diplomacy
DIR-L	DIR-L@UTORONTO	Domain Directors
DIRECT-L	DIRECT-L@UAFSYSB	MacroMind Director for the Macintosh
DIS-L	DIS-L@IUBVM	Drosophila workers to receive DIS
Newsletter		
DISARM-D	DISARM-D@ALBNYVM1	Disarmament Discussion Monthly Digest
DISARM-L	DISARM-L@ALBNYVM1	Disarmament Discussion List
DISASTER	DISASTER@UTXVM	Disaster Plans and Recovery Resources
DISPRAC	DISPRAC@RPITSVM	Disciplinary Practices in Comm. Studies
DISRES-L	DISRES-L@RYERSON	Disability Research List
DISSPLA	DISSPLA@TAUNIVM	DISSPLA List
DIST-CPM	DIST-CPM@RPITSVM	INFO-CPM Mailing List

DIST-MDM	DIST-MDM@RPITSVM	INFO-MODEMS Mailing List
DIST-MIC	DIST-MIC@RPITSVM	Info-Micro Mailing List
DISTDIR	DISTDIR@VTVM1	VCES District Director Userids
DISTED	DISTED@UWAVM	Online Journal of Distance Ed. and Communica+
DITTO-LIST	DITTO-L@AWIIMC12	Data Interfile Transfer, Testing and Operati+
DIVERS-L	DIVERS-L@PSUVM	Diversity List
DIVERSE	DIVERSE@MSU	Diversity In Development
DIV28	DIV28@GWUVM	APA's Division 28 Discussion List
DIV34	DIV34@POLYVM	Rich Wener DIV34 Distribution List
DJ-L	DJ-L@NDSUVM1	DJ-L Campus Radio Disk Jockey Discussion List
DKB-L	DKB-L@TREARN	DKB/POV Ray Tracer Development List
DKBGUI	DKBGUI@TREARN	DKB Ray Tracer Graphical Interface Developme+
DKBPORT	DKBPORT@TREARN	DKB Ray Tracer - Porting it to other Platfor+
DLDG-L	DLDG-L@IUBVM	DLDG-L Dance Librarians Discussion Group
DMA-LIST	DMA-LIST@HEARN	DMANET
DNA-L	DNA-L@UCSFVM	Departmental Network Administrators List
DNC-L	DNC-L@DEARN	DNC-L
DNN-L	DNN-L@AUVM	DevelopNet News distribution
DOC-COOR	DOC-COOR@IRISHVMA	Documentation Coordinators
DOCDIS	DOCDIS@UA1VM	DOCDIS Discussion List
DOCSM	DOCSM@ICNUCEVM	DOCSM Data Database Documentazione Sala Mac+
DOHMEM-L	DOHMEM-L@ALBNYDH2	NEW YORK STATE DEPARMENT OF HEALTH MEMORANDA
DOLLH-L	DOLLH-L@FERRIS	DOLLH-L Doll's House Construction and Enjoym+
DOMAIN	DOMAIN@ICNUCEVM	NIS Gestione Domini Posta Elettronica
DOMAIN-L	DOMAIN-L@BITNIC	(Peered) Domains Discussion Group
	DOMAIN-L@DEARN	(Peered) Domain discussion group
	DOMAIN-L@HEARN	(Peered) Domain discussion group
	DOMAIN-L@MARIST	(Peered) Domain discussion group
	DOMAIN-L@UGA	(Peered) Domains Discussion Group
DOMAINIT	DOMAINIT@IBACSATA	Responsabili dei domini Italiani di Posta el+
DOMAINS	DOMAINS@UKACRL	
DORMS-L	DORMS-L@TECMTYVM	Residence Halls: Something more than a place+
DOROTHYL	DOROTHYL@KENTVM	Mystery Literature E-conference
DOSRZ-L	DOSRZ-L@DOSUNI1	MS-DOS-Probleme, (lokale Liste, Uni Osnabrue+
DOST	DOST@TREARN	Turkish Scientists' Discussion Group
DOX	DOX@ITOCSIVM	TEST DATA BASE DOCS: DBASE INFORMATIVO
DPASYM-L	DPASYM-L@FRCPN11	bb DELPHI inclusive Sub-Groups
DPC-L	DPC-L@YALEVM	Digital Preservation Consortium List
DPMA-L	DPMA-L@PURCCVM	Discussion list for Purdue chapter of DPMA
DPMAST-L	DPMAST-L@CMSUVMB	Data Processing Management Association
DPRB-L	DPRB-L@ALBNYDH2	Data Protection Review Board Correspondence
DRIV-L	DRIV-L@TAMVM1	The TUG DVI driver standards discussion list
DRP-L	DRP-L@MARIST	Disaster Recovery Plan for Computing Services

DRS	DRS@DARTCMS1	Dead Runners Society
DRT	DRT@UTXVM	Dead Runners Texas
DRUGABUS Research	DRUGABUS@UMAB	Drug Abuse Education Information and
DRUGHIED	DRUGHIED@TAMVM1	Drug Abatement Research Discussion
DSI list	DSI@MAINE	DSI - Employer/Employee cross reference
DTEAM-L	DTEAM-L@VTVM1	Diversity Team Discussion List
DTS-L	DTS-L@IUBVM	Dead Teachers Society Discussion List
DUB-MAN	DUB-MAN@IRLEARN	Dublin Metropolitan Area Network Project
DUVAR-L	DUVAR-L@TRITU	Genel Amacli Duyuru ve Tartisma Listesi
DYLANDOG	DYLANDOG@IGECUNIV	DylanDog - Dylan Dog Fan Club List
DYNSYS-L	DYNSYS-L@PTEARN	UNC/ACS Dynamic Systems.
	DYNSYS-L@UNCVM1	UNC/OIT Dynamic Systems.
D20A-L Huntsman +	D20A-L@MITVMA	10 Player Diplomacy Game List (Sam
E-EUROPE	E-EUROPE@PUCC	Eastern Europe Business Network
E-HUG	E-HUG@DARTCMS1	Electronic Hebrew Users Newsletter
E-POETRY	E-POETRY@UBVM	Electronic Poetry Distribution List
EAESPNET	EAESPNET@BNANDP11	EAESP Forum
EARAM-L	EARAM-L@KENTVM	Society of Early Americanists
EARLYM-L	EARLYM-L@AEARN	Early Music List
EARN-BOD	EARN-BOD@IRLEARN	EARN Board of Directors
EARN-IXI	EARN-IXI@FRMOP11	EARN-IXI Testing
EARN-MC	EARN-MC@IRLEARN	EARN Membership Committee
EARN-NOG	EARN-NOG@FRMOP11	Network Operations Group
EARN-RTC	EARN-RTC@IRLEARN	EARN RTC Users Group
EARN-SNA	EARN-SNA@FRMOP11	EARN-SNA Coordination
EARN-UG	EARN-UG@IRLEARN	EARN Users Group Discussion List
EARNBRUK	EARNBRUK@NOBIVM	List for EARN users i Norway.
EARNDOC	EARNDOC@EARNCC	EARN Documentation List
EARNEST	EARNEST@FRORS12	EARN Newsletter Broadcasting
EARNEWS	EARNEWS@FRMOP11	EARN News
EARNEXEC	EARNEXEC@FRORS12	EARN Executive
	EARNEXEC@IRLEARN	EARN Executive
EARNINFO	EARNINFO@EARNCC	EARN Group on Information Services
EARNSITE (cerrad+	EARNSITE@EBCESCA1	Lista de miembros Espanyoles de EARN
EARNSTAT	EARNSTAT@DEARN	EARN Statistics Group
	EARNSTAT@EARNCC	EARN Statistics Group
EARNTECH	EARNTECH@BITNIC	(Peered) EARN Technical Group
	EARNTECH@CEARN	(Peered) EARN Technical Group
	EARNTECH@DEARN	(Peered) EARN Technical Group
EASI-EPC	EASI-EPC@DEARN	EASInet Project Committee
EASIWG-L	EASIWG-L@RITVM	EASI On-line Working Group
EAT-L	EAT-L@VTVM2	FoodLore/Recipe Exchange
EAWOP-L Organiz+	EAWOP-L@HEARN	The European Association of Work and
ECAPS	ECAPS@GWUVM	ECAPS Research Projects Discussion List
ECC-L	ECC-L@MCGILL1	Engineering Committee on Computing
ECCIRN-O	ECCIRN-O@HEARN	EuroCCIRN Open Distribution List
ECENET-L (0-+	ECENET-L@UIUCVMD	Early childhood education/young children
ECEOL-L li+	ECEOL-L@MAINE	Early Childhood Education On-Line mailing
ECL3-L	ECL3-L@LEPICS	Open forum on the ECL3 program
ECOLOG-L	ECOLOG-L@UMDD	Ecological Society of America: grants,

jobs,+
ECONED-L ECONED-L@UTDALLAS Research in Economic Education
ECONOM-L ECONOM-L@BRUFSC (Peered) FORUM ECONOM-L - Discussao sobre ec+
ECONOMY ECONOMY@TECMTYVM Economic Problems in Less Developed Countries
ECOSYS-L ECOSYS-L@DEARN ECOSYS-L Liste fuer 'ecosystem theory and mo+
ECO92-L ECO92-L@BRUFMG Grupo de discussao da ECO 92
ECRICOME ECRICOME@FREIA11 Discussion on ECRICOME's Business Schools Ne+
ECU-L ECU-L@ECUVM1 East Carolina University User and Alumni List
EC431-L EC431-L@YALEVM Former Soviet Union (FSU) Economics List - E+
EDAD-L EDAD-L@WVNVM Educational Administration Discussion List
EDD-L EDD-L@KENTVM The EDD Data Editor List
EDFA-L EDFA-L@PURCCVM Purdue Educational Foundations and Administr+
EDI-L EDI-L@UCCVMA Electronic Data Interchange Issues
EDISTA EDISTA@USACHVM1 "Educacion a Distancia"
EDLAW EDLAW@UKCC Law and Education
EDNETNY EDNETNY@SUVM Educational Development Network of New York
EDPOLYAN EDPOLYAN@ASUACAD Professionals and Students Discussing Educat+
EDPOLYAR EDPOLYAR@ASUACAD EDUC POLICY ANALYSIS ARCHIVES: An Electronic+
EDSTAT-L EDSTAT-L@NCSUVM Statistics Education Discussion
EDTECH EDTECH@OHSTVMA EDTECH - Educational Technology
EDU-EXEC EDU-EXEC@UBVM DECUS EDUSIG Executive & Steering Committees+
EDUC EDUC@UQUEBEC Chercheurs en education
EDUCOM-W EDUCOM-W@BITNIC EDUCOM-W - EDUCOM Women and Information Tech+
EDUMATE EDUMATE@USACHVM1 "Educacion Matematica en Chile"
EDUSIG-L EDUSIG-L@UBVM DECUS EDUSIG Discussion List
EDUTEL EDUTEL@RPITSVM Education and information technologies
EEC-L EEC-L@AUVM European Training and Technology List
EE598C-L EE598C-L@IRISHVM Object oriented mailing list
EF-L EF-L@NOBIVM Diskusjon om Norge, EF og EOES. (Norwegian).
EGRET-L EGRET-L@DARTCMS1 Discussion of EGRET epidemiological software
EHS-L EHS-L@ALBNYDH2 EHS-L Environmental Health System
EIEI-L EIEI-L@UTFSM Encuentro Iberoamericano de Estudiantes de I+
EISSIG EISSIG@ASUACAD Executive Information Systems Special Intere+
EJCREC EJCREC@RPITSVM Electronic Journal of Communication
EJVC-L EJVC-L@KENTVM Electronic Journal on Virtual Culture
EL-VALLE EL-VALLE@ANDESCOL Hablemos del Valle del Cauca
ELAG-L ELAG-L@HEARN ELAG-L: Library Automation in Europe
ELDNET-L ELDNET-L@UIUCVMD (ASEE) Engineering Libraries Division Network
ELEASAI ELEASAI@ARIZVM1 Open Lib/Info Sci Research Forum
ELECT-L ELECT-L@PCCVM Discussion of running political campaigns

at+
ELENCHUS ELENCHUS@UOTTAWA Christianity in Late Antiquity Discussion Gr+
ELLASBIB ELLASBIB@GREARN List for the Greek Library Automation System.
ELLHNIKA ELLHNIKA@DHDURZ1 ELLHNIKA Distribution List for ???????? TeX+
ELTMAG-L ELTMAG-L@BRUFMG Grupo de discussao na area de eletromagnetis+
ELTPOT-L ELTPOT-L@BRUFMG Grupo de discussao na area de eletronica de +
EMACS EMACS@TCSVM (Peered) UNIX-EMACS distribution list
EMAIL-L EMAIL-L@ALBNYDH2 List about EMAIL at NYDoH
EMAIL-L@EMUVM1 Electronic Mail at Emory
EMAILMAN EMAILMAN@VTVM1 Learning about accessing electronic informat+
EMBINFO EMBINFO@IBACSATA EMBNet (European Molecular Biology Network) +
EMBLGR EMBLGR@GREARN Greek EMBL Managment List.
EMEDCH-L EMEDCH-L@USCVM The Early Medieval China Mailing List
EMERG-L EMERG-L@MARIST Emergency Services Discussion List
EMFLDS-L EMFLDS-L@UBVM Electromagnetics in Medicine, Science & Comu+
EMHIST-L EMHIST-L@RUTVM1 (Peered) EMHIST-L Early Modern History Forum
EMHIST-L@USCVM (Peered) EMHIST-L Early Modern History Forum
EMPACT EMPACT@UCSFVM EMPACT! News
EMRG-L EMRG-L@UCSBVM Emergency Information List Server for UCSB
EMSNY-L EMSNY-L@ALBNYDH2 EMS Issues for NYS Providers
EMUFOC-L EMUFOC-L@EMUVM1 Emory FOCUS Discussion Group
EMULPC EMULPC@USACHVM1 "Emulation SW & HW on the IBM-PC"
EMUNIM EMUNIM@MSU Jewish Campus Network in Michigan
EMUSIC-D EMUSIC-D@AUVM Electronic Music Digest
EMUSIC-L EMUSIC-L@AUVM Electronic Music Discussion List
ENDIF-L ENDIF-L@WVNVM Enterprise Network Data Interconnectivity Fa+
ENDNOTE ENDNOTE@UCSBVM EndNote/EndLink Users Forum
ENERGY-L ENERGY-L@TAUNIVM Energy List
ENGLISH ENGLISH@UTARLVM1 Dept. of English Discussion
ENGLMU-L ENGLMU-L@MIZZOU1 ENGLMU-L
ENGRNEWS ENGRNEWS@UICVM Engineering Undergraduate News
ENG339-L ENG339-L@UBVM English 339 Class List
ENG501-L ENG501-L@UBVM English 501 Class List
ENTOBR-L ENTOBR-L@BRUFMG Forum de discussao de Entomologia no Brasil
ENTOMO-L ENTOMO-L@UOGUELPH ENTOMO-L DISCUSSION LIST
ENTRENAR ENTRENAR@HARVARDA Mellon-LASPAU training participants support +
ENVBEH-L ENVBEH-L@POLYVM Forum on Environment and Human Behavior
ENVST-L ENVST-L@BROWNVM Environmental Studies Discussion List
EOCHR-L EOCHR-L@QUCDN Eastern Orthodox Christianity discussion
EPISTEMO-L EPISTEMO@UFRJ Forum de Debates do PROTEM - RJ
EPP-L EPP-L@BUACCA Albert Einstein Papers Project and Discussio+
EPPD-L EPPD-L@UNBVM1 Engineering and Public Policy Discussion List

EPUBS-L	EPUBS-L@UBVM	Ad-Hoc UB Electronic Publications Task Force+
EQUINE-D	EQUINE-D@PCCVM	Rec.Equestrian Digest
EQUINE-L	EQUINE-L@PCCVM	(Peered) Discussion forum for Horse fanciers
	EQUINE-L@PSUVM	(Peered) Discussion forum for Horse fanciers
ERAPPA-L	ERAPPA-L@PSUVM	Association of Physical Plant Administrators
ERC	ERC@FRMOP11	Equipe Reseau du CNUSC
ERIC-L	ERIC-L@IUBVM	Experimental list for teaching and study of +
ERUDITIO	ERUDITIO@ASUACAD	ERUDITIO: KNOWLEDGE THROUGH ELECTRONIC COMMU+
ESBDC-L	ESBDC-L@FERRIS	ESBDC-L Small Business Development Centers L+
ESE-L	ESE-L@SBCCVM	Expert Systems Environment mailing list.
ESIABUDG	ESIABUDG@GWUVM	ESIA Budgeted Faculty Discussion List
ESIAFAC	ESIAFAC@GWUVM	ESIA Faculty Discussion List
ESPANA-L	ESPANA-L@ALBNYVM1	Discussion Spain and its people
ESPER-L	ESPER-L@TREARN	Esperanto List
ESPORA-L	ESPORA-L@UKANVM	History of the Iberian Peninsula
ESSCO-L	ESSCO-L@UOTTAWA	Engineering Student Societies Council of Ont+
ESTAG-L	ESTAG-L@BRUFMG	Lista para troca de informacoes entre os est+
ES001	ES001@GWUVM	Engineering Science Orientation Discussion L+
ETHCSE-L	ETHCSE-L@UTKVM1	Ethical Issues in Software Engineering
ETHICRND	ETHICRND@UICVM	CAUSE - Electronic Rountable Discussion on E+
ETHICS-L	ETHICS-L@DEARN	(Peered) Discussion of Ethics in Computing
	ETHICS-L@MARIST	(Peered) Discussion of Ethics in Computing
	ETHICS-L@POLYVM	(Peered) Discussion of Ethics in Computing
	ETHICS-L@UGA	(Peered) Discussion of Ethics in Computing
ETHIQUE	ETHIQUE@UDESVM	RESEAU QUEBECOIS DES ETHICIENNES ET ETHICIENS
ETHMUS-L	ETHMUS-L@UMDD	EthnoFORUM, a global ethnomusicology forum.
ETHNO	ETHNO@RPITSVM	Ethnomethodology/conversation analysis
ETHNOHIS	ETHNOHIS@HEARN	ETHNOHIS: General Ethnology and History Disc+
ETHOLOGY	ETHOLOGY@SEARN	Ethology
EU-ROUTE	EU-ROUTE@HEARN	Routers in Europe : discussion on interworki+
EU-SOAR	EU-SOAR@HEARN	EU-SOAR European SOAR research communications
EUDKRB-L	EUDKRB-L@BROWNVM	Kerberized Eudora List
EUDORA	EUDORA@UIUCVMD	Eudora mailing list
EUEARN-L	EUEARN-L@UBVM	Discussion of Eastern Europe Telecommunicati+
EUITLIST	EUITLIST@BITNIC	Educational Uses of Information Technology (+
EUNBUG-L	EUNBUG-L@EMUVM1	Emory University Nota Bene Users Group
EURO-LEX	EURO-LEX@DEARN	EURO-LEX (All EUROpean Legal Information EXc+
EV	EV@SJSUVM1	Electric Vehicle Discussion List

EWM	EWM@ICNUCEVM	EWM European Women in Mathematics
EXEC	EXEC@ICNUCEVM	Earn test EXEC Database
EXECSEC	EXECSEC@UTORONTO	Netnorth Executive Secretary
EXEC28 Discussion+	EXEC28@GWUVM	APA's Division 28 Executive Board
EXLIBRIS	EXLIBRIS@RUTVM1	Rare Books and Special Collections Forum
	EXLIBRIS@UMRVMB	UMR Library Users
EXPER-L	EXPER-L@TREARN	Experiences on Viral Attacks
EZTRV-L	EZTRV-L@ULKYVM	EZTreieve Discussion Group
FACAFF	FACAFF@PURCCVM	CPT Faculty Affairs Committee
FACILITY	FACILITY@PURCCVM	CPT Facilities Committee
FACSEN-L	FACSEN-L@UBVM	UB Faculty Senate Discussion List
FACSER-L	FACSER-L@WVNVM	Facilities and Services Discussion List
FACT-L Technology +	FACT-L@UBVM	SUNY Faculty Access to Computing
FACTCOM Technology +	FACTCOM@UBVM	SUNY Faculty Access to Computing
FACULT-L of +	FACULT-L@KENTVM	Kent State University Faculty discussion
FACULTY Academi+	FACULTY@UCSFVM	UCSF Faculty Scholorship and Related
FACXCH-L Architecture+	FACXCH-L@PSUVM	Exchange list for Department of
FALBTI-L	FALBTI-L@UTDALLAS	BTI/K200/NECU driver distribution list
FAMCOMM	FAMCOMM@RPITSVM	Marital/family & relational communication
FAMILY-L	FAMILY-L@MIZZOU1	Academic Family Medicine Discussion.
FAMLYSCI	FAMLYSCI@UKCC	Family Science Network
FAMSTECH Discussion+	FAMSTECH@ASUACAD	Financial Aid Systems - Technical
FAO-BULL Tec+	FAO-BULL@IRMFAO01	Food and Agriculture Organization, AFCO
FAO-DOC Computer+	FAO-DOC@IRMFAO01	Food and Agriculture Organization -
FAO-INFO L+	FAO-INFO@IRMFAO01	The Food and Agriculture Organization INFO
FAOLIST Discu+	FAOLIST@IRMFAO01	Food and Agriculture Organization Open
FAPERJ-L	FAPERJ-L@BRLNCC	BOLETIM INFORMATIVO DA FAPERJ
FAQ	FAQ@UNMVMA	Sub-committee of ISN/IETF WG
FASTBS-L	FASTBS-L@UALTAVM	FASTBUS Discussion
FASTLN-L News+	FASTLN-L@VTVM1	(Peered) Virginia Tech Computing Center
	FASTLN-L@VTVM2	(Peered) Virginia Tech Computing Center
News+		
FBS-L	FBS-L@FREIA11	Discussion on French Business Schools
FEDJOBS	FEDJOBS@DARTCMS1	Federal Job Bulletin Board
FEDSIG-L Gro+	FEDSIG-L@WVNVM	Federal Electronic Data Special Interest
FELINE-L	FELINE-L@PCCVM	(Peered) Discussion forum for Cat fanciers
	FELINE-L@PSUVM	(Peered) Discussion forum for Cat fanciers
FEMINIST	FEMINIST@MITVMA	ALA Feminist Task Force Discussion List
FEMREL-L femi+	FEMREL-L@MIZZOU1	Open discussion of women, religion, and
FEMSEM list	FEMSEM@SBCCVM	Stony Brook Feminist Philosophy Mailing
FET-NET peri+	FET-NET@HEARN	Topics concerning research in fetal and

FIBROM-L Discussio+	FIBROM-L@UIUCVMD	FIBROM-L Fibromyalgia / Fibrositis
FICTION	FICTION@PSUVM	Fiction Writers Workshop
FIGI-L (FIG+	FIGI-L@BRUSPVM	Forth Interest Group International List
FILM-L	FILM-L@ITESMVF1	Film making and reviews list.
FILMUS-L	FILMUS-L@IUBVM	Film Music Discussion List
FINAID-L	FINAID-L@PSUVM	Administration of Student Financial Aid
FINAN-HC List	FINAN-HC@WUVMD	Health Care Financial Matters Discussion
FINANCE	FINANCE@TEMPLEVM	The Electronic Journal of Finance
FINE-ART	FINE-ART@RUTVM1	(Peered) Fine-Art Forum
FINISP-L	FINISP-L@UKANVM	Financial ISP Announcements/Discussion
FINVOL-L Volunt+	FINVOL-L@VTVM1	VCES Satellite Training for Financial
FIPEFS-L Finance	FIPEFS-L@UICVM	Fiscal Issues, Policy and Education
FIREARMS	FIREARMS@UTARLVM1	FIREARMS Discussion List
FISC-L Academ+	FISC-L@NDSUVM1	FISC-L Fee-Based Info Serv Centers in
FISICA-L	FISICA-L@BRUFMG	(Peered) Forum FISICA-L
	FISICA-L@UFRJ	(Peered) Forum FISICA-L
	FISICA-L@UKACRL	Forum FISICA-L
FIT-L list.	FIT-L@ETSUADMN	Exercise, diet, and wellness discussion
FITNESS	FITNESS@INDYCMS	Fitness and the IUPUI campus
FJ-ROSA	FJ-ROSA@AKRONVM	Faulkner Journal Editor List
FLAC-L	FLAC-L@BROWNVM	Foreign Language Across Curriculum List
FLADOCS	FLADOCS@NERVM	Southeast Document Librarians
FLAIRS Sym+	FLAIRS@UCF1VM	FLorida Artificial Intelligence Research
FLAX-L	FLAX-L@HARVARDA	Fulbright-LASPAU Academic eXchange
FLEXWORK	FLEXWORK@PSUHMC	Flexible Work Environment List
FLIPPER Ed+	FLIPPER@NERVM	"Fla. Libr. Interested in Preserv. Pgms.,
FLITSERV	FLITSERV@SIUCVMB	FLITSERV LIST
FLYFISH	FLYFISH@UMAB	Fly Fishing Digest
FNORD-L	FNORD-L@UBVM	New Ways of Thinking List
FOCUS-L	FOCUS-L@ASUACAD	FOCUS-L
FOLKLORE	FOLKLORE@TAMVM1	Folklore Discussion List
FOODWINE	FOODWINE@CMUVM	Discussion List for Food and Wine
FORAGE-L	FORAGE-L@UNLVM	FORAGE Discussion List
FORBEQ	FORBEQ@UFRJ	Forum de Engenharia Quimica
FORENSIC MORTA+	FORENSIC@UNMVMA	FORENSIC MED., ANTHRO., DEATH INVEST.,
FORKNI-L	FORKNI-L@PSUVM	Forever Knight TV show
FORMS-L	FORMS-L@UCSFVM	Online form templates discussion list
FORSUM-L	FORSUM-L@BROWNVM	Forest Summit Online Project
FRAC-L	FRAC-L@GITVM1	"FRACTAL" discussion list
FRANCEHS	FRANCEHS@UWAVM	FRANCEHS List for French history scholars
FREE-L	FREE-L@INDYCMS	Fathers' Rights and Equality Exchange
FREETALK	FREETALK@BROWNVM	(Peered) A list for free-talking
	FREETALK@KRSNUCC1	(Peered) A list for free-talking
FRIEND-L	FRIEND-L@TREARN	FRIEND Server Discussions
FROGJOBS	FROGJOBS@BITNIC	FROGJOBS
FROGPROF of +	FROGPROF@BITNIC	AATFREN American Association of Teachers

FROGTALK	FROGTALK@BITNIC	FROGTALK
FRONTIER	FRONTIER@DARTCMS1	Discussion of Userland Frontier for Macintosh
FSDNURSE	FSDNURSE@UNCVM1	Federal Service Doctoral Nurses List.
FSEC-L	FSEC-L@UBVM	UB Faculty Senate Executive Committee Discus+
FSSC-L	FSSC-L@GSUVM1	Field Service Steering Comm., NAFSA
FSVS-L	FSVS-L@CSEARN	Free software na VS - zdroje, instalace, pou+
FTPSEGI	FTPSEGI@BLIULG11	FTPSEGI Program Information List
FULBNEWS	FULBNEWS@BRLNCC	FULBRIGHT Educational Advising Newsletter
FUNCT-AL	FUNCT-AL@JPNYITP	Preprint server for Functional Analysis
FUNDACJA	FUNDACJA@PLEARN	The Foundation of the Search and Academic Co+
FUNDLIST	FUNDLIST@JHUVM	List for the discussion of university fund r+
FUSION	FUSION@NDSUVM1	Fusion - Redistribution of sci.physics.fusion
FUTURE-L	FUTURE-L@BITNIC	(Peered) The Future of BITNET
	FUTURE-L@DEARN	(Peered) Discussion about the future of BITN+
	FUTURE-L@HEARN	(Peered) Discussion about the future of BITN+
	FUTURE-L@MARIST	(Peered) The future of BITNET
	FUTURE-L@UGA	(Peered) The Future of BITNET
FWAKE-L	FWAKE-L@IRLEARN	Finnegans Wake (by James Joyce) Discussion L+
FWAKEN-L	FWAKEN-L@IRLEARN	Finnegans Wake - Textual Notes
GAELIC-L	GAELIC-L@IRLEARN	GAELIC Language Bulletin Board
GALACTIC	GALACTIC@UGA	GALACTIC Industries Discussion
GAMES-L	GAMES-L@BROWNVM	(Peered) Computer Games List
	GAMES-L@GREARN	(Peered) Computer Games List
	GAMES-L@KRSNUCC1	(Peered) Computer Games List
	GAMES-L@UTARLVM1	(Peered) Computer Games List
GAMS-L	GAMS-L@DEARN	GAMS user list
GARDENS	GARDENS@UKCC	Gardens & Gardening
GARR-IP	GARR-IP@ICNUCEVM	GARR-IP Gruppo di Lavoro reti IP
GARR-PE	GARR-PE@IBACSATA	GARR (Research Networks Harmonization Group)+
GARR-PMN	GARR-PMN@ITOCSIVM	GARR Piemonte.
GAY-LIBN	GAY-LIBN@USCVM	The Gay/Lesbian/Bisexual Librarians Network
GBRC-L	GBRC-L@LEPICS	L3 Analysis Group Beta Resource Commitment
GC-L	GC-L@URIACC	GC-L, Global Classroom: International Studen+
GCS-L	GCS-L@UIUCVMD	GCS discussions
GDDM-L	GDDM-L@POLYVM	The GDDM Discussion list
GEACMUS	GEACMUS@RUTVM1	GEAC Music Users List
GEEE-L	GEEE-L@BRUFMG	Forum de discussao do GEEE-L
GEMINI	GEMINI@NRCVM01	Gemini Project
GENDER	GENDER@RPITSVM	Study of communication and gender
GEODESIC	GEODESIC@UBVM	List for the discussion of Buckminster Fulle+
GEOGRAPH	GEOGRAPH@SEARN	Geography
GEOLOGY	GEOLOGY@PTEARN	Geology Discussion List
GEONET-L	GEONET-L@IUBVM	GEONET-L Geoscience Librarians & Information+

GEOREF	GEOREF@UNALCOL	SISTEMAS DE INFORMACION GEO-REFERENCIAL
GER-RUS	GER-RUS@NDSUVM1	GER-RUS Germans from Russia
GERINET	GERINET@UBVM	Geriatric Health Care Discussion Group
GERLINGL	GERLINGL@UIUCVMD	Older Germanic languages (to 1500), their li+
GFULMED	GFULMED@NDSUVM1	GFULMED Grateful Med via BITNET
GGUIDE	GGUIDE@BITNIC	(Peered) BITNET User's Guide List
	GGUIDE@DEARN	(Peered) Users Guide list
	GGUIDE@HEARN	(Peered) Users Guide list
	GGUIDE@MARIST	(Peered) Users Guide list
	GGUIDE@UGA	(Peered) BITNIC GGUIDE List
GI-LST	GI-LST@FRSAC12	Liste gi
GIF-L	GIF-L@ITESMVF1	GIF Graphics and applications list.
GIGA	GIGA@DEARN	Leserforum des Informationsdienstes 'GIGA'
GIGA-L	GIGA-L@DEARN	GIGA - GeNeRIC Informationen GMD Ankuendigun+
GIK2-L	GIK2-L@AWIIMC12	Graphics Interface Kit/2 Discussion
GIS-L	GIS-L@UBVM	Geographic Information Systems Discussion Li+
GISMO-L	GISMO-L@UCF1VM	UCF-IST GISMO Game List
GI3ABS-L	GI3ABS-L@DHDURZ1	GI-ABS Mailing list
GLED	GLED@UICVM	Great Lakes Economic Development Research Gr+
GLFR92-L	GLFR92-L@BRUFMG	Grupo de discussoes do Forum Global da ECO 92
GLOBLX-L	GLOBLX-L@QUCDN	Global Christianity discussion
GLOMOD-L	GLOMOD-L@UHCCVM	The Global Modeling Forum
GLOSAS	GLOSAS@MCGILL1	* +
GLOSAS-L	GLOSAS-L@UOTTAWA	GLObal Systems Analysis and Simulation List
GLRC	GLRC@SUVM	Great Lakes Research Consortium Information +
GMAST-L	GMAST-L@UTCVM	Gamemasters Interest Group
GMRLIST	GMRLIST@UICVM	GMRLIST List Greater Midwest Region Health S+
GNI-L	GNI-L@BROWNVM	Global Nomads List
GN9AM	GN9AM@SAUPM00	9th Annual Gulfnet Meeting Discussion List
GOHCS7L	GOHCS7-L@MSU	GOH Productions/Seven Loaves
GOLF-L	GOLF-L@UBVM	The Golf Discussion List
GONE-L	GONE-L@TAUNIVM	GONE Rexx EXEC discussion list
GOP-L	GOP-L@PCCVM	A discussion of all things Republican and Co+
GOPHER-L	GOPHER-L@UMSLVMA	The UM-St.Louis Gopher discussion group
GOPUB-L	GOPUB-L@BROWNVM	Translating Formatted Text to ASCII Discussi+
GOULDBUG	GOULDBUG@CLVM	Gould CSD User's List
GOVDOC-L	GOVDOC-L@PSUVM	(Peered) Discussion of Government Document I+
	GOVDOC-L@UALTAVM	(Peered) Discussion of Government Document I+
GPNDG	GPNDG@WSUVM1	Great Pacific Northwest Gather
GPTEAM	GPTEAM@POLYVM	The Green Pages Team Discussion
GR-QC-L	GR-QC-L@JPNYITP	Preprint server for General Relativity & Qua+
GRADCOLL	GRADCOLL@UVMVM	GRADCOLL: Graduate College News List
GRADREF	GRADREF@TEMPLEVM	CAS GRADREF INFORMATION

GRAFIK-L	GRAFIK-L@DEARN	GRAFIK-L
GRAFOS-L computaciona+	GRAFOS-L@UFRJ	GRAFOS-L Aspectos matematicos e
GRANOLA	GRANOLA@VTVM2	GRANOLA: Vegetarian Discussion List
GRANT and +	GRANT@GWUVM	Fulbright Awards and Grants for Faculty
GRANT-L	GRANT-L@UA1VM	OSP Funding Alert List
GRAPH-L C+	GRAPH-L@BRUFPB	Mathematical aspects of Computer Graphics,
	GRAPH-L@YALEVM	Yale University Graphics Users
GRAPH-TI Calculat+	GRAPH-TI@OHSTVMA	GRAPH-TI Texas Instruments Graphing
GRAPH-UG	GRAPH-UG@SAUPM00	KFUPM Graphics Users Group.
GRAPHICS Li+	GRAPHICS@OHSTVMA	GRAPHICS OSU Computer Graphics Discussion
GRAPHIX	GRAPHIX@UTFSM	Graphics Formats List IDX GIF FLI ETC.
GRAPHNET	GRAPHNET@NDSUVM1	GRAPHNET - Graph Theory
GRAVITY Spacet+	GRAVITY@UWF	Gravity Topics for Spacetime Course -
GRDEMP-L	GRDEMP-L@UBVM	Graduate employment issues discussion list
GRFTP-L	GRFTP-L@GREARN	TESTFTP server discussion list.
GRLINKFL	GRLINKFL@GREARN	Greek EARN Linkfail List
GRMNHIST	GRMNHIST@DGOGWDG1	(Peered) GRMNHIST - German History Forum
	GRMNHIST@USCVM	(Peered) GRMNHIST - German History Forum
GRNSCH-L	GRNSCH-L@BROWNVM	Green School List
GRTECH	GRTECH@GREARN	Greek EARN Technical Group List
GRUDES-L pertinent+	GRUDES-L@BRUFSC	(Peered) FORUM GRUDES-L - Assuntos
GRUFO-L	GRUFO-L@DGOGWDG1	Gruppenforschung / Forum
GRUNGE-L	GRUNGE-L@UBVM	Grunge Rock Discussion List
GRUPIN-L	GRUPIN-L@DGOGWDG1	Group Research / International
GSA Discussi+	GSA@IUBVM	GSA - Genetic Stock Administrator's
GSEAA-L	GSEAA-L@UCSBVM	UCSB GSE Alumni Discussion List
GSLIS-L Informati+	GSLIS-L@UTKVM1	UTK Graduate School of Library and
GTRTI-L	GTRTI-L@GSUVM1	Research & Teaching in Global Info Tech
GUASTITP la +	GUASTITP@ICNUCEVM	CNUCE Reparto Infrastrutture di Rete per
GUIDO-L	GUIDO-L@UALTAVM	Guiding Users to Icpsr Data On-Line
GUM	GUM@BRUFMG	Grupo de Usuarios MUSIC do Brasil (GUM)
GUN-NEWS and+	GUN-NEWS@PCCVM	News and information related to Firearms
GUTNBERG	GUTNBERG@UIUCVMD	Project Gutenberg Email List
GWCOMM	GWCOMM@GWUVM	GWU's GWCOMM Discussion List
GWDG-NEU	GWDG-NEU@DGOGWDG1	Mitteilungen der GWDG
GWDTCP-L	GWDTCP-L@DGOGWDG1	TCP/IP-Liste der GWDG
GWEMAIL	GWEMAIL@GWUVM	E-Mail/OA Task Force List
GWHONORS	GWHONORS@GWUVM	GWU's Honors Program Discussion List
GWPC	GWPC@GWUVM	GWPC Discussion List
GWTESTL	GWTESTL@GWUVM	Test list for LISTSERV at GWU
H-NET Research +	H-NET@HUEARN	Discussion on Hungarian Academic &
H-PROMO	H-PROMO@RYERSON	Health Promotion Research List
H-URBAN	H-URBAN@UICVM	H-URBAN Urban History discussion list
HABSBURG	HABSBURG@PURCCVM	Austrian History since 1500
HALRC-L	HALRC-L@UNCVM1	Health Affairs LRC.

HAM-UNIV	HAM-UNIV@UMAINECS	University HAM Radio club mailing list
HARLIC-L	HARLIC-L@RICEVM1	HARLIC Libraries Discussion Group
HARNTECH	HARNTECH@HKUVM1	HARNET Technical Group
HASAFRAN	HASAFRAN@OHSTVMA	HASAFRAN The AJL Discussion Forum
HBONE-L	HBONE-L@HUEARN	Hungarian IP Backbone
HC-L	HC-L@ALBNYDH2	HC-L HEALTHCOM/VM Discussion
HCDB-L	HCDB-L@LEPICS	Open forum on the Hadron Calorimeter Data Ba+
HCFNET	HCFNET@UCSBVM	Humanities Computing Facilities Network
HCISTN-L	HCISTN-L@VTVM1	HCISTN-L Discussion List
HDESK-L	HDESK-L@WVNVM	Help Desk Discussions
HDR-PPL	HDR-PPL@MARIST	Header-People Discussion
	HDR-PPL@UIUCVMD	Hdr-Ppl (log files only)
HEALTH-L	HEALTH-L@IRLEARN	International Discussion on Health Research
HEALTHCO	HEALTHCO@RPITSVM	Communication in health/medical context
HEALTHRE	HEALTHRE@UKCC	Health Care Reform Discussion List
HEAVY-L	HEAVY-L@LEPICS	Heavy Monte-Carlo Flavours Subgroup
HEBREW-L	HEBREW-L@UMINN1	(Peered) HEBREW-L Jewish & Near Eastern Stud+
HEDSDIRS	HEDSDIRS@BITNIC	HEDSDIRS - HEDS Board of Directors and Staff+
HEDTEC-L	HEDTEC-L@ALBNYVM1	Technology Impacts on Higher Education
HED320	HED320@MSU	EAD Student Communication
HEGEL	HEGEL@VILLVM	Discussion list for HEGEL society.
HELLAS	HELLAS@AUVM	(Peered) The Hellenic Discussion List
	HELLAS@BROWNVM	(Peered) The Hellenic Discussion List
	HELLAS@UGA	(Peered) The Hellenic Discussion List
HELP-NET	HELP-NET@TEMPLEVM	Bitnet/Internet Help Resource
HELPDESK	HELPDESK@INDYCMS	IUPUI Help Desk Staff List
HELPNET	HELPNET@NDSUVM1	HELPNET Network Emergency Response Planning
HELWA-L	HELWA-L@PSUVM	Malaysian Women in U.S. and Canada
HEP-LATL	HEP-LATL@JPNYITP	Preprint server for Computational and Lattic+
HEP-PH-L	HEP-PH-L@JPNYITP	Preprint server for Particle Phenomenology
HEP-TH-L	HEP-TH-L@JPNYITP	Preprint server for String/Conformal/Field T+
HEPDB	HEPDB@CERNVM	HEPDB Distribution List
HEPHIN	HEPHIN@ICNUCEVM	HEPHIN Discussion List
HEPIX-F	HEPIX-F@FRCPN11	HEP Unix France
HERB	HERB@TREARN	Medicinal and Aromatic Plants discussion lis+
HERS-L	HERS-L@UVMVM	Hers-l: Higher Education Resource Services m+
HESSE-L	HESSE-L@UCSBVM	The Works of Hermann Hesse
HHI-RES	HHI-RES@UTARLVM1	HHI Research Findings
HHS-L	HHS-L@UBVM	Huntington High School Discussion List
HINDU-D	HINDU-D@ARIZVM1	Hindu Digest
HINTS-L	HINTS-L@ALBNYDH2	HINTS-L HINTS using the NYS Dept of Health P+
HIRIS-L	HIRIS-L@ICINECA	HIgh Resolution Infrared Spectroscopy - List
HIROKO	HIROKO@JPNSUT30	(Peered) Taniyama Hiroko list group
HIS-WG20	HIS-WG20@UCDCVDLS	AMIA Hospital Information Systems - Working +
HISLAW-L	HISLAW-L@ULKYVM	History of Law (Feudal, Common, Canon)

HIST-L	HIST-L@UKANVM	(Peered) History - Peer Distribution List
HISTEC-L	HISTEC-L@UKANVM	History of evangelical Christianity
HISTORY	HISTORY@CSEARN	(Peered) History
	HISTORY@DGOGWDG1	(Peered) History
	HISTORY@IRLEARN	(Peered) History
	HISTORY@MCGILL1	(Peered) History - History Discussion Forum
	HISTORY@PSUVM	(Peered) History
	HISTORY@RUTVM1	(Peered) History Discussion List
	HISTORY@UBVM	(Peered) History
	HISTORY@UMRVMB	(Peered) History Discussion List
HISTORYA	HISTORYA@UWAVM	HISTORYA History Department
HISTORYF	HISTORYF@UWAVM	LISTNAME History Faculty
HISTOWNR	HISTOWNR@UBVM	HistOwnr - Discussion list for owners of his+
HIS393	HIS393@SBCCVM	Stony Brook HIS393 Discussion List
HIT	HIT@UFRJ	Highly Imaginative Tech and Science Fiction
HKN-L	HKN-L@ASUACAD	Eta Kappa Nu Discussion List
HLPCMD-L	HLPCMD-L@BROWNVM	HELP Commands for VM/CMS
HL4H-L	HL4H-L@VTVM1	Holiday Lake 4H Center
HN-ASK-L	HN-ASK-L@UKANVM	History Network Forum
HN-ORG-L	HN-ORG-L@UKANVM	The History Network
HOCKEY-D	HOCKEY-D@MAINE	A digest of HOCKEY-L - The College Hockey Di+
HOCKEY-L	HOCKEY-L@MAINE	College Hockey discussion list
HOLISTIC	HOLISTIC@SIUCVMB	Holistic Discussion Group
HOLMES	HOLMES@OHSTVMA	HOLMES ED School Reform
HOMESAT	HOMESAT@NDSUVM1	HOMESAT - Home Satellite Technology
HONDA-L	HONDA-L@BROWNVM	Honda Digest
HONORS	HONORS@GWUVM	National Collegiate Honors Council Discussio+
HONRDS	HONRDS@GWUVM	HONR 71.13, Western Civilization Course Disc+
HOPOS-L	HOPOS-L@UKCC	A Forum for Discussion of the History of the+
HORROR	HORROR@PACEVM	Horror Films and Fiction
HORT-L	HORT-L@VTVM1	Va Tech Horticulture Dept. - Monthly Releases
HORTPGM	HORTPGM@VTVM1	Va Tech Horticulture Dept. - Programs in Con+
HOSPEX	HOSPEX@PLEARN	HOSPitality EXchange database (homestays) HO+
HOSPEX$P	HOSPEX$P@PLEARN	Discussion of HOSPEX policies: HOSPEX$P
HOSPEX-L	HOSPEX-L@PLEARN	HOSPitality EXchange (homestays) discussion +
HOTEL-L	HOTEL-L@MIZZOU1	Hotel and Restaurant Educators Discussion
HP-28	HP-28@NDSUVM1	HP-28 - HP-28C and HP-28S Calculators
HP-48	HP-48@NDSUVM1	HP-48 - HP-48sx Hand Held System
HPMINI-L	HPMINI-L@UAFSYSB	Hewlett-Packard 9000 Series MiniComputer Dis+
HPSST-L	HPSST-L@QUCDN	History and Philosophy of Science and Scienc+
HP3000-L	HP3000-L@UTCVM	HP-3000 Systems Discussion
HQ-L	HQ-L@PSUHMC	HealthQuest Products Discussion List
HRD-L	HRD-L@MIZZOU1	Human Resource Development Group List
HRIS-L	HRIS-L@UALTAVM	Human Resources Information (Canada)

HRM-L	HRM-L@NMSUVM1	Management 332 Class Discussion
HRMS-L	HRMS-L@UKANVM	KU Student Records Information System Staff
HRS-IDMS	HRS-IDMS@UNMVMA	IA HRS IDMS discussion list
HSNETM-L	HSNETM-L@MIZZOU1	Health Sciences LAN Management Discussion Li+
HSPBED-L	HSPBED-L@ALBNYDH2	HSPBED-L Hospital Bed Availability in NY Sta+
HSPNET-D	HSPNET-D@ALBNYDH2	Hospital Computer Network Discussion Group a+
HSPNET-L	HSPNET-L@ALBNYDH2	Hospital Computer Network Discussion Group a+
HTECH-L	HTECH-L@SIVM	HTECH-L History of Technology Discussion
HTUG-L	HTUG-L@HUEARN	Hungarian Transputer User's Group
HUCFF-L	HUCFF-L@BRLNCC	Staff computacional do Hospital Universitari+
HUEARN-L	HUEARN-L@HUEARN	Discussion on the Hungarian EARN
HUEARN-X	HUEARN-X@HUEARN	Hungarian EARN executive board discussion
HULINTRO	HULINTRO@HARVARDA	HULINTRO - Harvard University Library Introd+
HUMAGE	HUMAGE@ASUACAD	HUMAGE-L: Humanistic Effects of Aging
HUMAGE-L	HUMAGE-L@ASUACAD	HUMAGE-L: Humanistic Effects of Aging
HUMANETS	HUMANETS@RUTVM1	Human Nets Digest
HUMANIST	HUMANIST@BROWNVM	HUMANIST: Humanities Computing
HUMBUL	HUMBUL@UKACRL	HUMBUL
HUME-L	HUME-L@WMVM1	Hume Discussion List
HUMEVO	HUMEVO@GWUVM	Human Evolutionary Research Discussion List
HUMHUM	HUMHUM@PUCC	Humanities 204 Professors Discussion List
HUMSPC-L	HUMSPC-L@BROWNVM	Humanist Special List
HUM204	HUM204@PUCC	Humanities 204 Discussion list
HUM3301	HUM3301@UTEPA	Modern European / Atlantic Culture - at UTEP
HUNGARY	HUNGARY@GWUVM	Hungarian Discussion List
	HUNGARY@UCSBVM	Hungarian Discussion List
HYPBAR-L	HYPBAR-L@TECHNION	HyperBaric & Diving Medicine List
HYPERCRD	HYPERCRD@MSU	Hypercard Discussion List
HYPERMED	HYPERMED@UMAB	Biomedical Hypermedia Instructional Design
HYPER93	HYPER93@INDYCMS	Integrated Technologies' Hypermedia Conferen+
HYTEL-L	HYTEL-L@KENTVM	HYTELNET Updates Distribution.
I-AMIGA	I-AMIGA@RUTVM1	(Peered) Info-Amiga List
	AMIGA-L@UALTAVM	(Peered) Info-Amiga List
	I-AMIGA@UBVM	(Peered) Info-Amiga List
	I-AMIGA@UTARLVM1	(Peered) Info-Amiga List
I-IBMPC	I-IBMPC@UIUCVMD	IBM PC discussions
I-PASCAL	I-PASCAL@UTFSM	Info-Pascal List Peer of Internet.
I-REDES	I-REDES@UTFSM	Lista sobre acceso a redes WAN (INTERNET, UU+
I-UNIX	I-UNIX@TCSVM	Info-Unix distribution list
I-VIDTEK	I-VIDTEK@UIUCVMD	VideoTech
IA-ADS	IA-ADS@MARIST	IA's ADS Discussion
IA-FRS	IA-FRS@MARIST	IA's FRS Discussion
IA-HRS	IA-HRS@MARIST	IA's HRS Discussion
IA-SCT	IA-SCT@MARIST	Discussion of SCT's acquisition of IA
IA-SIS	IA-SIS@MARIST	IA's SIS Discussion
IAC	IAC@NRCVM01	Informatics Advisory Committee

IAC-L	IAC-L@IRLEARN	Irish Academic Computing
IAFA-L	IAFA-L@VTVM1	Scholarly discussion of Fantastic Literature
IAIMU-L	IAIMU-L@ULKYVM	IDMS-based I/A software discussion list
IAMCRNET	IAMCRNET@RPITSVM	A service of IAMCR/AIERI
IAMEX-L	IAMEX-L@TECMTYVM	Artificial Intelligence list of ITESM.
IANETW-L	IANETW-L@BRUSPVM	Forum de discussao sobre Inteligencia Artifi+
IAP-PLAN	IAP-PLAN@NDSUVM1	International Arctic Project Planning
IAPABOVE	IAPABOVE@IUBVM	International Arctic Project POISON FROM ABO+
IAPADV	IAPADV@IUBVM	International Arctic Project Adventure - Rea+
IAPCIRC	IAPCIRC@IUBVM	International Arctic Project CIRCLES AND CYC+
	IAPCIRC@NDSUVM1	International Arctic Project Student Projects
IAPEXPED	IAPEXPED@IUBVM	International Arctic Project Expedition
	IAPEXPED@NDSUVM1	International Arctic Project Expeditions
IAPHS	IAPHS@IUBVM	International Arctic Project HIGH SCHOOL
IAPLAND	IAPLAND@IUBVM	International Arctic Project LAND
IAPLIFE	IAPLIFE@IUBVM	International Arctic Project LIFE
IAPPLAN	IAPPLAN@IUBVM	International Arctic Project Planning
IAPSY-L	IAPSY-L@ALBNYVM1	Interamerican Psychologists List (SIPNET)
IAPWILD	IAPWILD@IUBVM	International Arctic Project Wildlife
	IAPWILD@NDSUVM1	International Arctic Project Wildlife
IAPWIRE	IAPWIRE@IUBVM	International Arctic Project WIRE SERVICE
IATEX-L	IATEX-L@TAMVM1	INFORMATION ASSOCIATES OF TEXAS USERS GROUP
IAUG-L	IAUG-L@PSUVM	International AIX Users Group
IAUP-UN	IAUP-UN@BITNIC	IAUP-UN Int'l Assoc of Univ Presidents, UN C+
IBIS-L	IBIS-L@UICVM	IBIS-L LIST
IBM-HESC	IBM-HESC@PSUORVM	IBM Higher Education Consortium
IBM-KERM	IBM$KERM@CUVMB	IBM mainframe KERMIT developers
IBM-MAIL	IBM-MAIL@EARNCC	Discussion list about IBMMAIL facilities
IBM-MAIN	IBM-MAIN@AKRONVM	(Peered) IBM Mainframe Discussion List
	IBM-MAIN@DEARN	(Peered) IBM Mainframe Discussion List
	IBM-MAIN@RICEVM1	(Peered) IBM Mainframe Discussion list
	IBM-MAIN@RUTVM1	(Peered) IBM Mainframe Discussion List
	IBM-MAIN@UA1VM	(Peered) IBM Mainframe Discussion List
IBM-NETS	IBM-NETS@BITNIC	(Peered) BITNIC IBM-NETS List
	IBM-NETS@UGA	(Peered) IBM Networking
IBM-SRD	IBM-SRD@NDSUVM1	IBM-SRD Screen Reader
IBMAS-L	IBMAS-L@IRISHVMA	IBM's Application System
IBMFTN	IBMFTN@UCLACN1	IBM Field Television Network schedule distri+
IBMSND-L	IBMSND-L@BROWNVM	MSDOS Sound Card Forum and Discussion List
IBMTCP-L	IBMTCP-L@PUCC	IBM TCP/IP List
IBM7171	IBM7171@IRLEARN	Protocol Converter List
	IBM7171@TCSVM	(Peered) Protocol Converter list
	IBM7171@UIUCVMD	Log files only
IBYCUS-L	IBYCUS-L@USCVM	The Ibycus Scholarly Computer discussion list
ICAM-L	ICAM-L@IRMFAO01	ICAM - Integrated Coastal Area Management IC+
ICEBERG	ICEBERG@BRLNCC	Forum de Ciencia da Informacao

ICEE94-L	ICEE94-L@UGA	International Conference on Environmental Et+
ICEN-L	ICEN-L@IUBVM	ICEN-L International Career and Employment N+
ICME-NET	ICME-NET@QUCDN	International Concern for the Middle East
ICOMALL	ICOMALL@JPNIMRTU	ICOM USER
ICONOL-L	ICONOL-L@UBVM	Iconology Discussion List
ICRC-L	ICRC-L@IRLEARN	22nd Int'l Cosmic Ray Conference List
ICS-L	ICS-L@UMDD	International Chemometrics Society
IDAHONET	IDAHONET@IDBSU	IDAHONET@IDBSU - ACADEMIC AND ADMINISTRATIVE+
IDFORUM	IDFORUM@YORKVM1	Industrial Design Forum
IDMS-L	IDMS-L@UGA	CA-IDMS Discussion
IDS	IDS@SUVM	Indonesian Development Studies - Network
IDS-CLUB	IDS-CLUB@UICVM	IDS Club
IEDUCOM	IEDUCOM@USACHVM1	"Informatica y Computacion en Educacion"
IEEE	IEEE@USACHVM1	"Eventos en Ingenieria Electrica e Informati+
IEEE-EGE	IEEE-EGE@TREARN	IEEE Ege Student Branch Discussion and Annou+
IEEE-L	IEEE-L@BINGVMB	List for all EE students
IEEE-TR	IEEE-TR@TRITU	IEEE Turkey Section Communication List
IERGNRL	IERGNRL@TECHNION	I.E.& M. - General User Group
IERLIST	IERLIST@TECHNION	I.E.& M. - Faculty
IES-L	IES-L@PSUVM	Illuminating Engineering Society (IES)
IFCSS-L	IFCSS-L@ULKYVM	CSS comunity leaders group
IFCSS-NL	IFCSS-NL@PSUORVM	IFCSS Newsletter Mailing List.
IFILAUGH	IFILAUGH@BROWNVM	If I Laugh Music List
IFIP-MMM	IFIP-MMM@IBACSATA	IFIP Multimedia Multimode Messaging
IFIP82-L	IFIP82-L@BINGVMB	International Federation for Information Pro+
IFIP84	IFIP84@UKACRL	IFIP84
IFPHEN-L	IFPHEN-L@WSUVM1	Interfacial Phenomena Interest List
IFPS-L	IFPS-L@VTVM2	Interactive Financial Planning System
IHOUSE-L	IHOUSE-L@WUVMD	International House Newsletter Prototype List
IIESCNET	IIESCNET@ASUACAD	IIE Student Communications Network
IIF-FELH	IIF-FELH@HUEARN	IIF felhasznalok levelezese
IIF-KOOR	IIF-KOOR@HUEARN	IIF koordinator lista
IIRG	IIRG@UICVM	IIRG List Illinois Internet Resources Group
IIRS	IIRS@TAUNIVM	Israeli Information Retrieval Specialists Li+
IL-ADS	IL-ADS@TAUNIVM	IL-ADS -- Israel Bulletin Board for Advertis+
IL-BOARD	IL-BOARD@TAUNIVM	IL-BOARD -- Israel Bulletin Board Service
IL-FAIL	IL-FAIL@TAUNIVM	Israeli System and Network Failure List
IL-TALK	IL-TALK@TAUNIVM	IL-TALK -- Israel General Discussion Forum
ILAS-NET	ILAS-NET@TECHNION	ILAS-NET - The International Linear Algebra +
ILASTEST	ILASTEST@TECHNION	ILASTEST - The International Linear Algebra +
ILL-L	ILL-L@UVMVM	ILL-L: Interlibrary Loan discussion group
ILSPEEDE	ILSPEEDE@UIUCVMD	ILLLINOIS ACRAO SPEEDE DISCUSSION LIST
IMAGE-L	IMAGE-L@TREARN	Image Processing And Applications
IMAGEN-L	IMAGEN-L@UOGUELPH	IMAGEN Laser Printer Discussion
IMAGRS-L	IMAGRS-L@CSEARN	Digital Image Processing of Remotely

Sensed +
IMAMEDIA IMAMEDIA@UMDD Compatability of Multimedia Applications
IMIA-L IMIA-L@UMAB International Medical Informatics Assn.
Boar+
IMIGNET IMIGNET@SUVM Interdisciplinary Multicultural Interest
Gro+
IMUG-L IMUG-L@OHSTVMA IMUG-L Innopac Music Users Group
IN-NOTIS IN-NOTIS@IRISHVMA Indiana NOTIS Sites and Users
INCENTER INCENTER@UNMVMA International Center
INDEX-L INDEX-L@BINGVMB Indexer's Discussion Group
INDIA INDIA@PCCVM The India List
INDIA-D INDIA-D@TEMPLEVM (Peered) The India Interest Group at
TEMPLEVM
INDIA-D@UKCC (Peered) The India Interest Group at UKCC
INDIA-D@UTARLVM1 (Peered) The India Interest Group at
UTARLVM1
INDIA-L INDIA-L@TEMPLEVM (Peered) The India News Network (at
TEMPLEVM)
INDIA-L@UKCC (Peered) The India News Network (at UKCC)
INDIA-L@UTARLVM1 (Peered) The India News Network (at
UTARLVM1)
INDIANWS INDIANWS@PCCVM The India List (NeWS)
INDNOTIS INDNOTIS@INDYCMS NOTIS Implementation in Indiana
INDVIRUS INDVIRUS@PURCCVM Virus Info for Universities in Indiana
(Indi+
INDYMAIN INDYMAIN@INDYCMS IUPUI Mainframe Discussion List
INDYSAS INDYSAS@INDYCMS SAS at IUPUI
INDYSPSS INDYSPSS@INDYCMS SPSSx at IUPUI
INF-Z100 INF-Z100@CLVM Heath/Zenith Z100 Information Mailing List
INFO-ADA INFO-ADA@NDSUVM1 Ada programming language (INFO-ADA)
INFO-APP INFO-APP@NDSUVM1 INFO-APP Info-Apple List
INFO-ATARI16 INFO-A16@MARIST INFO-ATARI16 Discussion
INFO-ATARI8 INFO-A8@MARIST (Peered) INFO-ATARI8 Discussion
INFO-AUX INFO-AUX@PUCC LISTSERV list for A/UX discussion and
softwa+
INFO-A8 INFO-A8@TCSVM (Peered) INFO-ATARI8 Discussion
INFO-C INFO-C@NDSUVM1 Info-C List
INFO-C@UIUCVMD INFO-C (log files only)
INFO-GCG INFO-GCG@UTORONTO INFO-GCG: GCG Genetics Software Discussion
INFO-IBMPC IBMPC-L@BNANDP11 (Peered) INFO-IBMPC Digest
IBMPC-L@CEARN (Peered) Info-IBMPC Digest
IBMPC-L@DEARN (Peered) IBMPC-L
IBMPC-L@HEARN (Peered) IBMPC-L
IBMPC-L@POLYVM (Peered) INFO-IBMPC Digest
$$INFOPC@RICEVM1 (Peered) Info-IBMPC redistribution list
IBMPC-L@TAMVM1 (Peered) INFO-IBMPC Digest
IBMPC-L@TAUNIVM (Peered) Info-IBMPC Digest
IBMPC-L@UBVM (Peered) INFO-IBMPC Digest
IBMPC-L@UGA (Peered) INFO-IBMPC Digest
IBMPC-L@UTORONTO (Peered) IBMPC Digest
IBMPC-L@VTVM1 (Peered) INFO-IBMPC Digest
IBMPC-L@VTVM2 (Peered) INFO-IBMPC Digest
INFO-KERMIT I-KERMIT@BNANDP11 (Peered) INFO-KERMIT Digest
I-KERMIT@CLVM (Peered) INFO-KERMIT Digest
I$KERMIT@CUVMB (Peered) INFO-KERMIT Digest
I-KERMIT@DEARN (Peered) INFO-KERMIT Digest
I-KERMIT@EBCESCA1 (Peered) INFO-KERMIT Digest

	I-KERMIT@HEARN	(Peered) INFO-KERMIT Digest
	I-KERMIT@MARIST	(Peered) INFO-KERMIT Digest
	I-KERMIT@RUTVM1	(Peered) INFO-KERMIT Digest
	I-KERMIT@TCSVM	(Peered) INFO-KERMIT Digest
	I-KERMIT@UBVM	(Peered) INFO-KERMIT Digest
	I-KERMIT@UGA	(Peered) INFO-KERMIT Digest
	I-KERMIT@UTORONTO	(Peered) INFO-KERMIT Digest
	I-KERMIT@VTVM1	(Peered) INFO-KERMIT Digest
	I-KERMIT@VTVM2	(Peered) INFO-KERMIT Digest
INFO-MAC	INFO-MAC@BNANDP11	(Peered) INFO-MAC Digest
	INFO-MAC@CEARN	(Peered) INFO-MAC Digest
	INFO-MAC@DEARN	(Peered) INFO-MAC Digest
	INFO-MAC@EBCESCA1	(Peered) INFO-MAC Digest
	INFO-MAC@HEARN	(Peered) INFO-MAC Digest
	INFO-MAC@ICNUCEVM	INFO-MAC Digest
	INFO-MAC@IRLEARN	INFO-MAC list
	INFO-MAC@RICEVM1	(Peered) INFO-MAC Digest
	INFO-MAC@UIUCVMD	(Peered) INFO-MAC Digest
	INFO-MAC@UTORONTO	(Peered) INFO-MAC Digest
INFO-M2	INFO-M2@UCF1VM	Modula2 List
INFO-NETS	INFONETS@BITNIC	(Peered) Info-Nets List
	INFONETS@DEARN	(Peered) Info-Nets List
	INFONETS@HEARN	(Peered) Info-Nets List
	INFONETS@MARIST	(Peered) Info-Nets List
	INFONETS@UGA	(Peered) Info-Nets List
INFO-PC	INFO-PC@IRLEARN	Distribution of Info-IBMPC
INFO-UQ	INFO-UQ@UQUEBEC	INFO-UQ POUR EN SAVOIR DAVANTAGE SUR LA MESS+
INFO-VAX	INFO-VAX@BNANDP11	(Peered) INFO-VAX Discussion
	INFO-VAX@DEARN	(Peered) Info Vax
	INFO-VAX@HEARN	(Peered) Info Vax
	INFO-VAX@IRLEARN	(Peered) VAX Information Distribution List
	INFO-VAX@MARIST	(Peered) INFO-VAX Discussion
	INFO-VAX@TAMVM1	(Peered) INFO-VAX Discussion
	INFO-VAX@UBVM	(Peered) INFO-VAX Discussion
	INFO-VAX@UGA	(Peered) INFO-VAX Discussion
	INFO-VAX@VTVM2	(Peered) INFO-VAX Discussion
INFOCESC	INFOCESC@EBCESCA1	Llista d'Informacio del CESCA
INFOCHIM	INFOCHIM@ICINECA	INFOCHIM - Chimica Computazionale e Informat+
INFODEPT	INFODEPT@WSUVM1	Information Department List
INFOEARN	INFOEARN@EBCESCA1	Grupo de interes en la red earn espanyola.
INFOHAMS	INFOHAMS@TAUNIVM	INFOHAMS redistribution list
INFOINDX	INFOINDX@UCLACN1	UCLA CWIS Abstracts
INFORM-L	INFORM-L@VMTECSLP	Cultura Informatica en Mexico y America Lati+
INGEST	INGEST@CUVMB	Ingestive Disorders Mailing list.
INGRAFX	INGRAFX@PSUVM	Information Graphics
INHEALTH	INHEALTH@RPITSVM	International Health Communication
INIC	INIC@PTEARN	Discussao da Situacao Criada pela sua Extinc+
INNOPAC	INNOPAC@MAINE	III Online Public Access Catalog Discussion +
INNS-L	INNS-L@UMDD	International Neural Network Society
INSC-L	INSC-L@RPITSVM	International Narrative Society Conference D+
INSERM-L	INSERM-L@FRORS13	Conference electronique a l'INSERM

INSTOOLS	INSTOOLS@MCGILL1	Discussion on Technical Tools Used for Instr+
INST201	INST201@MSU	Instructors of IAH201
INT-LAW	INT-LAW@UMINN1	(Peered) INT-LAW Foreign and International L+
INTAUD-L	INTAUD-L@UALTAVM	University Internal Audit (Canada)
INTDEV-L	INTDEV-L@URIACC	International Development and Global Educati+
INTER-CH	INTER-CH@USACHVM1	(Peered) Internet - Chile
INTER-L	INTER-L@VTVM2	A list for members of NAFSA operated by VPI&+
INTERCUL	INTERCUL@RPITSVM	Study of intercultural communication
INTERF-L	INTERF-L@TAUNIVM	Israeli Group on Interfacial Phenomena
INTERNET	INTERNET@ICNUCEVM	ARPA-Internet News
INTERNS	INTERNS@PUCC	Summer CIT Humanities Interns Discussion List
INTERPER	INTERPER@RPITSVM	Interpersonal/small group communication
INTERQ-L	INTERQ-L@MCGILL1	INTERNET QUEBEC
INTGROUP	INTGROUP@NDSUVM1	INTGROUP - DATABASE Searchable Copy of INTER+
	INTGROUP@TECMTYVM	DATABASE Searchable Copy of INTEREST GROUPS +
INTUDM-L	INTUDM-L@UTEPA	Using Intuition in Decision Making
IOOB-L	IOOB-L@UGA	Industrial Psychology
IOOBF-L	IOOBF-L@UGA	Industrial Psychology Forum
IOUDAIOS	IOUDAIOS@YORKVM1	First Century Judaism Discussion Forum
IPCT-L	IPCT-L@GUVM	Interpersonal Computing and Technology
IPNIBM-L	IPNIBM-L@FRCPN11	IPN Information
IPNUNI-L	IPNUNI-L@FRCPN11	IPN Information
IPNVAX-L	IPNVAX-L@FRCPN11	IPN Information
IQSA-L	IQSA-L@GITVM1	IQSA-L Discussion List for the International+
IR-L	IR-L@UCCVMA	Information Retrieval List
IR-LIST	IR-LIST@IRLEARN	Information Retrieval Distribution List
IRCRETE	IRCRETE@IBACSATA	IRC Rete Interregionale IATINET
IRL-NET	IRL-NET@IRLEARN	Research Network
IRL-POL	IRL-POL@IRLEARN	IRL-POL - Discussion of current Irish Politi+
IROQUOIS	IROQUOIS@UTORONTO	Iroquois Language Discussion
IRSS-L	IRSS-L@UNCVM1	IRSS Staff and Users List.
IRTRAD-L	IRTRAD-L@IRLEARN	Irish Traditional Music List
ISAFPAS	ISAFPAS@ASUACAD	International Studies Association FPAS
ISAGA-L	ISAGA-L@UHCCVM	Int'l Simulation and Gaming Association Foru+
ISAPL-L	ISAPL-L@BRUFSC	(Peered) FORUM ISAPL-L - International Socie+
ISC	ISC@NRCVM01	Informatics Steering Committee
ISCAMI	ISCAMI@GREARN	Computer Assist. Management & Manipulation o+
ISDN-ITA	ISDN-ITA@ICNUCEVM	Mailing List sulla diffusione di ISDN in Ita+
ISDS	ISDS@UIUCVMD	ISDS Illini Space Development Society List
ISE-L	ISE-L@NMSUVM1	ISE LIST
ISETL-L	ISETL-L@CLVM	ISETL (Interpretive SETL) Discussion List
ISIS-L	ISIS-L@UTDALLAS	SCT ISIS product discussion list excluding B+
ISLAM-L	ISLAM-L@ULKYVM	History of Islam

ISN	ISN@RITVM	ISN Data Switch Technical Discussion Group
ISN-WG (ISN)	ISN-WG@UNMVMA	IETF WG on internet school networking
ISNEWS-L New+	ISNEWS-L@KSUVM	Office of Information Systems Electronic
ISO-MSGS	ISO-MSGS@IBACSATA	ISO WG4 Messaging
ISODE Dis+	ISODE@IRLEARN	ISO/OSI Protocol Development Environment
ISOS-L	ISOS-L@NKI	ISoS Support List
ISO10646	ISO10646@JHUVM	Multi-byte Code Issues
ISO8859	ISO8859@JHUVM	ASCII/EBCDIC character set related issues
ISO9000	ISO9000@NDSUVM1	ISO9000 Standards Discussion
ISPF-L	ISPF-L@USCVM	ISPF discussion list
ISPS	ISPS@BLEKUL11	teachers Int. Study Program in Statistics
ISSC	ISSC@CUVMC	Information Systems Security Committee
ISSS	ISSS@JHUVM	International Student Space Simulations
ISSTFL Leade+	ISSTFL@CUVMC	Information System Security Task Force
ISYP	ISYP@ICNUCEVM	Italian Student/Young Pugwash
IT-PSICO argomenti +	IT-PSICO@IGECUNIV	IT-PSICO Notizie e discussioni su
ITALIC-L Interest +	ITALIC-L@IRLEARN	ITALIC-L - The Irish Tex And Latex
ITC-LIB	ITC-LIB@UTXVM	U.T. System ITC Library Work Group
ITC-NET	ITC-NET@UTXVM	U.T. System ITC Network Work Group
ITC-SEC	ITC-SEC@UTXVM	U.T. System ITC Security Work Group
ITCOLLAB Information +	ITCOLLAB@HARVARDA	Collaborative Study on Academic
ITDHELP	ITDHELP@PURCCVM	Purdue Libraries
ITDSTAFF	ITDSTAFF@PURCCVM	Purdue Libraries
ITEX-L	ITEX-L@TAUNIVM	ITEX Discussion List
ITIG-L	ITIG-L@UNBVM1	CLA Information Technology Interest Group
ITRDBFOR International+	ITRDBFOR@ASUACAD	Dendrochronology Forum for the
ITSMGMT	ITSMGMT@UCSFVM	ITS Management
ITSNEWS	ITSNEWS@UCSFVM	Information Technology Services Newsletter
ITSSTAFF	ITSSTAFF@UCSFVM	ITS Staff List
ITU-L	ITU-L@TRITU	I.T.U. Mezunlari Listesi
IUFIS-L Sys+	IUFIS-L@IUBVM	Indiana University Financial Information
IULRES-L Libr+	IULRES-L@IUBVM	Research Support for Indiana University
IUMMEDIA Univers+	IUMMEDIA@IUBVM	MultiMedia Discussion List - Indiana
IUTINFO des+	IUTINFO@FRORS13	Messagerie des Departements Informatique
IVCF-L	IVCF-L@UBVM	InterVarsity Christian Fellowship List
IVRITEX	IVRITEX@TAUNIVM	Hebrew TeX list
IVY+	IVY+@MITVMA	Ivy+ Administrative Computing Group
IXI-APM Manag+	IXI-APM@HEARN	Distribution list for IXI Access Point
J-FOOD-L	J-FOOD-L@JPNKNU01	Japanese food & culture discussion list
JANITORS Informat+	JANITORS@UKANVM	College and University Housekeeping
JAZZ-L	JAZZ-L@TEMPLEVM	Jazz Lovers' List
JCGLIST	JCGLIST@UKACRL	
JCGTEST	JCGTEST@UKACRL	JCGTEST

JCMST-L	JCMST-L@PURCCVM	JOURNAL OF COMPUTERS IN MATHEMATICS AND SCIE+
JCMT-L	JCMT-L@UALTAVM	James Clerk Maxwell Telescope
JEI-L	JEI-L@UMDD	Technology in Education Mailing List
JERICHO	JERICHO@BITNIC	The Jericho Project
JESSE	JESSE@ARIZVM1	Open Lib/Info Sci Education Forum
JES2-L	JES2-L@CEARN	(Peered) JES2 discussion group
	JES2-L@NDSUVM1	(Peered) JES2 discussion group
	JES2-L@VTVM1	(Peered) JES2 discussion group
	JES2-L@VTVM2	(Peered) JES2 discussion group
JES3-L	JES3-L@UGA	JES3 Systems Programmers List
JEWISHGT	JEWISHGT@GITVM1	JEWISHGT: Discussion List for the Jewish Com+
JMCLASS	JMCLASS@MSU	ISP201 Information
JMEDCLUB	JMEDCLUB@BROWNVM	Medical Journal Discussion Club
JNET-L	JNET-L@BITNIC	(Peered) JNET Discussion Group
	JNET-L@DEARN	(Peered) JNET Discussion Group
	JNET-L@HEARN	(Peered) JNET Discussion Group
	JNET-L@MARIST	(Peered) JNET Discussion Group
	JNET-L@UGA	(Peered) BITNIC JNET-L List
	JNET-L@UIUCVMD	JNET-L (log files only)
JOB-LIST	JOB-LIST@FRORS12	Job offers from EARN Institute members
JOBPLACE	JOBPLACE@UKCC	JobPlace (Self Directed Job Search Technique+
JOURN-L	JOURN-L@JHUVM	JOURN-L
JOURNET	JOURNET@QUCDN	Discussion List for Journalism Education
JPATTEND	JPATTEND@JPNSUT10	SUT BITNET Meeting Attendees
JPBIT-L	JPBIT-L@JPNSUT00	discussion about Japan BITNET
JPBOARD	JPBOARD@JPNSUT00	Japan BITNET Board meeting
JPINFO-L	JPINFO-L@JPNSUT00	Information list about Japan
JPNAD-L	JPNAD-L@JPNSUT00	Japan Node Administrator's discussion list
JPSI-L	JPSI-L@FRCPN11	Production de JPSI
JPSOFT	JPSOFT@IRISHVMA	JP Software products (4DOS/4OS2 et al)
JTE-L	JTE-L@VTVM1	Journal of Technology Education electronic j+
JTEM-L	JTEM-L@UGA	Japanese Through Electronic Media
JTIT-L	JTIT-L@PSUVM	Japanese Teachers and Instructional Technolo+
JT4H-L	JT4H-L@VTVM1	Jamestown 4H Center
JU-DA	JU-DA@BARILVM	Discussion on Judaism and Databases
JUDAFF-L	JUDAFF-L@BINGVMB	JUDAFF-L Judicial Affairs Discussion List
JUDAICA	JUDAICA@TAUNIVM	(Peered) Judaic Studies Newsletter
	JUDAICA@UMINN1	(Peered) JUDAICA Jewish & Near Eastern Studi+
JURIX-L	JURIX-L@HEARN	Discussielijst van stichting juridische kenn+
KAGE-CAR	KAGE-CAR@HEARN	Shadowrun Vehicle Construction Project List
KAIROS	KAIROS@UTCVM	KAIROS E-Mail Distribution Service
KATALIST	KATALIST@HUEARN	Discussion on librarian systems and database+
KAWAALL	KAWAALL@JPNIMRTU	KAWAZOE LAB. USER
KBASE-L	KBASE-L@VTVM2	This is a private list for knowledgebase.
KEKMAC-L	KEKMAC-L@JPNKEKVM	KEKMAC-L MAC USER'S LIST
KENTUCKY	KENTUCKY@UKCC	KENTUCKY--KY Civic and Political Discussion
KERMIT-L	KERMIT-L@JPNSUT30	Kermit discussion list

KIDCAFE	KIDCAFE@NDSUVM1	KIDCAFE Youth Dialog
KIDFORUM	KIDFORUM@NDSUVM1	KIDFORUM KIDLink Coordination
KIDLEADR	KIDLEADR@NDSUVM1	KIDLEADR KIDLink Coordination
KIDLINK	KIDLINK@NDSUVM1	KIDLINK Project List
KIDLIT-L	KIDLIT-L@BINGVMB	Children and Youth Literature List
KIDPLAN	KIDPLAN@NDSUVM1	KIDPLAN KIDLink Planning
KIDPLAN2	KIDPLAN2@NDSUVM1	KIDPLAN2 Kidlink Work Group
KIDPROJ	KIDPROJ@NDSUVM1	Special KIDLink Projects
KIDS-ACT	KIDS-ACT@NDSUVM1	KIDS-ACT What can I do now?
KIDS-ITA	KIDS-ITA@ICNUCEVM	KIDS-ITA MAiling list
KIDZMAIL	KIDZMAIL@ASUACAD	KIDZMAIL: KIDS EXPLORING ISSUES AND INTEREST+
KIMYA-L	KIMYA-L@TRITU	Kimya ve Kimya Muhendisligi Grubu
KINDEX	KINDEX@NDSUVM1	KINDEX - KidLink Subject Summaries
KINDEXW	KINDEXW@NDSUVM1	Weekly KidLink Subject Summaries
KINST-L	KINST-L@ULKYVM	Hand Microsurgery Research Network
KITAP-L	KITAP-L@TRITU	Kitaplar Uzerine Tartisma Listesi
KLARINET	KLARINET@VCCSCENT	Klarinet - Clarinettist's Network
KLEIO-L	KLEIO-L@DGOGWDG1	List for Users of Kleio-Software
KNET-L	KNET-L@TAMVM1	The KNET discussion list
KNUG	KNUG@KENTVM	The Kent Network Users Group
KOKIKAI	KOKIKAI@PSUVM	Kokikai Aikido List
KONFER-L	KONFER-L@TREARN	Conference Announcements lists
	KONFER-L@UBVM	Conference Announcements lists
KRB-L	KRB-L@MSU	Kenneth R. Beittel Research Seminar Series
KRBGRD-L	KRBGRD-L@MSU	Ken R. Beittel Graduate Student List
KRSNANET	KRSNANET@ARIZVM1	The Krishna Consciousness Club
KSUOWN-L	KSUOWN-L@KENTVM	Kent State List-Owners Discussion List
KTH-STIFTELSE	KTH-ST@SEARN	Diskussion om KTH som stiftelse
KUDZU-L	KUDZU-L@NCSUVM	WAIS Initiative for North Carolina
KUFUSE-L	KUFUSE-L@UKANVM	KU Focus Users Group
KUHIST-L	KUHIST-L@UKANVM	History at KU
KULHUM-L	KULHUM-L@UKANVM	KU Library Humanities Bibliographers
KUL6000	KUL6000@BLEKUL11	K.U.Leuven RISC/6000 users
KUTUP-L	KUTUP-L@TRMETU	Turkish Libraries Discussion List KUTUP-L
KUVS-L	KUVS-L@DHDURZ1	Mailing List der GI FG 3.3.1 "Kommunikation +
KYACAD-L	KYACAD-L@ULKYVM	Kentucky Academic Computing Discussion
KYCCS	KYCCS@UKCC	Center for Computational Sciences
KYHONORS	KYHONORS@UKCC	Kentucky Honors Students
K12NAV-L	K12NAV-L@KENTVM	Internet navigation course for k-12 educator+
K12NAV-N	K12NAV-N@KENTVM	Internet navigation course for k-12 educator+
K12STCTE	K12STCTE@BITNIC	Consortium for School Networking (CoSN) Offi+
L-ARTECH	L-ARTECH@UQAM	Les Arts et les nouvelles technologies/Arts +
L-CHA	L-CHA@UQAM	Canadian Hist. Association Conference on Com+
L-EDUC	L-EDUC@PSUVM	College of Education List
L-HCAP	L-HCAP@NDSUVM1	L-HCAP List
L-NEXUS	L-NEXUS@PSUVM	Sample list for seminar participants
L-OHACAD	L-OHACAD@AKRONVM	OHECC Academic Discussion List
L-ORACLE	L-ORACLE@UQAM	Usagers Oracle/Oracle's Users
L-SHC	L-SHC@UQAM	Comite de l'informatique de la SHC
L-VIRUS	L-VIRUS@PSUVM	Virus List

LABMGR	LABMGR@UKCC	Computer Lab Managers
LABOR-L	LABOR-L@YORKVM1	Forum on Labor in the Western Hemisphere
LACROS-L	LACROS-L@VILLVM	Lacrosse Information List
LACTACID	LACTACID@SEARN	Lactic Acid Bacteria Forum
LAFFAC	LAFFAC@PURCCVM	Lafayette CPT Faculty
LAFSTAFF	LAFSTAFF@PURCCVM	All Lafayette CPT Faculty/Clerical/Admin Sta+
LAI571	LAI571@UBVM	LAI571 Class List
LAI672	LAI672@UBVM	LAI672 Class List
LALA-L	LALA-L@UGA	Latin Americanist Librarians' Announcements +
LANGIT	LANGIT@ICINECA	Discussione Centri Linguistici Italiani
LANGUES	LANGUES@UQUEBEC	LANGUES Secteur inter-disciplinaire des lang+
LANMAN-L	LANMAN-L@NIHLIST	Microsoft LAN Manager discussion list
LANTRA-L	LANTRA-L@SEARN	Interpreting (and) translation
LARC-L	LARC-L@UFRJ	Laboratorio Nacional de Redes de Computadores
LARCH-L	LARCH-L@SUVM	Landscape Architecture Electronic Forum
LARCHNET	LARCHNET@UOGUELPH	Landscape Architecture List
LASER-L	LASER-L@IRLEARN	Laser Printer Information Distribution List
LASMED-L	LASMED-L@TAUNIVM	Laser Medicine
LASPAU-L	LASPAU-L@HARVARDA	"LATIN AMERICAN SCHOLARSHIP PROGRAM OF AMERI+
LATAMMUS	LATAMMUS@ASUACAD	Discussion of all aspects and styles of musi+
LATEX-L	LATEX-L@BRUFSC	FORUM LATEX-L - Discussao de assuntos pertin+
	LATEX-L@DHDURZ1	Mailing list for the LaTeX3 project
LATEX-UG	LATEX-UG@SAUPM00	LaTeX Users Group.
LATIN-L	LATIN-L@PSUVM	Latin and NeoLatin discussions
LATIN-TE	LATIN-TE@FRMOP11	Union Latine (Programme avec Terminometre-Re+
LATIN-TF	LATIN-TF@FRMOP11	Terminometro eletronique en francais
LATIN-TP	LATIN-TP@FRMOP11	Terminometro eletronico em portugues
LAWAID	LAWAID@RUTVM1	Law School Finanacial Aid Discussion
LAWSCH-L	LAWSCH-L@AUVM	Law School Discussion List
LCC-L	LCC-L@BRUFMG	Lista para intercambio de informacoes entre +
LCLTEST	LCLTEST@TECHNION	LCLTEST - Local Test List
LCOORD-L	LCOORD-L@CEARN	Listserv Coordination Board
LDBASE-L	LDBASE-L@UKANVM	A Discussion of Listserv Database Search Cap+
LEADTCHR	LEADTCHR@PSUVM	Networking lead teachers
LECTU-L	LECTU-L@BRUFSC	(Peered) FORUM LECTU-L - International Semin+
LEPICSP3	LEPICSP3@LEPICS	LEPICS Parallel Processing Project Group
LEXX-L	LEXX-L@IRISHVMA	LEXX editor discussions
LGA-L	LGA-L@UREGINA1	Local Government Administration List
LHU-L	LHU-L@ALBNYDH2	LHU-L Local Health Unit Discussion Forum
LIAISON	LIAISON@BITNIC	(Peered) Network Site Liaisons
	LIAISON@DEARN	(Peered) Network Sites Liaison
	LIAISON@HEARN	(Peered) Network Sites Liaison
	LIAISON@MARIST	(Peered) Network Sites Liaison
	LIAISON@UGA	(Peered) BITNIC LIAISON
LIB-LUIS	LIB-LUIS@UICVM	UIC Library - LUIS

LIBADMIN	LIBADMIN@UMAB	Library Administration and Management
LIBALL	LIBALL@PURCCVM	Purdue Libraries
LIBEVENT	LIBEVENT@USCVM	Library Events in Southern California
LIBEX-L	LIBEX-L@MAINE	Exhibits and Academic Libraries Discussion L+
LIBINFO	LIBINFO@HARVARDA	LIBINFO - Harvard Library Information Discus+
LIBMASTR	LIBMASTR@UOTTAWA	Library Master Bibliographic Database
LIBNET-L	LIBNET-L@NCSUVM	Libraries and Networks in North Carolina
LIBPER-L	LIBPER-L@KSUVM	Library Personnel Issues
LIBPLN-L	LIBPLN-L@QUCDN	University Library Planning Discussion
LIBRARY	LIBRARY@INDYCMS	Libraries & Librarians
LIBREF-L	LIBREF-L@KENTVM	Discussion of Library Reference Issues
LIBRES	LIBRES@KENTVM	Library and Information Science Research Ele+
LIBSCRN	LIBSCRN@PURCCVM	Purdue Libraries
LIBSUP-L	LIBSUP-L@UWAVM	LIBSUP-L UW Cataloging
LIBTECH	LIBTECH@PURCCVM	Purdue Libraries
LIBTHEA	LIBTHEA@KENTVM	Thesaurus Science
LICENSE	LICENSE@BITNIC	(Peered) Software Licensing List
	LICENSE@DEARN	(Peered) Software Licensing List
	LICENSE@HEARN	(Peered) Software Licensing List
	LICENSE@MARIST	(Peered) Software Licensing List
	LICENSE@UGA	(Peered) Software Licensing List
LINES-L	LINES-L@NDSUVM1	LifeLines Genealogical System
LINGFAC	LINGFAC@ARIZVM1	Linguistics Faculty, University of Arizona
LINGUA	LINGUA@ARIZVM1	Linguistics at the University of Arizona
LINGUIST	LINGUIST@TAMVM1	The LINGUIST Discussion List
LINHA	LINHA@PTEARN	Extincao da linha EARN
LINK-L	LINK-L@GSUVM1	GSU Wells Computer Center newsletter discuss+
LINKFAIL	LINKFAIL@BITNIC	(Peered) Link failure announcements
	LINKFAIL@CEARN	(Peered) Link failure announcements
	LINKFAIL@DEARN	(Peered) Link failure announcements
	LINKFAIL@HEARN	(Peered) Link failure announcements
	LINKFAIL@MARIST	(Peered) Link failure announcements
	LINKFAIL@TAUNIVM	(Peered) Link failure announcements
	LINKFAIL@UGA	(Peered) Link failure announcements
LISR-ALL	LISR-ALL@NMSUVM1	ACRL RESEARCH - LIBRARY discussion list
LISRBC1L	LISRBC1L@NMSUVM1	ACRL RESEARH - BIBL. CONTROL LIST1
LISRBC2L	LISRBC2L@NMSUVM1	ACRL RESEARH - BIBL. CONTROL LIST2
LISRCM-L	LISRCM-L@NMSUVM1	ACRL RESEACH - COLLECTION MANAGEMENT
LISRES-L	LISRES-L@NMSUVM1	ACRL RESEARCH - EXPERT SYSTEMS
LISRLE-L	LISRLE-L@NMSUVM1	ACRL RESEARCH - LIBRARY EFFECTIVENESS
LISRLE1L	LISRLE1L@NMSUVM1	ACRL RESEARCH - LIBRARY EFFECTIVENESS 1
LISRLE2L	LISRLE2L@NMSUVM1	ACRL RESEARCH - LIBRARY EFFECTIVENESS 2
LISRSC-L	LISRSC-L@NMSUVM1	ACRL RESEARCH - SCHOLARLY COMMUNICATION
LISRUU-L	LISRUU-L@NMSUVM1	ACRL RESEARCH - UNDERSTANDING THE USER
LISTCREN	LISTCREN@SEARN	CREN RFP list - unmoderated version
LITERA-L	LITERA-L@TECMTYVM	Literatura en Ingles y Espa~ol//Literarure i+
LITERARY	LITERARY@UCF1VM	Discussions about Literature
LITSCI-L	LITSCI-L@UIUCVMD	Society for Literature and Science - philos.+
LIVE-EYE	LIVE-EYE@YORKVM1	Color and Vision Discussion Forum
LLTI	LLTI@DARTCMS1	Language Learning and Technology Internation+

LLU-ALUM	LLU-ALUM@LLUVM	Banner Alumni System Implementation
LM_NET	LM_NET@SUVM	School Library Media & Network Communications
LMAIL-L	LMAIL-L@SEARN	LMail give-and-take forum
LMAIL-M	LMAIL-M@SEARN	LMail maintainers
LMAN-L	LMAN-L@GREARN	Discussion of the LMAN interface of LISTMAN
LN	LN@FRMOP11	Langage Naturel
LN-FR	LN-FR@FRMOP11	
LNGTEACH	LNGTEACH@ARIZVM1	Linguistics Instructors, University of Arizo+
LO-L	LO-L@MITVMA	A Mgmt. Skills Institute II Discussion List
LODZ$L	LODZ$L@PLEARN	DISTRIBUTION LIST OF THE USERS LODZ$L
LOG	LOG@UIUCVMD	LOG (log files only)
LOGBANK	LOGBANK@PLEARN	DISTRIBUTION LIST OF LOGIC BANK MEMBERS LOGB+
LOJBAN	LOJBAN@CUVMB	Lojban list
LOLA-L	LOLA-L@LSUVM	LOLA Users
LORE	LORE@NDSUVM1	LORE - Folklore List
LOWNR-TR	LOWNR-TR@TREARN	Turk liste sahipleri listesi (in Turkish)
LPN-L	LPN-L@BROWNVM	Laboratory Primate Newsletter List
LREVSYMP	LREVSYMP@VILLVM	Villanova Law Review Symposium
LSTBETA	LSTBETA@TREARN	LISTEARN BETA test sites, discussion list
LSTERN-L	LSTERN-L@FRMOP11	LISTEARN Discussion List
LSTEST2	LSTEST2@NRCVM01	NRC SAMPLE LSTEST2
LSTEST5	LSTEST5@NRCVM01	NRC SAMPLE LSTEST5 - demo05
LSTIAF-L	LSTIAF-L@TAUNIVM	LISTEARN 1.3 Interactive Access Facility Dev+
LSTOWN-L	LSTOWN-L@SEARN	LISTSERV list owners' forum
LSTREV-L	LSTREV-L@UMSLVMA	Listserv Review
LSTSRV-L	LSTSRV-L@POLYVM	(Peered) Forum on LISTSERV release 1.7
	LSTSRV-L@RUTVM1	(Peered) Forum on LISTSERV release 1.7
	LSTSRV-L@SEARN	(Peered) Forum on LISTSERV release 1.7
	LSTSRV-L@UGA	(Peered) Forum on LISTSERV release 1.7
LSTSRV-M	LSTSRV-M@SEARN	Revised LISTSERV Maintainers
LTEST-L	LTEST-L@UCLACN1	Language Testing Research and Practice
LWUSERS	LWUSERS@NDSUVM1	LWUsers LANWatch User List
LYH-L	LYH-L@QUCDN	Queen's Chinese Friendship Association
LYOBIB-L	LYOBIB-L@FRCPN11	Information bibliotheque IPN Lyon
L3ANA-L	L3ANA-L@LEPICS	L3 Analysis Group A
L3ANB-L	L3ANB-L@LEPICS	L3 Analysis Group B
L3GRAF-L	L3GRAF-L@LEPICS	L3 Graphics/Interactivity Group
L3OFFS-L	L3OFFS-L@LEPICS	L3 OFFSite Analysis Forum
MAALL	MAALL@WUVMD	Mid-America Association of Law Libraries.
MAC-CONF	MAC-CONF@UVMVM	Mac-Conf : Discontinued list, see CSAC-L ins+
MAC-L	MAC-L@YALEVM	Macintosh News and Information
MAC-TEL	MAC-TEL@IRLEARN	EARN Macintosh Users List - Extension for Ma+
MAC-USER	MAC-USER@IRLEARN	EARN Macintosh Users List
MACAPPLI	MACAPPLI@DARTCMS1	Usage tips about Macintosh applications
MACGIL-L	MACGIL-L@MCGILL1	McGill Macintosh Users Group
MACHRDWR	MACHRDWR@DARTCMS1	Macintosh hardware and related perpherials
MACIRC-L	MACIRC-L@BROWNVM	Macintosh IRC Client Design List
MACLANAD	MACLANAD@UWAVM	MACLANAD FOR MACINTOSH LAN ADMINISTRATORS
MACMAIL	MACMAIL@UTORONTO	MAC Mail Discussion List

MACMULTI	MACMULTI@FCCJ	Macintosh Multimedia Discussion List
MACNET-L	MACNET-L@YALEVM	Macintosh Networking Issues
MACPB-L	MACPB-L@YALEVM	Macintosh Powerbook Issues
MACPROG	MACPROG@WUVMD	Macintosh Programming Discussion List
MACRAO	MACRAO@UMVMA	MACRAO List
MACSYSTM	MACSYSTM@DARTCMS1	Macintosh system software.
MACTURK	MACTURK@TREARN	Turkish Macintosh Users Group
MACUO-L	MACUO-L@UOTTAWA	University of Ottawa's Mac Users Discussion +
MAES-L	MAES-L@TAMVM1	Society of Mexican American Engineers and Sc+
MAGAZINE	MAGAZINE@RPITSVM	Magazines
MAIL-ITA	MAIL-ITA@IBACSATA	(Peered) Electronic Mail Future developement+
	MAIL-ITA@ICNUCEVM	Electronic Mail Future developements in Italy
MAIL-L	MAIL-L@BITNIC	(Peered) Mail Transfer/User Agents
	MAIL-L@DEARN	(Peered) Mail Discussion List
	MAIL-L@HEARN	(Peered) Mail Discussion List
	MAIL-L@IRLEARN	Network Mail Discussion
	MAIL-L@MARIST	(Peered) Mail Discussion List
	MAIL-L@UGA	(Peered) BITNIC MAIL-L List
MAILBOOK	MAILBOOK@RICEVM1	RiceMail discussion list
MAKE-L	MAKE-L@UREGINA1	MAKE-L LIST
MALSLC	MALSLC@WUVMD	Mid-America Law School Library Consortium Re+
MAPLE-L	MAPLE-L@IRLEARN	MAPLE-L Discussion on MAPLE software. Local +
MAPS-L	MAPS-L@UGA	Maps and Air Photo Systems Forum
MARCHA-L	MARCHA-L@YALEVM	Marcha-L Distribution List
MARINE-L	MARINE-L@UOGUELPH	MARINE STUDIES/SHIPBOARD EDUCATION DISCUSSIO+
MARKET-L	MARKET-L@UCF1VM	For marketing academics and practitioners.
MARKUP-L	MARKUP-L@DGOGWDG1	GLDV-AK fuer TEI-Guideline-Anpassung
MASSCOMM	MASSCOMM@RPITSVM	Mass comm. and new technologies
MAT-DSGN	MAT-DSGN@JPNTUVM0	Forum on Materials Design by Computer
MATCHELP	MATCHELP@HARVARDA	K - 12 Matchmaker's Help Discussion List
MATDB-L	MATDB-L@JPNIMRTU	Forum on Materials Database System
MATERI-L	MATERI-L@TAUNIVM	Material List
MATHDEP	MATHDEP@IRLEARN	UCD Maths Department Distribution List
MATHDEPT	MATHDEPT@TECHNION	MATHDEPT - Technion Mathematics Net - Intern+
MATLS-L	MATLS-L@PSUVM	Materials Synthesis
MBA-L	MBA-L@MARIST	MBA Student curriculum discussion
MBU-L	MBU-L@TTUVM1	Megabyte University (Computers & Writing)
MBUS-L	MBUS-L@ALBNYDH2	OGS Mailbus Project
MCGLPWR	MCGLPWR@MCGILL1	McGill University Power Outages Distribution+
MCJRNL	MCJRNL@UBVM	Media Journal Distribution List
MCLR-L	MCLR-L@MSU	MIDWEST CONSORTIUM FOR LATINO RESEARCH
MCLUSTER	MCLUSTER@JPNIMRTU	Forum on Micro Cluster
MCMA-L	MCMA-L@HUMBER	(Peered) METRO COLLEGES MATH ASSOCIATION LIST
MCRIT-L	MCRIT-L@HEARN	Multicriteria Discussion List
MCSINFO	MCSINFO@MCGILL1	McGill Computer Store Information.....
MDK-12	MDK-12@UMDD	Discussions with State of Maryland K-12 Comm+

MDPHD-L	MDPHD-L@UBVM	Dual Degree Programs Discussion List
MDS32-L	MDS32-L@INDYCMS	MDS32 Menu Definition System for Vax/VMS by +
MEACC-L	MEACC-L@MCGILL1	McGill Engineering AdHoc Committee on Comput+
MECH-L	MECH-L@UTARLVM1	Mechanical Engineering Discussion List
MEDCONS	MEDCONS@FINHUTC	Medcons (Medical consulting and case descrip+
MEDEVLIT	MEDEVLIT@SIUCVMB	MEDEVLIT MEDIEVAL ENGLISH LITERATURE DISCUSS+
MEDFEM-L	MEDFEM-L@INDYCMS	an open discussion forum for medievalist fem+
MEDFORUM	MEDFORUM@ARIZVM1	Med Student Organization/Policy Forum
MEDIA-L	MEDIA-L@BINGVMB	Media in Education
MEDIANET	MNET-L@AKRONVM	MEDIANET Discussion List
MEDIEV-L	MEDIEV-L@UKANVM	Medieval History
MEDIMAGE	MEDIMAGE@POLYVM	Medical Imaging Discussion List
MEDINF-L	MEDINF-L@DEARN	MEDINF-L
MEDLIB-L	MEDLIB-L@UBVM	Medical Libraries Discussion List
MEDNETS	MEDNETS@NDSUVM1	MEDNETS Medical Telecommunications Networks
MEDNEWS	MEDNEWS@ASUACAD	MEDNEWS - Health Info-Com Network Newsletter
MEDPHY-L	MEDPHY-L@AWIIMC12	EFOMP Medical Physics Information Services
MEDSCI-L	MEDSCI-L@BROWNVM	Medieval Science Discussion List
MEDSEA-L	MEDSEA-L@AEARN	Marine Biology of the Adriatic Sea
MEDSTU-L	MEDSTU-L@UNMVMA	Medical student discussion list
MEDSUP-L	MEDSUP-L@YALEVM	Medical Support List
MEDTEXTL	MEDTEXTL@UIUCVMD	Medieval Text - Philology, Codicology, and T+
MEH2O-L	MEH2O-L@TAUNIVM	Middle East Water List
MELLON-L	MELLON-L@YORKVM1	MELLON Fellows Discussion Forum
MEMSNET	MEMSNET@UABDPO	Mineral Economics and Mgmt Society
MENDELE	MENDELE@YALEVM	Mendele: Yiddish Literature and Language
METALIB	METALIB@JPNTUVM0	Metallibrary
METHO	METHO@UQUEBEC	Methodologie quantitative, sciences sociales
METHODS	METHODS@RPITSVM	Research methodology
	METHODS@UNMVMA	Social Science Research Methods Instructors
METU-L	METU-L@TRMETU	METU-Middle East Technical University Gradua+
MEX-ENP6	MEX-ENP6@UNAMVM1	BULLETIN BOARD FOR STUDENT EXCHANGE MEXICO-C+
MEXICO	MEXICO@ITESMVF1	Noticias de Mexico, en espanol.
MEXICO-L	MEXICO-L@TECMTYVM	Knowing Mexico: people, places, culture.
MEXNEXT	MEXNEXT@TECMTYVM	Lista para Mexico y Am. Latina: NeXT, Aplica+
MFJ-L	MFJ-L@IPFWVM	MFJ International Products Discussion List
MGARDEN	MGARDEN@WSUVM1	Master Gardeners
MGSA-L	MGSA-L@UCBCMSA	MGSA-L - Modern Greek Studies List
MGSFAC	MGSFAC@UBVM	UB Management Science Faculty List
MGSGRAD	MGSGRAD@UBVM	UB Management Science Graduate Students List
MGSNEWS	MGSNEWS@UBVM	UB Management Science Discussion List
MGT-L	MGT-L@NMSUVM1	Management Dept Listserv
MGTCOM-L	MGTCOM-L@NMSUVM1	Listserv for NMSU MGT336 Class

MHCARE-L	MHCARE-L@MIZZOU1	Managed Health Care
MHSNEWS	MHSNEWS@IBACSATA	MHS News
MIA-L	MIA-L@MCGILL1	McGill Information Access
MIAST-L	MIAST-L@UIUCVMD	Maghrebian Scientific Institute
MIBSRV-L	MIBSRV-L@UA1VM	MIBSRV IBM Antiviral Update List
(announceme+		
MICNEWS	MICNEWS@UCLACN1	UCLA Micro Information Center News
MICRO-EL	MICRO-EL@TAUNIVM	MICROELECTRONICS IN ISRAEL List
MICROC-L	MICROC-L@YALEVM	Microcomputer Coordination Committee
MICRONET	MICRONET@UOGUELPH	Fungus and Root Interaction Discussion
MICS-L	MICS-L@HEARN	Morino's MVS Information Control System
MIDAS	MIDAS@ITOCSIVM	MIDAS Progetto ESPRIT
MIDEUR-L	MIDEUR-L@UBVM	Discussion of Middle Europe topics
MIDNET-L	MIDNET-L@KSUVM	MIDnet Discussion Group
MIDNET-T	MIDNET-T@KSUVM	MIDnet Technical Discussion
MIDNET-U	MIDNET-U@KSUVM	MIDnet User Services Discussion Group
MIDWPDE	MIDWPDE@UICVM	MIDWest Partial Differential Equations
MILES	MILES@HEARN	Discussion of Jazz trumpeter Miles Davis &
h+		
MILHST-L	MILHST-L@UKANVM	Military History
MILLEN-L	MILLEN-L@AUVM	Future Projects List
MIMUW-L	MIMUW-L@PLEARN	Affairs of Warsaw U. Fac. of Math.,
Informat+		
MINCON	MINCON@UKCC	Conference on Minority Recruitment and
Reten+		
MINITEL	MINITEL@STLAWU	MINITEL is
MINIX-L	MINIX-L@DEARN	(Peered) Minix operating system
	MINIX-L@FINHUTC	(Peered) Minix operating system
	MINIX-L@NDSUVM1	(Peered) Minix operating system
MIS-L	MIS-L@ALBNYDH2	NYS DEPARTMENT OF HEALTH MANAGEMENT
INFORMAT+		
	MIS-L@SAUPM00	Discussion forum about Management
Informatio+		
MISC	MISC@TREARN	Miscellaneous Questions, Requests
MISG-L	MISG-L@PSUVM	Malaysian Islamic Study Group
MIT-TV-L	MIT-TV-L@MITVMA	MIT Cable Television Schedule
MITIRLIB	MITIRLIB@MITVMA	MIT Industrial Relations Library
MIT1962	MIT1962@MITVMA	MIT Class of 1962 e-mail network
MIT1966	MIT1966@MITVMA	MIT Class of 1966 e-mail network
MIT1972	MIT1972@MITVMA	MIT Class of 1972 e-mail network
MIT1988	MIT1988@MITVMA	MIT Class of 1988 e-mail network
MLA-L	MLA-L@IUBVM	Music Library Association Mailing List
MLABD-L	MLABD-L@IUBVM	MLA Board of Directors Correspondence
MMARCAMC	MMARCAMC@MSU	MicroMARC:amc Users
MMDNEWS	MMDNEWS@UCSFVM	Material Management Department newsletter
MMEDIA	MMEDIA@ICNUCEVM	MMEDIA Multi Media List
MMEDIA-L	MMEDIA-L@ITESMVF1	Multimedia discussion list
	MMEDIA-L@UOTTAWA	University of Ottawa's Multimedia
Discussion+		
MMNUG-L	MMNUG-L@MIZZOU1	Mid-Missouri Network Users Group
MOBILITY	MOBILITY@SJUVM	SJU Mobility Disablities List
MOCAVES	MOCAVES@UMSLVMA	Missouri Caving Discussion
MOD-IETF	MOD-IETF@SEARN	A moderated redistribution of the IETF
list,+		
MODAL	MODAL@VTVM1	Modal Analysis
MODBRITS	MODBRITS@KENTVM	Modern British and Irish Literature: 1895-
19+		

MODELUN	MODELUN@INDYCMS	Model UN Bulletin
MODLSHOP	MODLSHOP@IRISHVMA	ModelShop Software List
MODULA-L	MODULA-L@UALTAVM	Modula-2 (language) discussions
	MODULA-L@UIUCVMD	Modula-2 (language) discussions
MON-L	MON-L@BITNIC	(Peered) BITNET Monitoring List
	MON-L@DEARN	(Peered) BITNET Monitoring List
	MON-L@HEARN	(Peered) BITNET Monitoring List
	MON-L@MARIST	(Peered) BITNET Monitoring List
	MON-L@UGA	(Peered) BITNIC MON-L List
MOPOLY-L	MOPOLY-L@MIZZOU1	Discussion of Missouri political issues
MORPHMET	MORPHMET@CUNYVM	Biological Morphometrics Mailing List
MORRIS	MORRIS@SUVM	Morris Dancing Discussion List
MORTAR-L	MORTAR-L@MIZZOU1	Mortar Board, Inc. Discussion Group
MOSSBA	MOSSBA@USACHVM1	"Mossbauer Spectroscopy, Software & Forum"
MOTORDEV	MOTORDEV@UMDD	Human Motor Skill Development List
MOUNT-L	MOUNT-L@TRMETU	Mountaineering Discussion List MOUNT-L
MOUSER-L	MOUSER-L@MIZZOU1	MOREnet User's Discussion List
MPB-L	MPB-L@BRUFPB	Lista para Musica Pupular Brasileira
MPG-L	MPG-L@YALEVM	Yale MultiProtocol Gateway Discussion
Group		
MPSYCH-L	MPSYCH-L@BROWNVM	Society for Mathematical Psychology
MSA-L	MSA-L@PSUVM	Muslim Student Association List
MSLIST-L	MSLIST-L@TECHNION	Multiple Sclerosis Discussion/Support
MSMAIL-L	MSMAIL-L@YALEVM	Microsoft Mail Discussion List
MSP-L	MSP-L@ALBNYVM1	Message Send Protocol (RFC1312) Discussion
MSSC-L	MSSC-L@UBVM	Middle States Steering Committee
Discussion +		
MSSQL-L	MSSQL-L@DUKEFSB	Microsoft SQL Server Discussion List
MSUPBND	MSUPBND@UBVM	Math Science Upward Bound Discussion List
MTN	MTN@IUBVM	MAPPA Trainers Network
MT3270-L	MT3270-L@BROWNVM	Macintosh TN3270 Beta-test List
MUCO-FR	MUCO-FR@FRMOP11	Cystic Fibrosis list - France
(MucoViscidose)		
MUDA-L	MUDA-L@GREARN	The MUDA list
MUG	MUG@MARIST	(Peered) MUSIC/SP discussion list
	MUG@TCSVM	(Peered) MUSIC-SP discussion list
	MUG@UGA	(Peered) Marist MUG List
MULTAS-L	MULTAS-L@TREARN	Multitasking programming for PC
MULTI-L	MULTI-L@BARILVM	Language and Education in Multi-Lingual
Sett+		
MULTILIS	MULTILIS@ALBNYVM1	MULTILIS users discussion list
MUL3-L	MUL3-L@LEPICS	L3 Muon Reconstruction Software Forum
MUMPS-L	MUMPS-L@UGA	(Peered) MUMPS List
	MUMPS-L@VTVM2	(Peered) MUMPS List
MUNUG-L	MUNUG-L@MIZZOU1	Missouri University NeXT User's Group
MUSE-L	MUSE-L@HARVARDA	MUSE Software Discussion List
MUSEUM-L	MUSEUM-L@UNMVMA	Museum discussion list
MUSIC	MUSIC@FINHUTC	Music-Research
MUSIC-ED	MUSIC-ED@UMINN1	MUSIC-ED Music Education
MUSIC-L	MUSIC-L@MARIST	(Peered) MUSIC/SP User discussion list
	MUSIC-L@TCSVM	(Peered) MUSIC/SP User discussion list
	MUSIC-L@UGA	(Peered) MUSIC/SP User discussion list
MUSLIMS	MUSLIMS@ASUACAD	(Peered) The Islamic Information & News
Netw+		
	MUSLIMS@PSUVM	(Peered) The Islamic Information & News
Netw+		
MUTEX	MUTEX@CSBRMU11	MUTEX - Masaryk University TEX discussion

li+
MVS-UTIL MVS-UTIL@OHSTVMA MVS-UTIL MVS Utilities
MVSCON-L MVSCON-L@YALEVM MVS Dataset Conversion List
MVSESA-L MVSESA-L@NMSUVM1 MVS/ESA List
MVSLPD-L MVSLPD-L@USCVM MVS LPD and MVS NJE-over-IP Discussion
MVSNAD-F MVSNAD-F@FRMOP11 Liste des 'Node ADministators' MVS
francais
MWL-L MWL-L@WMVM1 Discussion Group for Marshall-Wythe Law
Scho+
MWTOPSEM MWTOPSEM@IRISHVMA Midwestern Topology Seminar Discussions
MYTHUS-L MYTHUS-L@BROWNVM Mythus Fantasy Roleplaying Game List
M204 M204-L@AKRONVM Model 204 Database Discussion List
NA-L NA-L@UOTTAWA National Social Sciences and Humanities
FTP +
NABOKV-L NABOKV-L@UCSBVM Vladimir Nabokov Forum
NAC NAC@NDSUVM1 NAC - News Announce Conferences
NACB NACB@GWUVM NACB Discussion List
NACC NACC@INDYCMS Non-profit Academic Centers Council
discussi+
NACUBO NACUBO@BITNIC NACUBO College and University Business
Offic+
NAD-F NAD-F@FRMOP11 Liste des 'Node ADministators' francais
NAD-IE NAD-IE@IRLEARN EARN Node Administrators - Ireland
NAD-IST NAD-IST@TRITU TUVAKA ISTANBUL NAD-lari
NAD-SE NAD-SE@SEARN Swedish EARN Node ADministrators - all
opera+
NADBR-L NADBR-L@BRUFMG Forum de discussao da BITNET no Brasil
NADJ2-D NADJ2-D@DEARN German Node Administrators (NAD) JES2
NADJ3-D NADJ3-D@DEARN German Node Administrators (NAD) JES3
NADUNX-D NADUNX-D@DEARN German Node Administrators (NAD) UNIX/
UREP
NADVAR-D NADVAR-D@DEARN German Node Administrators (NAD) for
VARious+
NADVM-D NADVM-D@DEARN German Node Administrators (NAD) VM
NADVMS-D NADVMS-D@DEARN German Node Administrators (NAD) VMS
NAEB-L NAEB-L@RITVM National Association of Educational Buyers
NAF NAF@NRCVM01 Network Architecture Focus Group
NAFIPS-L NAFIPS-L@GSUVM1 North American Fuzzy Information
Processing +
NAFTA-L NAFTA-L@VMTECSLP Impacto del Tratado Trilateral de Libre
Come+
NAGARA-L NAGARA-L@UMDD Assoc of Gov Archivists
NAHIA-L NAHIA-L@MSU North American Historians of Islamic Art
NANET NANET@FINHUTC NaNet
NASH-L NASH-L@NMSUVM1 NMSU Computer Center test list
NASIRN-L NASIRN-L@UBVM North American Service Industries Research
N+
NASK NASK@PLEARN Discussion list NASK
NASPA1-L NASPA1-L@MAINE NASPA Region 1 Distribution List
NASSR-L NASSR-L@WVNVM North American Society for the Study of
Roma+
NASU-L NASU-L@MSU National Association of Sigma Users
Conferen+
NAT-EDU NAT-EDU@INDYCMS NAT-EDU Educational Issues Pertaining to
Abo+
NAT-LANG NAT-LANG@TAMVM1 NAT-LANG Languages of Aboriginal Peoples
NAT-1492 NAT-1492@TAMVM1 NATIVE-L Columbus Quincentenary Mailing

List
NATCHAT NATCHAT@TAMVM1 NATCHAT Issues Pertaining to Aboriginal Peop+
NATIVE-L NATIVE-L@TAMVM1 NATIVE-L Issues Pertaining to Aboriginal Peo+
NATODATA NATODATA@BLEKUL11 North Atlantic Treaty Organisation (NATO) pu+
NATURA-L NATURA-L@UCHCECVM Ecologia y Proteccion de la Naturaleza en Ch+
NATUSR-L NATUSR-L@MAINE NATURAL NEWS Distribution List
NAUSICAA NAUSICAA@BROWNVM Hayao Miyazaki Discussion Group
NAWG-L NAWG-L@UNBVM1 Network Architecture Working Group
NB-L NB-L@DGOGWDG1 Deutsche Nota Bene-Benutzer
NBEA NBEA-L@AKRONVM National Business Education Association Disc+
NBS-AEP NBS-AEP@CUNYVM NBS-AEP: National Broadcasting Society - Alp+
NCC-L NCC-L@TAMVM1 National Communication Chairs Discussion List
NCE-AD NCE-AD@UFRJ NCE/AD - Forum dos Pesquisadores da Area de +
NCE-RESP NCE-RESP@MCGILL1 Respiratory Health Network of Centres of Exc+
NCIW-L NCIW-L@YALEVM Nutrient Cycling Issues - Worldwide at Yale +
NCPRSE-L NCPRSE-L@ECUVM1 Reform discussion list for Science Education
NCS-L NCS-L@UMDD National Crime Survey Discussion
NCSUDDTP NCSUDDTP@NCSUVM NCSU Digitized Document Transmission Project
NCURA-L NCURA-L@UMAB NCURA
NCVTX-L NCVTX-L@NCSUVM North Carolina DEC VTX Discussion List
NDDESIGN NDDESIGN@IRISHVMA Graphic and Industrial Design Educators
NDINFO-L NDINFO-L@IRISHVMA NDInfo Information Topics
NDRG-L NDRG-L@WVNVM Nonlinear Dynamics Research Group
NDS-KONT NDS-KONT@DGOGWDG1 Niedersaechsisches Kontingentierungssystem
NEDBIB-L NEDBIB-L@HEARN Op SURFnet aangesloten bibliotheken
NEDER-L NEDER-L@HEARN Elektronische distributielijst voor de neerl+
NENUG-L NENUG-L@YALEVM Northeast Notis Users Group
NESUG-L NESUG-L@UMAB NorthEast SAS Users Group List
NET-ED NET-ED@UBVM Internet/BITNET Network Trainers
NET-L NET-L@PLTUMK11 STUDENT'S INTERNET/EARN DISCUSSION LIST
NET-NATL NET-NATL@IRISHVMA Notre Dame National Networking News
NET-ND NET-ND@IRISHVMA Notre Dame Networking News
NET-TEAM NET-TEAM@GREARN Network Team Discussion LIst
NET_LIC NET_LIC@SUVM Network Licensing List
NETADV-L NETADV-L@MCGILL1 Network Advisory Committee
NETBIB-L NETBIB-L@NEUVM1 Libraries and networks
NETCOM-L NETCOM-L@DEARN Diskussionsforum fuer Nutzer von Netcomm Swi+
NETCON-L NETCON-L@UTORONTO Netnorth Transport Service Technical Contacts
NETDATAK NETDATAK@JPNKEKVM NETDATAK Discussion list
NETDIR-L NETDIR-L@UTORONTO Netnorth Directors
NETDOC-L NETDOC-L@VTVM1 NETDOC-L
NETMGR-L NETMGR-L@WUVMD Net Managers' Discussion List

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NETMON-L         NETMON-L@BITNIC   (Peered) Discussion of NETMON
                 NETMON-L@DEARN    (Peered) Discussion of NETMON
                 NETMON-L@HEARN    (Peered) Discussion of NETMON
                 NETMON-L@MARIST   (Peered) Discussion of NETMON
                 NETMON-L@UGA      (Peered) Discussion of NETMON
NETMONTH         NETMONTH@MARIST   NetMonth Magazine
NETNWS-L         NETNWS-L@NDSUVM1  NETNWS-L Netnews List
NETNYS-L         NETNYS-L@ALBNYDH2 NETNYS-L NYS Inter-Agency Networking Group
NETONE           NETONE@UKCC       U-B Net_One Discussion Group
NETPST-L         NETPST-L@UTORONTO Netnorth Mail Application Technical
Contacts
NETREP-L         NETREP-L@UTORONTO Netnorth Representatives
NETSCOUT         NETSCOUT@ITESMVF1 The BITnet/Internet scouts.
NETSRV-L         NETSRV-L@CEARN    NETSRV-L LIST
NETTRAIN         NETTRAIN@UBVM     Internet/BITNET Network Trainers
NETV-L           NETV-L@MARIST     IBM's NETView discussion list
NETWORKS         NETWORKS@ARIZVM1  UofA Networking Discussion
                 NETWORKS@WAYNEST1 WSU Network Managers Discussion List
NET3270          NET3270@MCGILL1   Net3270 Forum
NET93            NET93@MCGILL1     Net93 Conference - General Discussion List
NET93PC          NET93PC@MCGILL1   Net93 Conference - Program Committee
NEUCHILE         NEUCHILE@UCHCECVM NEUCHILE: Lista de discusion sobre
Neurocien+
                 NEUCHILE@YALEVM   Chilean Neurosciences Discussion List
NEURAL-N         NEURAL-N@ANDESCOL Artificial Neural Networks Discussion
NEURO1-L         NEURO1-L@UICVM    Neuroscience Information Forum
NEW-LIST         NEW-LIST@IRLEARN  (Peered) NEW-LIST - New List Announcements
                 NEW-LIST@NDSUVM1  (Peered) NEW-LIST - New List Announcements
                 NEW-LIST@NKI      NKI Redistribution
NEWBOOKS         NEWBOOKS@RPITSVM  New Books in Communication
NEWCROPS         NEWCROPS@PURCCVM  Discussion list for New Crops
NEWEDU-L         NEWEDU-L@USCVM    New Paradigms in Education List
NEWEXE-L         NEWEXE-L@UNBVM1   CANARIE Executive
NEWNAD-X         NEWNAD-X@HARPERVM New BITNET Node Admins discussions
NEWNET-L         NEWNET-L@UNBVM1   CANARIE Network Organizing Conference
NEWNEW-L         NEWNEW-L@UNBVM1   CANARIE Network Organizing Conference
NEWS-L           NEWS-L@TAIVM1     Texas A&I University Computer News Letter
NEWSLINE         NEWSLINE@RPITSVM  Comserve News Service
NEWS92-L         NEWS92-L@BRUFMG   Grupo da grande midia da ECO 92
NEXIS-L          NEXIS-L@UBVM      LEXIS/NEXIS Discussion List
NEXT-L           NEXT-L@BROWNVM    (Peered) NeXT Computer List
                 NEXT-L@GREARN     (Peered) NeXT Computer List
                 NEXT-L@MITVMA     NeXT Computer Info Exchange List
NEXTAN-D         NEXTAN-D@BROWNVM  NeXT Computer Announcement Digest
NEXTDE-L         NEXTDE-L@TECMTYVM Development for NeXT computers.
Shareware,Bu+
NEXTMI-D         NEXTMI-D@BROWNVM  NeXT Computer Miscellaneous Digest
NEXTPR-D         NEXTPR-D@BROWNVM  NeXT Computer Programmer Digest
NEXTSTEP         NEXTSTEP@IRISHVMA NeXTSTEP 3.0 & NeXTSTEP 486 for Intel
NEXTSUPP         NEXTSUPP@RICEVM1  NeXT Campus Support
NEXTSY-D         NEXTSY-D@BROWNVM  NeXT Computer Sysadmin Digest
NFDL-L           NFDL-L@SEARN      Nordisk Forum for Datast|ttet L{ring
NHILLEL          NHILLEL@GWUVM     National List for Jewish Students
NIATRN-L         NIATRN-L@BROWNVM  National Institute on Aging Population
Resea+
NIC-INFO         NIC-INFO@FRMOP11  Numerically Intensive Computing (General
Inf+
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NIH-L	NIH-L@WSUVM1	WSU OGRD NIH Redistribution List
NIHDIS-L	NIHDIS-L@JHUVM	NIH Guide Discussion List
NIHGDE-L	NIHGDE-L@JHUVM	NIH Guide Primary Distribution
NIHGUIDE	NIHGUIDE@UWAVM	NIH Guide U of Washington Distribution
NIHONGO	NIHONGO@MITVMA	Japanese Language Discussion List
NIPRI	NIPRI@GWUVM	The National Indian Policy Research Institut+
NIS-REP	NIS-REP@ICNUCEVM	GARR NIS Report
NISO-L	NISO-L@NERVM	National Information Standards Organization
NISS	NISS@PLEARN	Discussion list NISS
NKI-BBS	NKI-BBS@NKI	NKI Electronic Bulletin Board
NL-KR	NL-KR@DB0TUI11	Local redistribution of NL-KR@CS.ROCHESTER.E+
	NL-KR@RPITSVM	Natural Language and Knowledge Representation
NL-KR-L	NL-KR-L@TAUNIVM	Natural Language & Knowledge Representation +
NLSNEWS	NLSNEWS@OHSTVMA	NLSNEWS NLS Newsletter Subscription List
NLSUPDAT	NLSUPDAT@OHSTVMA	NLSUPDAT NLS Data Update Service
NMBRTHRY	NMBRTHRY@NDSUVM1	Number Theory List
NMG	NMG@NRCVM01	Novell Netware Master's Group
NMP-L	NMP-L@IUBVM	NACO Music Project
NMSUBCS	NMSUBCS@NMSUVM1	LIST FOR BCS MAJORS AT NMSU (rheadric)
NN-TEST	NN-TEST@PURCCVM	Test list for VMNETNEWS postings
NNDIRONT	NNDIRONT@UTORONTO	Netnorth Directors in Ontario (NNDIRONT)
NNEWS	NNEWS@NDSUVM1	Network-News
NNMVS-L	NNMVS-L@USCVM	MVS/TSO NNTP News Reader (NNMVS) Discussion
NNRP-L	NNRP-L@BROWNVM	Network News Reader Protocol List
NNRVM-L	NNRVM-L@VMTECQRO	Discussion of NNR/VM (News Client Software f+
NNSP-L	NNSP-L@UNCVM1	National Network of State Polls.
NNWESTDOWN	DOWN-L@UALTAVM	NetNorth West System Down Announcements.
NNWESTVIP	NNWEST-L@UALTAVM	NetNorth West VIP's
NO-ARG-B	NO-ARG-B@UKACRL	NO-ARG-B (not yet operational)
NO-L-ARG	NO-L-ARG@UKACRL	NO-L-ARG : Nitric Oxide/L-Arginine discussio+
NODAK-L	NODAK-L@NDSUVM1	NODAK-L North Dakota Issues
NODAPPLS	NODAPPLS@JPNSUT30	student's discussion list at Noda campus
NODMGT-L	NODMGT-L@BITNIC	(Peered) Node Management Discussion
	NODMGT-L@DEARN	(Peered) Node Management Discussion
	NODMGT-L@HEARN	(Peered) Node Management Discussion
	NODMGT-L@MARIST	(Peered) Node Management Discussion
	NODMGT-L@UGA	(Peered) Node Management
NOEARN-L	NOEARN-L@NOBIVM	Drift og planlegging av EARN i Norge.
NOMAD2-L	NOMAD2-L@TAMVM1	The NOMAD2 Discussion List
NOMINATE	NOMINATE@BITNIC	NOMINATE - CREN Nominating Committe
NONMEM-L	NONMEM-L@UBVM	NONMEM AND THE USE OF POPULATION PHARACOKINE+
NORDBALT	NORDBALT@SEARN	Networking between Nordic and Baltic countri+
NORDREN	NORDREN@SEARN	Nordic Initiative for a Research and Educati+
NORTHBAY	NORTHBAY@UCSFVM	North Bay ITS Commuter Info. Exchange
NOTABENE	NOTABENE@TAUNIVM	Nota Bene List
NOTICIA	NOTICIA@BRLNCC	REVISTA ELETRONICA DO CENTRO LATINO-

AMERICAN+
NOTICIAS NOTICIAS@BRUFSC Sinopse de jornais do pais recebidos da BRAS+
NOTICOL NOTICOL@ANDESCOL Noticias de Colombia
NOTIEXT NOTIEXT@UNAMVM1 Servicio de noticias para Instituciones exte+
NOTIRED NOTIRED@UNAMVM1 Servicio de noticias e informacion acerca de+
NOTIS-AR NOTIS-AR@UMINN1 (Peered) NOTIS-AR Archives & Manuscripts Dis+
NOTIS-L NOTIS-L@TCSVM NOTIS discussion group list
NOTISACQ NOTISACQ@CUVMB NOTIS Acquisitions Discussion Group
NOTIUNAM NOTIUNAM@UNAMVM1 Servicio de noticias e informacion acerca de+
NOTMUS-L NOTMUS-L@UBVM NOTIS MUSIC LIBRARY LIST
NOVELL NOVELL@SUVM Novell LAN Interest Group
NOVELL@UIUCVMD NOVELL from SUVM (log files only)
NOVOPS NOVOPS@SUVM Novell Technology Operations List
NOVTTP NOVTTP@SUVM Novell Technology Transfer Partners List
NRSING-L NRSING-L@UMSSMDVM Nursing Informatics List
NRSOCSCI NRSOCSCI@UWAVM NRSOCSCI
NSC92 NSC92@FRORS12 The Networking Services Conference '92
NSC93-L NSC93-L@FRORS12 The Networking Services Conference '93
NSFDOC-L NSFDOC-L@JHUVM Bitnet re-distribution of NSF STIS documents
NSNNEWS NSNNEWS@FINHUTC Nsn/News
NSP-L NSP-L@RPITSVM Noble Savage Philosphers mailing list
NTRNET-L NTRNET-L@UTKVM1 Electronic Communications and Information Re+
NTS-L NTS-L@DHDURZ1 NTS-L Distribution list
NUCL-THL NUCL-THL@JPNYITP Preprint server for Nuclear Theory
NUPES-L NUPES-L@BRUSPVM Nucleo de Pesquisa sobre Ensino Superior da +
NURCENS NURCENS@UNCVM1 Nursing Centers List.
NUSLIST NUSLIST@NUSVM NUSVM General Discussion Group
NUTEPI NUTEPI@DB0TUI11 Nutritional epidemiology
NUTN-L NUTN-L@OSUVM1 NUTN Member List
NUTWORKS NUTWORKS@TCSVM NutWorks Distribution list
NVAS-L NVAS-L@CUVMC NetView Access Services session manager disc+
NYGDEC-L NYGDEC-L@ALBNYDH2 NYS Government DEC Users Group
NYSERTEC NYSERTEC@POLYVM NYSERNet Technical List
NYSO-L NYSO-L@UBVM MLA New York State/Ontario Chapter Discussio+
N4H-L N4H-L@VTVM1 Northern 4H Center
OACTESTL OACTESTL@UCLACN1 OAC TEST LIST
OBJ-REL OBJ-REL@EMUVM1 Objective Discussion of Religion
OBSERVER OBSERVER@RPITSVM COMCONF Observers
OCAS-L OCAS-L@HUMBER (Peered) OCAS Users Discussion List
OCULARIE OCULARIE@QUCDN Ontario College and University Libraries -- +
OCULINU OCULINU@QUCDN Ontario College and University Libraries -- +
ODP-L ODP-L@TAMVM1 Ocean Drilling Program Open Discussion List
OFFCAMP OFFCAMP@WAYNEST1 Off-Campus Library Services List
OFFICE-L OFFICE-L@UKANVM KU OFFICE Users

OH-ADMN	OH-ADMN@AKRONVM	OHECC Administrative Discussion List
OICISNET	OICISNET@SAIRTI00	Discussion list for the Network Project of O+
OISMT-L	OISMT-L@UKANVM	OIS Microcomputer and LAN Team
OISNEWS	OISNEWS@IUBVM	OISNEWS: News For IU International Students +
OIT-SPI	OIT-SPI@UNCVM1	UNC/OIT List for SPIRES Users.
OLADE-L	OLADE-L@UNALCOL	Organizacion Latinoamericana de Energia
OMRSCAN	OMRSCAN@UOGUELPH	OMR Scanner Discussion
ONACLABS	ONACLABS@HUMBER	(Peered) Ontario Academic Computer Lab Admin+
ONE-L	ONE-L@CLVM	Organization and the Natural Environment
OOO-L	OOO-L@PLTUMK11	UMK Computer Centre discussion list
OPERATIONS	OPERS-L@AKRONVM	(Peered) Mainframe Operations Discussion List
	OPERS-L@PCCVM	(Peered) Mainframe Operations Discussion List
OPGRP-L	OPGRP-L@VTVM2	Virginia Tech Vax Operations Group/LUG
OPT-PROC	OPT-PROC@TAUNIVM	Optical Computing and Holography List
OPTICS-L	OPTICS-L@TAUNIVM	Optics Newsletter
OR-L	OR-L@UALTAVM	An Informal List for Official Representative+
ORACL-UT	ORACL-UT@UTORONTO	ORACL-UT - University of Toronto ORACLE Issu+
ORACLE-L	ORACLE-L@SBCCVM	ORACLE database mailing list.
ORADLIST	ORADLIST@UCLACN1	ORAL RADIOLOGY
ORCS-L	ORCS-L@OSUVM1	Operations Research/Computer Science Interfa+
OREBAN-L	OREBAN-L@PSUORVM	Oregon Banner List
ORGCOMM	ORGCOMM@RPITSVM	Communication in organizations
ORONO-L	ORONO-L@UWF	Panel Discussion for AAPT 92 Summer Meeting +
ORTHODOX	ORTHODOX@ARIZVM1	Orthodox Christianity
ORTRAD-L	ORTRAD-L@MIZZOU1	Comparative Oral Traditions Discussion List
OSC	L-OSC@AKRONVM	Ohio SuperComputing Discussion List
OSIMA-L	OSIMA-L@DEARN	OSI Management Application Project
OSTF	OSTF@CUVMC	Operations Security Task Force
OS2	OS2@BLEKUL11	Moderated discussion forum on OS/2
OS2-L	OS2-L@HEARN	IBM OS/2 Unedited Discussion List
OS2RZ-L	OS2RZ-L@DOSUNI1	Fragen zu OS2, (lokale Liste, Uni Osnabrueck+
OS2USERS	OS2USERS@MCGILL1	OS/2 Users Discussion List
OT_NATL	OT_NATL@ARIZVM1	Theta Tau National Fraternity
OTS-L	OTS-L@YALEVM	Organization for Tropical Studies at Yale Un+
OURA-L	OURA-L@RYERSON	Ontario University Registrars' Association D+
OURASG-L	OURASG-L@RYERSON	Ontario University Registrar's Association D+
OUSSS-L	OUSSS-L@UTORONTO	Ontario University Systems Software Support +
OUTAGES	OUTAGES@ASUACAD	ASU Network Outage Notification
OUTDOR-L	OUTDOR-L@ULKYVM	Outdoor Discussion Group
OVERLEG	ONS-L@HEARN	Discussielijst over Nijmeegse Universitaire +
OVISION	OVISION@VTVM1	ObjectVision, Application Development

OXYGEN-L	OXYGEN-L@MIZZOU1	Oxygen Free Radical Biology and Medicine Dis+
PA_NET	PA_NET@SUVM	Public Administration Network
PACARC-L	PACARC-L@WSUVM1	Pacific Rim Archaeology Interest List
PACE-L	PACE-L@GSUVM1	PACE-L -- PACE degree audit system discussio+
PACES-L	PACES-L@UNBVM1	Publications Assoc. of Canadian Engineering +
PACIFIC	PACIFIC@BRUFPB	FORUM FOR AND ABOUT PACIFIC OCEAN AND ISLANDS
PACS-L	PACS-L@UHUPVM1	Public-Access Computer Systems Forum
PACS-P	PACS-P@UHUPVM1	Public-Access Computer Systems Publications
PACV-L	PACV-L@DEARN	PACV-L Discussions list
PAGE-L	PAGE-L@UCF1VM	IBM 3812/3820 Tips and Problems Discussion L+
PAGEIN-L	PAGEIN-L@HEARN	Discussion List for the CEC RARE II PAGEIN p+
PAGEMAKR	PAGEMAKR@INDYCMS	PageMaker for Desktop Publishers
PAINTBOL	PAINTBOL@TCSVM	Paintball discussion list
PAKISTAN	PAKISTAN@ASUACAD	(Peered) The Pakistan News Service
	PAKISTAN@PSUVM	(Peered) The Pakistan News Service
PANET-L	PANET-L@YALEVM	Medical Education and Health Information Dis+
PANIC	PANIC@UCHCECVM	Avisos de Condiciones de Error en los Server+
PAOK-L	PAOK-L@GREARN	The P.A.O.K. fans discussion List
PARA-DAP	PARA-DAP@IRLEARN	"Parallel Computing / AMT DAP mailing list"
PARADOX	PARADOX@BRUFPB	List for Borland Paradox users
PARAGN-L	PARAGN-L@IUBVM	Intel Paragon List for System Administrators+
PAROUTE	PAROUTE@BITNIC	Pathalias Routing Mailing List
PASCAL-L	PASCAL-L@TREARN	Pascal Language Discussion List
	PASCAL-L@UIUCVMD	Pascal (language) discussions
	PASCAL-L@YALEVM	Borland Pascal Discussion Group
PBP-L	PBP-L@ETSUADMN	Play-by-Play Sportscasters list
PC	PC@UCLACN1	PC & PS/2 platform discussion group
PC-EVAL	PC-EVAL@IRLEARN	Personal Computer Evaluation
PC-FORUM	PC-FORUM@TAUNIVM	Tel Aviv University PC Forum
PC-L	PC-L@UFRJ	(Peered) Forum IBM PC
PC-REXX	PC-REXX@UCF1VM	Personal REXX Discussion List
PCARAB-L	PCARAB-L@SAKFU00	Discussion Forum on Personal Computers Arabi+
PCBR-L	PCBR-L@UHCCVM	Pacific Business Researchers Forum (PCBR-L)
PCBUILD	PCBUILD@TSCVM	Building PCs
PCDOS-L	PCDOS-L@ALBNYDH2	PCDOS-L HINTS using DOS on the NYS Dept of H+
PCIP	PCIP@IRLEARN	TCP/IP Protocol Implementations for PC Discu+
PCIP-L	PCIP-L@BYUVM	(Peered) PCIP
	PCIP-L@OHSTVMA	(Peered) PCIP
	PCIP-L@TAMVM1	(Peered) PCIP
PCORPS-L	PCORPS-L@CMUVM	Discussion List for Intl Volunteers
PCSERV-L	PCSERV-L@UALTAVM	Public domain software servers
PCSUPT-L	PCSUPT-L@YALEVM	Forum for the discussion of PC user

support +
PCTECH-L PCTECH-L@TREARN (Peered) MS-DOS Compatibles Support Group
PCTRAN-L PCTRAN-L@YALEVM PCTrans Issues
PC9801 PC9801@JPNSUT30 NEC PC-9800 series discussion list
PDC-L PDC-L@HEARN PDC-L: A discussion list for PDC Prolog
user+
PDPPL PDPPL@PLWRTU11 Parallel and distributed processing list.
PENPAL-L PENPAL-L@UNCCVM UNCC PENPAL-L Discussion
PER PER@PLEARN PROJECT ON ETHNIC RELATIONS PER
PERBAZ PERBAZ@PLEARN DATABASE PERBAZ PERBAZ
PERBIB PERBIB@PLEARN DATABASE PERBIB PERBIB
PERDB PERDB@PLEARN DATABASE PERDB PERDB
PERDIR-L PERDIR-L@UBVM Personnel Directors, Associates, Managers
- +
PERFORM PERFORM@IUBVM PERFORM - Medieval Performing Arts
PERMIAS PERMIAS@SUVM Indonesian Student Association
PERMIKA PERMIKA@MCGILL1 Indonesian Group - Montreal
PEROT PEROT@MARIST Discussion of campaigning for President by
H+
PERSEUS PERSEUS@BROWNVM Perseus Discussion List
PERSIA-L PERSIA-L@EMUVM1 Jewish Literature and History in the
Persian+
PERSON-L PERSON-L@IRLEARN Personal and Micro Computer Users
Distributi+
PETS-L PETS-L@ITESMVF1 Domestic animal care and education list.
PFCOOR PFCOOR@ICNUCEVM Progetto Finalizzato Sistemi Informatici e
C+
PFERDE PFERDE@DLRVM Pferde Diskussionsliste (German Language)
PFSICP-1 PFSICP-1@ICNUCEVM 1 - CALCOLO SCIENTIFICO PER GRANDI SISTEMI
PFSICP-2 PFSICP-2@ICNUCEVM 2 - Processori Dedicati
PFSICP-3 PFSICP-3@ICNUCEVM 3 - Architetture Parallele
PFSICP-4 PFSICP-4@ICNUCEVM 4 - Linguaggi di nuova concezione
PFSICP-5 PFSICP-5@ICNUCEVM 5 - Sistemi evoluti per basi di dati
PFSICP-6 PFSICP-6@ICNUCEVM 6 - Metodi e strumenti per la
progettazione +
PFSICP-7 PFSICP-7@ICNUCEVM 7 - Sistemi di supporto al lavoro
intellettu+
PFSICP-8 PFSICP-8@ICNUCEVM 8 - Iniziative di supporto per il calc.
para+
PFUG-L PFUG-L@JHUVM Parallel FORTRAN Users' Group newsletter
PGUFMG-L PGUFMG-L@BRUFMG Lista para troca de informacoes entre os
est+
PHIGS-L PHIGS-L@SUVM GRAFIGS Interest Group
PHIKAP-L PHIKAP-L@PSUVM Phi Kappa Theta
PHILCOMM PHILCOMM@RPITSVM Philosophy of communication
PHILOSED PHILOSED@SUVM Students and Teachers Discussing
Philosophy +
PHILOSOP PHILOSOP@YORKVM1 Philosophy Discussion Forum
PHONEDIR PHONEDIR@NRCVM01 NRC Phone Directory
PHOTO-L PHOTO-L@BUACCA Photography Phorum
PHOTOSYN PHOTOSYN@TAUNIVM Photosynthesis Researchers' List
PHOTREAC PHOTREAC@JPNTUVM0 Electro- and Photo-Nuclear Reaction
Discussi+
PHYS-L PHYS-L@UWF Forum for Physics Teachers
PHYS-STU PHYS-STU@UWF Physics Student Discussion List
PHYSHARE PHYSHARE@PSUVM Sharing resources for high school physics
PHYSIC-L PHYSIC-L@TAUNIVM Physics List

PHYSICS	PHYSICS@MARIST	(Peered) Physics Discussion
	PHYSICS@RICEVM1	(Peered) Physics Discussion
	PHYSICS@UBVM	(Peered) Physics Discussion
PHYSJOB	PHYSJOB@WAYNEST1	Physics Jobs Discussion List
PHYSL-TR	PHYSL-TR@TRITU	Physiology Discussion List
PIADAS	PIADAS@PCCVM	Humor Distribution forum - (Portuguese langu+
PILOT5-L	PILOT5-L@FRCPN11	DECnet Phase V Pilot Group
PIPORG-L	PIPORG-L@ALBNYVM1	Pipe Organs and Related Topics
PITSREG2	PITSREG2@UBVM	BITNET2 Mid-Eastern U.S. List
PJAL	PJAL@UTXVM	PJAL - The Progressive Jewish Activism List
PJML	PJML@UTXVM	The Progressive Jewish Mailing List
PLEARN-L	PLEARN-L@UBVM	Discussion of Polish EARN topics
PLISTE-L	PLISTE-L@DOSUNI1	Mailing List, Fachbereich Physik (lokale Li+
PLNTINFO	PLNTINFO@SIVM	PLNTINFO - a Private conference on Plant Inf+
PL1-L	PL1-L@UIUCVMD	PL1 (language) discussions
PMAC-L	PMAC-L@PURCCVM	Information exchange for Macintosh administr+
PMAIL	PMAIL@UA1VM	Pegasus Mail Discussion List
PMC-BIT	PMC-BIT@NCSUVM	Postmodern Culture
PMC-LIST	PMC-LIST@NCSUVM	Postmodern Culture
PMC-TALK	PMC-TALK@NCSUVM	PMC-Talk
PMDF-L	PMDF-L@IRLEARN	PMDF Distribution List
PMN-MGR	PMN-MGR@ITOCSIVM	GARR-PMN NET MANAGEMENT
PNN-L	PNN-L@PUCC	PNN discussion list
PNWCSC	PNWCSC@UWAVM	PNWCSC Pacific Northwest Canadian Studies Co+
POD	POD@OHSTVMA	POD POD Network
POD-L	POD-L@TAMVM1	Professional Organizational Developement dis+
PODCORE	PODCORE@OHSTVMA	PODCORE POD Core Committee
PODIUM-L	PODIUM-L@UKCC	PODIUM-L LIST
POESIA	POESIA@UNALCOL	Poesia Latinoamericana.
POL$CRYS	POL$CRYS@PLEARN	Discussion list for the Polish Crystallograp+
POLAND-L	POLAND-L@UBVM	Discussion of Polish Culture list
POLAR-L	POLAR-L@UOGUELPH	POLAR-L DISCUSSION LIST
POLCAN	POLCAN@YORKVM1	POLCAN Canadian Political Science Discussion+
POLCOMM	POLCOMM@RPITSVM	Study of political communication
POLI-SCI	POLI-SCI@RUTVM1	Political Science Digest
POLICY-L	POLICY-L@BITNIC	(Peered) Discussion about BITNET policies
	POLICY-L@DEARN	(Peered) Discussion about BITNET policies
	POLICY-L@HEARN	(Peered) Discussion about BITNET policies
	POLICY-L@MARIST	(Peered) Discussion about BITNET policies
	POLICY-L@UGA	(Peered) Discussion about BITNET policies
	POLICY-L@UIUCVMD	POLICY-L (log files only)
POLITICA	POLITICA@UFRJ	Discussoes sobre a Politica Brasileira
POLITICS	POLITICS@OHSTVMA	(Peered) Forum for the Discussion of Politics
	POLITICS@UCF1VM	(Peered) Forum for the Discussion of Politics
POLITIKA	POLITIKA@TRITU	Turk Siyaseti Uzerine Tartisma Listesi
POLPAL-L	POLPAL-L@UOGUELPH	POLPAL-L DISCUSSION LIST

POLYMERP	POLYMERP@HEARN	(Peered) Polymer Physics discussions
	POLYMERP@RUTVM1	(Peered) Polymer Physics discussions
POSAB-L	POSAB-L@VTVM1	Professional Office Staff Advisory Board
POSCIM	POSCIM@DEARN	POSCIM POlitical SCIences Mailinglist
POST-STD	POST-STD@BITNIC	POSTMAST STANDARD List
POSTCARD	POSTCARD@IDBSU	POSTCARD@IDBSU - for those interested in exc+
POSTMAST	POSTMAST@PURCCVM	Postmasters
	POSTMAST@UICVM	UICVM Postmaster
	POSTMAST@UREGINA1	POSTMASTER INFOMATION.
POWER-L	POWER-L@NDSUVM1	POWER-L IBM RS/6000 POWER Family
POWERH-L	POWERH-L@UNBVM1	Discussion list for the PowerHouse Software
PPAGES-L	PPAGES-L@PSUVM	PENPAGES project between Penn State and Wisc+
PPEINFO	PPEINFO@CERNVM	No title defined
PPSINF-L	PPSINF-L@UCSFVM	Payroll Technical Information Exchange
PRACTICE	PRACTICE@ARIZVM1	UofA Practice List for Testing LISTSERV
	PRACTICE@ASUACAD	Get your practice in here!
PRENAT-L	PRENAT-L@ALBNYDH2	Perinatal Outcomes
PRIE-L	PRIE-L@UCSFVM	Packet Radio Internet Extension List.
PRIMENJI	PRIMENJI@UKCC	UK's Prime-NJI Emulator
PRIPROM	PRIPROM@PURCCVM	CPT Primary Promotions Sub-Comm
PRISON-L	PRISON-L@DARTCMS1	Prison Teacher's Discussion List
PRNCYB-L	PRNCYB-L@BINGVMB	Principia Cybernetica Project
PRO-CITE	PRO-CITE@IUBVM	PRO-CITE The Personal Bibliographic Software+
PROCUR-B	PROCUR-B@OSUVM1	Commerce Business Daily - Procure
PROFEE-L	PROFEE-L@BRUFMG	Lista para intercambio entre os professores +
PROFS-L	PROFS-L@DEARN	(Peered) PROFS discussion
	PROFS-L@MARIST	(Peered) PROFS discussion
	PROFS-L@RUTVM1	(Peered) PROFS discussion
	PROFS-L@TCSVM	(Peered) PROFS discussion
	PROFS-L@UGA	(Peered) PROFS discussion
	PROFS-L@VTVM1	(Peered) PROFS discussion
	PROFS-L@VTVM2	(Peered) PROFS discussion
PROFSALT	PROFSALT@PCCVM	PROFS Alternatives
PROG-A16	PROG-A16@UOGUELPH	INFO-ATARI16 Programs
PROGDIL	PROGDIL@TREARN	Programlama dillerini tartisma listesi (in T+
PROINFO	PROINFO@IBACSATA	LISTA SERVIZI DI INFORMAZIONI DI PROMOZIONE
PROP-L	PROP-L@UTARLVM1	Programmable Operator List
PROPRIO	PROPRIO@UQUEBEC	Proprietaires de listes.
PROSEN-L	PROSEN-L@UBVM	UB Professional Staff Senate Discussion List
PROSODY	PROSODY@MSU	Prosody Discussion List
PROSTAFF	PROSTAFF@UWAVM	PROSTAFF PROFESSIONAL STAFF
PROTEON	PROTEON@NUSVM	Proteon Mailing List
PROTOCOL	PROTOCOL@UIUCVMD	Computer Protocol Discussion
PROVPL-L	PROVPL-L@BROWNVM	Providence Plan List
PSATC-L	PSATC-L@UBVM	Problem Solving Across the Curiculum Confere+
PSI-L	PSI-L@RPITSVM	Parapsychology Discussion Forum
PSIKOLOG	PSIKOLOG@TRITU	Insan Psikolojisini irdeleyen Arastirma ve T+

PSRT-L	PSRT-L@MIZZOU1	Political Science Research and Teaching List
PST-L	PST-L@UTORONTO	Domain Application Technical Contacts
PSTAT-L	PSTAT-L@IRLEARN	Discussion of Stats and Programming relating+
PSUTOOLS	PSUTOOLS@PSUVM	Discussion of the programs in the PSUTOOLS F+
PSYC	PSYC@PUCC	PSYCOLOQUY: Refereed Electronic Journal of P+
PSYCGRAD	PSYCGRAD@UOTTAWA	Psychology Graduate Students Discussion Grou+
PSYCH-L	PSYCH-L@UOTTAWA	UOTTAWA School of Psychology Discussion List
PSYCHE-D	PSYCHE-D@NKI	PSYCHE Discussion Forum
PSYCHE-E	PSYCHE-E@NKI	"Forum for Psyche editors"
PSYCHE-L	PSYCHE-L@NKI	"PSYCHE: a journal of research on consciousn+
PSYGRD-J	PSYGRD-J@UOTTAWA	The Psychology Graduate-Student Journal: The+
PSYLAW-L	PSYLAW-L@UTEPA	Psychology and Law, international discussion
PSYSTS-L	PSYSTS-L@MIZZOU1	Psychology Statistics Discussion
PTFAIL	PTFAIL@PTEARN	National Network (.pt) Link Failures Annouce+
PTM-L	PTM-L@ASUACAD	PTM-L
PTNET	PTNET@PTEARN	Discussao da Rede Nacional Integrada
PTT-L	PTT-L@TREARN	List for discussion of Turkish issues
PUBGRF-L	PUBGRF-L@NCSUVM	A.S.A. PD Graphics Repository Discussion
PUBRADIO	PUBRADIO@IDBSU	PUBRADIO@IDBSU - Public Radio Discussion Gro+
PUMP-L	PUMP-L@UVVM	PUMP Discussion List
PURTOPOI	PURTOPOI@PURCCVM	Rhetoric, Language, Prof Writing
PURXTEAM	PURXTEAM@UWAVM	PURXTEAM UW Purchasing Team
PVM-L	PVM-L@JHUVM	Pass-Through Virtual Machines discussion list
PWRUSR-L	PWRUSR-L@MCGILL1	Power Users Group
Q-METHOD	Q-METHOD@KENTVM	Q Methodology Network
QADATA-L	QADATA-L@ALBNYDH2	New York State Department of Health: Data Qu+
QI-L	QI-L@WUVMD	Bioenergy Discussion List
QIFORVM	QIFORVM@UABDPO	qi for VM Discussion Group
QLIB-L	QLIB-L@QUCDN	Queen's University Libraries Information
QM-L	QM-L@YALEVM	QuickMail (CE Software) Users
QMAIL-L	QMAIL-L@NCSUVM	QMail Information List
QNTEVA-L	QNTEVA-L@PSUVM	Quantitative Methods: Theory and Design. A +
QUAKE-L	QUAKE-L@NDSUVM1	QUAKE-L Discussion List
QUAKER-L	QUAKER-L@UIUCVMD	Quaker concerns re community, consensus proc+
QUAKER-P	QUAKER-P@UIUCVMD	Quaker concerns related to peace and social +
QUALITY	QUALITY@PUCC	Total Quality Management in Manufacturing an+
QUALNET	QUALNET@SUVM	Wordcrunchers - Microcomputer Analysis of Qu+
QUALRS-L	QUALRS-L@UGA	Qualitative Research for the Human Sciences

QUALRSED	QUALRSED@UNMVMA	Qualitative Research in Education
QUARKXPR	QUARKXPR@IUBVM	The Quark Express List
QUASI-L	QUASI-L@DEARN	QUASI-L Quasiperiodicity -- Theory and Appli+
QUATRO-L	QUATRO-L@YALEVM	Borland Quattro Discussion Group at Yale
QUEENS-L	QUEENS-L@DEARN	QUEENS-L LIST
QUESTION	QUESTION@IPFWVM	IPFW User Question and Answer List
QUIDNOVI	QUIDNOVI@ASUACAD	QUIDNOVI: WHAT'S NEW--COMPUTER APPLICATIONS +
R-CALDAS	R-CALDAS@ANDESCOL	Hablemos sobre la Red Caldas
RACF-L	RACF-L@UGA	RACF Discussion List
RADCH-L	RADCH-L@FRCPN11	liste de distribution pour les RADIOCHIMISTEs
RADIS-L	RADIS-L@UWAVM	RADIS-L
RADSIG	RADSIG@UWAVM	Radiology Special Interest Group
RAILROAD	RAILROAD@CUNYVM	The Railroad List
RAMIS-L	RAMIS-L@CFRVM	RAMIS - 4GL Discussion List
RANDOM	RANDOM@IBACSATA	RANDOM meeting group
RARE-BTF	RARE-BTF@HEARN	The RARE ATM Task Force
RARE-MME	RARE-MME@IBACSATA	RARE Working Group 1 Multi Media Environment
RARE-WG1	RARE-WG1@IBACSATA	RARE Working Group 1
RARE-WG8	RARE-WG8@HEARN	RARE Working Group 8
RATION-L	RATION-L@TAUNIVM	Hebrew University Center for Rationality
RBM-L	RBM-L@YALEVM	RBM test list
RBMI	RBMI@FRORS13	Groupe de Recherche en Biologie Moleculaire +
RC-LIST	RC-LIST@UCF1VM	Reevaluation Co-counseling discussion list
RCP-L	RCP-L@BRUFSC	(Peered) FORUM RCP-L - Rede Catarinense de P+
RCUG	RCUG@IRLEARN	Real COKE Users Group
RDM-L	RDM-L@UVVM	RDM Discussion List
RE-FORUM	RE-FORUM@UTARLVM1	Real Estate Forum
REACH	REACH@UCSBVM	Research and Educational Applications of Com+
RECS-L	RECS-L@UVMVM	RECS-L: Rehab Engineering Centers' Discussio+
RECYCLE	RECYCLE@UMAB	Recycling in Practice
RED-BUG	RED-BUG@TREARN	Red (TRICKLE) File Server Bug Report Line
RED-INFO	RED-INFO@UCHCECVM	LIsta de Informaciones y Consultas con respe+
RED-NET	RED-NET@ICINECA	Discussione Research in Education and Didact+
RED-SYS	RED-SYS@TREARN	Red File Server System Performance Discussio+
RED-UG	RED-UG@HEARN	(Peered) Red File Server Users Group on Prov+
	RED-UG@PTEARN	Red Users Group on Provided Software
	RED-UG@TREARN	(Peered) Red Users Group on Provided Software
REDADMIN	REDADMIN@UCHCECVM	Administracion Red
REDALC	REDALC@FRMOP11	Reseau Amerique Latine et Caraibes
REDEMG-L	REDEMG-L@BRUFMG	Forum de discussao da Rede Minas
REDINT	REDINT@FRMOP11	Coordination interne projet REDALC
REDTEC	REDTEC@UCHCECVM	Administracion Tecnica de la red REUNA.
REDUCE-L	REDUCE-L@DEARN	reduce-forum
REDUL	REDUL@FRMOP11	COORDINACION DEL PROYECTO REDALC

REDULC	REDULC@FRMOP11	Reunion Electronica de Educadores para Usuar+
REED-L	REED-L@UTORONTO	REED-L: Records of Early English Drama Discu+
REGIST-L	REGIST-L@GSUVM1	Registrar Discussion
REGS-L	REGS-L@ALBNYDH2	Title 10 Rules and Regulations
REGSC-L	REGSC-L@WVNVM	Regional Science Information Exchange
RELATIV1	RELATIV1@UWF	Group 1 - Special Relativity
RELATIV2	RELATIV2@UWF	Group 2 - Special Relativity
RELAY-TR	RELAY-TR@TREARN	RELAY ile ilgili tartisma...
RELIGCOM	RELIGCOM@UKCC	RELIGCOM --A Discussion forum re: RELigious +
RELUSR-L	RELUSR-L@UALTAVM	(Peered) Relay Users Forum
REL3-L	REL3-L@LEPICS	L3 reconstruction software forum
REMOTE-L	REMOTE-L@SUVM	Discussion of Remote Control Hobbies.
RENAIS-L	RENAIS-L@ULKYVM	Early Modern History - Renaissance
RENPAC-L	RENPAC-L@BRLNCC	USUARIOS REMOTOS VIA RENPAC
REP-L	REP-L@UTORONTO	Domain Representatives
REPARCHI	REPARCHI@ICNUCEVM	CNUCE Reparto Architetture Hardware e Softwa+
REPUB-L	REPUB-L@MARIST	Discussion of Republican Politics
REPUBLIC	REPUBLIC@GITVM1	Georgia Tech College Republicans
RES-COMP	RES-COMP@NKI	Research Computing Forum
RESEARCH	RESEARCH@TEMPLEVM	Research news from Temple University
RESMON-L	RESMON-L@UAFSYSB	VMRESMON Maintainers List
RESPONSE	RESPONSE@NDSUVM1	RESPONSE to KIDLink Questions
REVIEW-L	REVIEW-L@UOTTAWA	The CONTENTS Project Full Text Review List
REXX-L	REXX-L@UIUCVMD	Rexx (language) discussions
REXXCOMP	REXXCOMP@UCF1VM	Rexx Compiler Discussion List
REXXLIST	REXXLIST@DEARN	(Peered) General REXX Discussion List
	REXXLIST@HEARN	(Peered) VM/SP REXX Language Discussion List
	REXXLIST@OHSTVMA	(Peered) General REXX Discussion List
	REXX-L@UALTAVM	(Peered) The Rexx Language Discussion List
	REXXLIST@UCF1VM	(Peered) General REXX Language Discussion Li+
	REXXLIST@UGA	(Peered) REXX Programming discussion list
RFERL-L	RFERL-L@UBVM	RFE/RL Research Institute Daily Report
RFMH-BBS	RFMH-BBS@NKI	RFMH Electronic Bulletin Board
RGAUQ-L	RGAUQ-L@MCGILL1	Regroupement de Gestionnaires en Approvision+
RGC-L	RGC-L@GSUVM1	GA Regents' Global Center Info
RHA-L	RHA-L@TAMVM1	Resident Hall Association Discussion List
RHCFRP-L	RHCFRP-L@ALBNYDH2	RHCFRP-L Residential Health Care Facilities +
RHETAREA	RHETAREA@UMDD	Rhetoric and Composition Discussion
RHETORIC	RHETORIC@RPITSVM	Rhetoric, social movements, persuasion
RIBO-L	RIBO-L@URIACC	Title German/English discussion group
RICECWIS	RICECWIS@RICEVM1	Rice CWIS Discussion List
RIGHTS-L	RIGHTS-L@AUVM	Rights and Responsibilities List
RINAF-L	RINAF-L@ICNUCEVM	RINAF News
RIP-EXP	RIP-EXP@BROWNVM	RI.K12.Experiences
RIP-FUND	RIP-FUND@BROWNVM	RI.K12.Providers.Funding
RIP-SS	RIP-SS@BROWNVM	RI.K12.SocialStudies
RIP-STAF	RIP-STAF@BROWNVM	RI.K12.Providers.Staff
RIP-TECH	RIP-TECH@BROWNVM	RI.K12.Providers.Tech
RIRR	RIRR@ICNUCEVM	CNUCE Reparto Infrastrutture di Rete per

la +		
RIRRPRIV	RIRRPRIV@ICNUCEVM	CNUCE Reparto Infrastrutture di Rete per
la +		
RISK	RISK@UTXVM	Risk and Insurance Issues
RISKS	RISKS@MARIST	(Peered) Risks List
	RISKS@UBVM	(Peered) Risks List
	RISKS@UGA	(Peered) Risks List
RLGAMSC	RLGAMSC@RUTVM1	RLG Archives, Manuscripts and Special
Collec+		
RLGART-L	RLGART-L@YALEVM	RLG Art and Architecture
RLGLAW-L	RLGLAW-L@UMINN1	(Peered) RLGLAW-L RLG Law Library List
RLGPRE-L	RLGPRE-L@YALEVM	RLG PRESERVATION LIST
RLGPSCD	RLGPSCD@BROWNVM	RLG Public Service and Collection
Developmen+		
RLIN-L	RLIN-L@RUTVM1	RLIN-L, a forum devoted to RLIN issues
RMBL-L	RMBL-L@UMDD	Rocky Mountain Biological Lab's List
RMUSIC-L	RMUSIC-L@GITVM1	"Music Discussion List"
RNA	RNA@UTFSM	Lista de Informacion sobre Redes de
Neuronas+		
RNPADM-L	RNPADM-L@BRLNCC	ADMINISTRADORES DE NOS DA RNP
RNPTEC-L	RNPTEC-L@BRLNCC	Forum Tecnico da Rede Nacional de Pesquisa
ROB-L	ROB-L@UMAB	TEST LIST
ROBOTECH	ROBOTECH@USCVM	Robotech Mecha Listserv Group
ROCK	ROCK@TRITU	Rock&Roll Music Discussion List
ROOTS-L	ROOTS-L@NDSUVM1	ROOTS-L Genealogy List
ROUTTAB	ROUTTAB@BITNIC	ROUTTAB Test Sites List
RPCENTER	RPCENTER@PUCC	Rutgers-Princeton Center
RPTCRD	RPTCRD@GWUVM	Daily Report Card News Service
RQSS	RQSS@UQUEBEC	Regroupement quebecois des sciences
sociales		
RRA-L	RRA-L@KENTVM	Romance Readers Anonymous
RSCS-L	RSCS-L@PUCC	RSCS Discussion List
RSCSMODS	RSCSMODS@POLYVM	The RSCS Modifications List
	RSCSMODS@TAMVM1	The RSCS modifications list
	RSCSMODS@UGA	The RSCS modifications list
RSTRAN-L	RSTRAN-L@YALEVM	RSCS Transparent Line Drivers for IBM 7171
RS1-L	RS1-L@NDSUVM1	RS1-L RS/1 List
RUNCOL	RUNCOL@ANDESCOL	Red Universitaria Nacional de Colombia
RUNCOL-D	RUNCOL-D@UNALCOL	Directorio de RunCol (Red Universitaria
Colo+		
RURALAM	RURALAM@MSU	Rural America Cluster Evaluation
RURALDEV	RURALDEV@KSUVM	Community and Rural Economic Development
Int+		
RUSAG-L	RUSAG-L@UMDD	Russian Agriculture
RUSHIST	RUSHIST@CSEARN	(Peered) RusHist - Russian History Forum
	RUSHIST@DOSUNI1	(Peered) RusHist - Russian History Forum
	RUSHIST@UMRVMB	(Peered) RusHist - Russian History Forum
	RUSHIST@USCVM	(Peered) RusHist - Russian History Forum
RUSSIA	RUSSIA@ARIZVM1	Russia & her neighbors
RUSSIAN	RUSSIAN@ASUACAD	Russian Language Issues
RUSTEX-L	RUSTEX-L@UBVM	Russian TeX and Cyrillic text processing
list		
RXIRC-L	RXIRC-L@VMTECQRO	Discussion of rxIRC (Internet Relay Chat
cli+		
RZPOST-L	RZPOST-L@DOSUNI1	Postkasten des Rechenzentrums der Uni
Osnabr+		
R2B2	R2B2@UBVM	BITNET II REGION 2 INFORMATION LIST

SAC-L	SAC-L@UCSFVM	Staff Advisory Committee List
SAFETY	SAFETY@UVMVM	Safety
SAG-L	SAG-L@UAFSYSB	Software AG Discussion List
SAGU-L	SAGU-L@UOTTAWA	Student Affairs Groupe d'Usagers
SAIS-L	SAIS-L@UNBVM1	Science Awareness and Promotion Discussion
SAM-L	SAM-L@TEMPLEVM	Sigma Alpha Mu Discussion List
SAME	SAME@FRORS13	SAME : Symbolic and Algebraic Manipulation
i+		
SAMORZ-L	SAMORZ-L@PLTUMK11	List for all Polish student governments.
SAMPLE	SAMPLE@BGEARN	LISTEARN Sample List. This is the list's
hea+		
	SAMPLE@ESOC	LISTEARN Sample List. This is the list's
hea+		
	SAMPLE@IBACSATA	LISTEARN Sample List. This is the list's
hea+		
	SAMPLE@ITOCSIVM	LISTEARN Sample List. This is the list's
hea+		
	SAMPLE@TREARN	LISTEARN Sample List. This is the list's
hea+		
SANAT-L	SANAT-L@TRITU	Sanat Uzerine Tartisma Listesi
SAO-L	SAO-L@UHCCVM	Student Affairs Officers -- Discussion
List +		
SAS-L	SAS-L@AWIIMC12	(Peered) SAS(r) Discussion
	SAS-L@MARIST	(Peered) SAS(r) Discussion
	SAS-L@OHSTVMA	(Peered) SAS(r) Discussion
	SAS-L@TCSVM	(Peered) SAS(r) Discussion (TCSVM)
	SAS-L@UALTAVM	(Peered) SAS(r) Discussion
	SAS-L@UGA	(Peered) SAS(r) Discussion
	SAS-L@VTVM1	(Peered) SAS(r) Discussion
	SAS-L@VTVM2	(Peered) SAS(r) Discussion
SASBOF-L	SASBOF-L@UNCVM1	SAS BOF Group.
SASJOB-L	SASJOB-L@ALBNYDH2	SAS JOBS-SAS CLASSES/SEMINARS
SASKERN	SASKERN@BLEKUL11	K.U.Leuven SAS kerngroep users mailing
list		
SASKUL	SASKUL@BLEKUL11	K.U.Leuven SAS users mailing list
SASOS2-L	SASOS2-L@UNCVM1	RTPNC SAS/OS2 User Group.
SASPAC-L	SASPAC-L@UMSLVMA	SAS Public Access Consortium - SASPAC-L
SASTUN-L	SASTUN-L@NCSUVM	SAS Performance Testing Discussion
SASUG	SASUG@MARIST	Marist SAS Users Group
SATEDU-L	SATEDU-L@WCU	Satellite Education List
SATURN	SATURN@HEARN	Sun Ra and his Arkestra
SAVEIT-L	SAVEIT-L@USCVM	'SAVEIT' software discussion list.
SAW-L	SAW-L@UBVM	SAW Discussion List
SBC-EP	SBC-EP@UFRJ	SBC-EP - Forum de ensino e pesquisa da SBC
SBC-GRAF	SBC-GRAF@UFRJ	Comissao Especial de Computacao Grafica da
S+		
SBC-L	SBC-L@UFRJ	SBC - Forum de Debates dos Socios da SBC
SBDC-L	SBDC-L@VTVM1	Virginia's Small Business Development
Centers		
SBIEEE-L	SBIEEE-L@SBCCVM	SUNY/Stony Brook IEEE Local Chapter
SBM-L	SBM-L@UFRJ	SBM-L - FORUM DOS ASSOCIADOS DA SOCIEDADE
BR+		
SBMICR-L	SBMICR-L@UFRJ	SBMICRO - Forum de Debates em micro
eletroni+		
SBMICRO	SBMICRO@UFRJ	SBMICRO - Forum de Debates em micro
eletroni+		
SBN	SBN@IRISHVMA	South Bend area conversation

SBNC-L	SBNC-L@BRUSPVM	Sociedade Brasileira de Neurociencias e Comp+
SBNWX	SBNWX@IRISHVMA	South Bend area weather
SBPC-L	SBPC-L@SBCCVM	SUNY/Stony Brook PC Interest Group
SBPCHOJE	SBPCHOJE@BRLNCC	REVISTA ELETRONICA DA SBPC
SBRHYM-L	SBRHYM-L@SBCCVM	SUNY/Stony Brook Literary Underground
SBSTAT-L	SBSTAT-L@SBCCVM	SUNY/Stony Brook Statistical Software Intere+
SBSUPER	SBSUPER@SBCCVM	Stony Brook Supercomputer Mailing list
SBSWE-L	SBSWE-L@SBCCVM	Society of Women Engineers - Student Section+
SCAHRLDS	SCAHRLDS@PUCC	Discussions of SCA Heraldry
SCAP-L	SCAP-L@UBVM	SUNY Student Computing Access Program List
SCAPCOM	SCAPCOM@UBVM	SUNY Student Access to Computing Technology
SCCE-L	SCCE-L@PLTUMK11	Supercomputing in Central Europe.
SCERP-L	SCERP-L@NMSUVM1	Max Scott Southwest Center for Environmental+
SCGREEK	SCGREEK@GREARN	Social Culture Greek list.
SCHOLAR	SCHOLAR@CUNYVM	SCHOLAR: Natural Language Processing
SCHOOL-L	SCHOOL-L@IRLEARN	
SCIFRAUD	SCIFRAUD@ALBNYVM1	Discussion of Fraud in Science
SCIMAT-L	SCIMAT-L@UAFSYSB	Arkansas Science and Math Education
SCIMIN	SCIMIN@MCGILL1	Minutes for Faculty of Science
SCIT-BIB	SCIT-BIB@QUCDN	Studies in Communication and Information Tec+
SCIT-L	SCIT-L@QUCDN	Studies in Communication and Information Tec+
SCOBA	SCOBA@UMSLVMA	School of Business Test List
SCODAE	SCODAE@UMAB	Communications Network for Pharmacy-School-B+
SCR-L	SCR-L@MIZZOU1	Study of Cognitive Rehabilitation
SCREEN-L	SCREEN-L@UA1VM	Film and TV Studies Discussion List
SCRIB-L	SCRIB-L@HEARN	SCRIB-L Handwriting Production, Recognition,+
SCRIPT-L	SCRIPT-L@DEARN	(Peered) IBM vs Waterloo SCRIPT discussion g+
	SCRIPT-L@IRLEARN	SCRIPT-L Bulletin Board
	SCRIPT-L@UGA	(Peered) IBM vs Waterloo SCRIPT discussion g+
SCRNWRIT	SCRNWRIT@TAMVM1	Screen Writing Discussion List
SCR97-D	SCR97-D@TAMVM1	The SCRIPT/9700 Distribution List
SCR97-L	SCR97-L@TAMVM1	The SCRIPT/9700 Information List
SCSE	SCSE@UQUEBEC	Societe canadienne de science economique
SCT-INFO	SCT-INFO@POLYVM	The SCT-INFO distribution list
SCT-L	SCT-L@LLUVM	Banner System Implementation
SCTEAC-L	SCTEAC-L@BRUSPVM	Forum de discussao sobre Ensino de Ciencias
SCUBA-D	SCUBA-D@BROWNVM	Scuba Digest Redistribution
SCUBA-L	SCUBA-L@BROWNVM	Scuba diving discussion list
SCUG-G	SCUG-G@DGOGWDG1	Systems Center User Group - German
SCUPNEWS	SCUPNEWS@UCBCMSA	SCUPNEWS - Society for College & University +
SDA-L	SDA-L@LLUVM	Seventh-Day Adventists
SDOMINGO	SDOMINGO@ENLACE	SDOMINGO: Cultura y sociedad de la Republica+
SDS-L	SDS-L@AUVM	SDS List

SEANET-L	SEANET-L@NUSVM	Southeast Asian Studies List
SEARCH-L	SEARCH-L@PURCCVM	CPT Faculty Search & Screen Committee
SEASIA-L	SEASIA-L@MSU	Southeast Asia Discussion List
SECURITY	SECURITY@MARIST	(Peered) SECURITY Digest
	SECURITY@OHSTVMA	(Peered) SECURITY Digest
	SECURITY@TCSVM	(Peered) SECURITY Digest
	SECURITY@UBVM	(Peered) SECURITY Digest
	SECURITY@UGA	(Peered) SECURITY Digest
SECUSS-L	SECUSS-L@UBVM	SECUSSA Discussion List
SEC82-L	SEC82-L@VTVM1	Discussion list for Alpha Phi Omega section +
SEDIT-L	SEDIT-L@UMDD	Scholarly Editing Forum
SEDS-L	SEDS-L@TAMVM1	Interchapter Communications for SEDS
SEDSNEWS	SEDSNEWS@TAMVM1	News about Space from SEDS
SEELANGS	SEELANGS@CUNYVM	SEELangs: Slavic & E. European Languages & l+
SEISM-L	SEISM-L@BINGVMB	Seismological Data Distribution
SEISMD-L	SEISMD-L@BINGVMB	Seismological Discussion
SEMIOS-L	SEMIOS-L@ULKYVM	Visual and Verbal Semiotics
SEMNET	SEMNET@UA1VM	SEMNET Discussion List
SENAT	SENAT@PLEARN	The Senate of Warsaw University discussion l+
SENFONI	SENFONI@TREARN	SENFONI - Haftalik guncel yorum dergisi (i+
SERAVES	SERAVES@AUVM	South East Rave List
SERCITES	SERCITES@MITVMA	Citations for Serial Literature
SERIALST	SERIALST@UVMVM	SERIALST: Serials in Libraries Discussion Fo+
SERVER-L	SERVER-L@IRLEARN	EARNTECH Servers Discussion
SERVNET	SERVNET@ASUACAD	SERVNET, A SERVICES RESEARCH NETWORK.
SFER-L	SFER-L@UCF1VM	South Florida Environmental Reader
SFLOVERS	SFLOVERS@RUTVM1	SF-Lovers List
	SFLOVERS@TCSVM	(Peered) SF-Lovers List
	SFLOVERS@UGA	(Peered) SF-Lovers List
SFS-L	SFS-L@SEARN	VM Shared File System (SFS) forum
SG-L	SG-L@JPNYITP	Soryuushiron Group Bulletin Board
SG-L-ISH	SG-L-ISH@JPNYITP	Soryuushiron Group Bulletin Board for ISHed +
SGAN-SAV	SGAN-SAV@VTVM1	SGANet - Student Association of Virginia (SA+
SGANET	SGANET@VTVM1	STUDENT GOVERNMENT GLOBAL MAIL NETWORK
SGANET-A	SGANET-A@VTVM1	Student Government Asian/Australian Mail Net+
SGANET-E	SGANET-E@VTVM1	Student Government European Mail Network
SGANET-N	SGANET-N@VTVM1	Student Government North American Mail Netwo+
SGANET-S	SGANET-S@VTVM1	STUDENT GOVERNMENT LATIN AMERICAN MAIL NETWO+
SGANET-T	SGANET-T@VTVM1	SGANet Technical Discussion Group
SGML-L	SGML-L@DHDURZ1	SGML-L Mailing list
SHADOWRN	SHADOWRN@HEARN	Discussion of the Fantasy game ShadowRun
SHADOWTK	SHADOWTK@HEARN	BBS for ShadowRun. Interactive Fiction for S+
SHAKER	SHAKER@UKCC	Shaker - A forum on the United Society of Be+
SHAKSPER	SHAKSPER@UTORONTO	Shakespeare Electronic Conference
SHAPE-L	SHAPE-L@DB0TUI11	Shape discussion list

SHARE-L	SHARE-L@FRORS12	Spectroscopic Happenings on Actinides and Ra+
SHARP-L	SHARP-L@IUBVM	SHARP-L Society for the History of Authorshi+
SHOGI-L	SHOGI-L@TECHNION	The Shogi Discussion List
SHOPTALK	SHOPTALK@MCGILL1	Novell Network Supervisors Infoline
SHOTHC-L	SHOTHC-L@SIVM	History of Computing Issues
SHOWCASE	SHOWCASE@IBACSATA	IRC Course Show-case
SHS	SHS@UTKVM1	Student Health Services
SICHAT-L	SICHAT-L@SIVM	SICHAT-L Smithsonian Internal Group
SIGMA-NU	SIGMA-NU@HEARN	Sigma Nu fraternity discussion list
SIGMA-XI	SIGMA-XI@NIHLIST	Multidisciplinary, DC area scientists.
SIGTEL-L	SIGTEL-L@UNMVMA	SIG/Tel (Special Interest Group/Telecommunic+
SIGTELBD	SIGTELBD@UNMVMA	ISTE Sig/Tel Board of Directors
SIGUCCS	SIGUCCS@UMDD	SIGUCCS Discussion List
SIGUCCSB	SIGUCCSB@UMDD	SIGUCCS Board of Directors Discussion List
SIIN-L	SIIN-L@UNBVM1	UPEI Inst. of Island Studies-Small Islands I+
SIIR-L	SIIR-L@TRITU	Siir Listesi
SIMEDU-L	SIMEDU-L@NMSUVM1	Simulation Applications in Business/Education
SIMLIST	SIMLIST@NMSUVM1	Wayne Headrick List for Distribution of Call+
SIMULA	SIMULA@BITNIC	(Peered) The SIMULA Language List
	SIMULA@DEARN	(Peered) The SIMULA Language List
	SIMULA@HEARN	(Peered) The SIMULA Language List
	SIMULA@MARIST	(Peered) The SIMULA Language List
	SIMULA@UGA	(Peered) The SIMULA Language List
SINAPE-L	SINAPE-L@BRLNCC	SIMPOSIO NACIONAL DE PROBABILIDADE E ESTATIS+
SINEMA-L	SINEMA-L@TRITU	Sinema Uzerine Tartisma Listesi
SINFONIA	SINFONIA@ASUACAD	Phi Mu Alpha Sinfonia discussion group
SIR-L	SIR-L@UREGINA1	SIR/DBMS(r) Software Discussion List
SIREN	SIREN@SEARN	Swedish Initiative for a Research and Educat+
SIRIAC-L	SIRIAC-L@ENLACE	Red del Caribe y Latinoamerica
SITE-LIC	SITE-LIC@UCSFVM	Site Licensing at UC Discussion List.
SKATING	SKATING@UMAB	Figure Skating Fans
SKEPTIC	SKEPTIC@YORKVM1	SKEPTIC Discussion Group
SKIVT-L	SKIVT-L@UVMVM	SKIVT-L: Vermont Skiing and Snow Reports
SLA-PAM	SLA-PAM@UKCC	SLA-PAM Special Libraries Association-Physic+
SLA-TECH	SLA-TECH@UKCC	Discussion group for Technical Services in
SLAJOB	SLAJOB@IUBVM	Special Libraries Association Employment Opp+
SLART-L	SLART-L@CUNYVM	SLA Research and Teaching
SLIS-L	SLIS-L@IUBVM	Indiana University School of Library and Inf+
SLLING-L	SLLING-L@YALEVM	Sign Language Linguistics List
SLOVAK-L	SLOVAK-L@UBVM	Discussion of Slovak issues
SLUISO-L	SLUISO-L@STLAWU	SLU International Students Organization
SM-LADB	SM-LADB@UNMVMA	Latin America Data Base
SM-RUM	SM-RUM@ICNUCEVM	SMall Ruminant Discussion List
SMALK	SMALK@FINHUTC	SmallTalk programming language discussion
SMCDCME	SMCDCME@WAYNEST1	Continuing Medical Education Discussion List

SMDM-L	SMDM-L@DARTCMS1	Medical Decision Making List
SMKCC-L	SMKCC-L@QUCDN	Subject Matter, Knowledge, Conceptual Change
SMS-SNUG	SMS-SNUG@UNCVM1	SMS/SNUG Interested User List.
SMT4H-L	SMT4H-L@VTVM1	Smith Mountain Lake 4H Center
SNAMGT-L	SNAMGT-L@UMRVMB	SNA Network Management Discussion
SNET-L	SNET-L@ARIZVM1	Strategic Network System User Group
SNIFF-L	SNIFF-L@DEARN	SNIFFER-Diskussionsforum
SNPLAN-L	SNPLAN-L@UKANVM	Systems and Programming Microcomputer and LA+
SNSTCP-L	SNSTCP-L@NIHLIST	Users of Interlink SNS/TCPaccess for MVS
SNURSE-L	SNURSE-L@UBVM	Student Nurses's List
SOBER-L	SOBER-L@BRUFMG	Forum de discussao da Sociedade Brasileira d+
SOCCER-L	SOCCER-L@UKCC	Soccer Boosters List
SOCHIFI	SOCHIFI@USACHVM1	(Peered) Sociedad Chilena de Fisica
SOCHIST	SOCHIST@USCVM	SocHist - Social History List.
SOCNAT-L	SOCNAT-L@DOSUNI1	Diskussionsliste Fachbereich Sozialwissensch+
SOCNETW2	SOCNETW2@FRORS12	2nd European Conference on Social Networks
SOCORG-K	SOCORG-K@UTORONTO	Social Organization of Knowledge Discussion +
SOCWET-L	SOCWET-L@HEARN	SOCWET-L: Discussielijst over netwerkgebruik+
SOCWORK	SOCWORK@UMAB	Social Work Discussion List
SOFT-ENG	SOFT-ENG@BYUVM	(Soft-Eng. Arpa Discussions)
SOFT-L	SOFT-L@UCHCECVM	Lista de Software para Microcomputadores y o+
SOFTRB-L	SOFTRB-L@YALEVM	Yale Project Eli Software Review Board
SOFTREVU	SOFTREVU@BROWNVM	Small Computing Systems Software Review and +
SOLARIS	SOLARIS@IRISHVMA	Solaris 2.0 & Solaris for Intel
SOMACHI	SOMACHI@USACHVM1	(Peered) Sociedad Matematica de Chile
SOREHAND	SOREHAND@UCSFVM	Discussion of Carpal Tunnel Syndrome, Tendon+
SOS-DATA	SOS-DATA@UNCVM1	Social Science Data List.
SOUTH	SOUTH@TCSVM	A CULTURAL STUDIES JOURNAL ON THE AMERICAS
SOVHIST	SOVHIST@CSEARN	(Peered) SovHist - Soviet History Forum
	SOVHIST@DOSUNI1	(Peered) SovHist - Soviet History Forum
	SOVHIST@UMRVMB	(Peered) SovHist - Soviet History Forum
	SOVHIST@USCVM	(Peered) SovHist - Soviet History Forum
SPACE	SPACE@TCSVM	(Peered) SPACE Digest
	SPACE@UBVM	(Peered) SPACE Digest
	SPACE@UGA	(Peered) SPACE Digest
SPACE-IL	SPACE-IL@TAUNIVM	Israeli Space & Remote Sensing List
SPAD	SPAD@FRORS13	SPAD : GROUPE DE DISCUSSION AUTOUR DE SCRATC+
SPC	SPC-L@UMAB	Scientific Program Committee - Med Info 95
SPCEDS-L	SPCEDS-L@UBVM	SUNY/Buffalo Special Education (Students) Di+
SPEEDE-L	SPEEDE-L@VTVM1	AACRAO electronic transcript discussion
SPHALB-L	SPHALB-L@ALBNYDH2	SUNYA/DOH/AMC SCHOOL OF PUBLIC HEALTH
SPIDER	SPIDER@PUCC	COM 337 Precepts List
SPILIB-L	SPILIB-L@SUVM	SPIRES Library Discussion Group
SPIRES-L	SPIRES-L@MARIST	SPIRES Conference List
	SPIRES-L@PUCC	SPIRES Conference List
SPISIS-L	SPISIS-L@BRUSPVM	UNESCO MICROISIS Users Group

SPITEK-L	SPITEK-L@UNCVM1	List for SPIRES Technical Personnel.
SPORTMGT	SPORTMGT@UNBVM1	Sport Management
SPORTPC	SPORTPC@UNBVM1	Use of computers in sport
SPORTPSY	SPORTPSY@TEMPLEVM	Exercise and Sports Psychology
SPRINT-L	SPRINT-L@NDSUVM1	SPRINT-L Borland Sprint Word Processor Discu+
SPSSX-L	SPSSX-L@MARIST	(Peered) SPSSX(r) Discussion
	SPSSX-L@OHSTVMA	(Peered) SPSSX(r) Discussion
	SPSSX-L@UALTAVM	(Peered) SPSSX(r) Discussion
	SPSSX-L@UGA	(Peered) SPSSX(r) Discussion
SPSS90-L	SPSS90-L@MCGILL1	SPSS 90 Conference List
SPSS91-L	SPSS91-L@MCGILL1	SPSS 91 Conference List
SPUD	SPUD@WSUVM1	Potato Research
SQL	SQL@UCLACN1	UCLA Campus SQL Users Group
SQL-L	SQL-L@MITVMA	SQL Info Exchange
SQLINFO	SQLINFO@UICVM	Forum for SQL/DS and Related Topics
SQSP	SQSP@UQUEBEC	Societe quebecoise de science politique
SRIS-L	SRIS-L@UKANVM	KU Student Records Information System Staff
SRSA-L	SRSA-L@WVNVM	Southern Regional Science Association
SRVREQ-L	SRVREQ-L@INDYCMS	Server-Requester Discussion List
SSCLD0	SSCLD0@UTDALLAS	Discussion of SSC Issues
SSCNEWS	SSCNEWS@UTARLVM1	News from the Superconducting Super Collider
SSREL-L	SSREL-L@UTKVM1	Scientific Study of Religion
SSSSINFO	SSSSINFO@TAMVM1	For dissemination of information between mem+
SSSSTALK	SSSSTALK@TAMVM1	For discussion of issues relating to sexuali+
SSSSTEST	SSSSTEST@TAMVM1	For discussion of issues relating to sexuali+
SSW-L	SSW-L@NIHLIST	Soft-Switch products discussion list
ST-AUDIT	ST-AUDIT@UWF	Spacetime Topics for Bitnet (Audit List)
STAC-WG	STAC-WG@SEARN	Philippines Science and Technology Advisory +
STACNET	STACNET@SEARN	Philippines S&T Advisory Council's Electroni+
STAFF	STAFF@JPNIMRTU	Kawazoe Lab. staffs
STAFF-L	STAFF-L@BRUFMG	Lista para troca de informacoes entre os fun+
STAFFGOV	STAFFGOV@NDSUVM1	Staff Governance in Higher Education
STAMPS	STAMPS@CUNYVM	The Stamps List
STARDATA	STARDATA@HASARA11	Sociaal Wetenschappelijke Databestanden
STARGAME	STARGAME@PCCVM	STARTREK Role Playing game list
STAT-GEO	STAT-GEO@UFRJ	Forum of Quantitative Methods in Geosciences.
STAT-L	STAT-L@MCGILL1	STATISTICAL CONSULTING
STATEFAC	STATEFAC@PURCCVM	Statewide Technology Faculty
STATEPOL	STATEPOL@UMAB	Politics in the American States
STATKERN	STATKERN@BLEKUL11	K.U.Leuven UCS stuurgroep
STATKUL	STATKUL@BLEKUL11	K.U.Leuven Statistisch centrum list
STATLG-L	STATLG-L@BROWNVM	Baseball (and Lesser Sports) Discussion List
STATSIG	STATSIG@UBVM	UB Statistical Applications Users Special In+
STD-L	STD-L@BITNIC	(Peered) BITNET Standards List
	STD-L@DEARN	(Peered) BITNET Standards List

	STD-L@HEARN	(Peered) BITNET Standards List
	STD-L@MARIST	(Peered) BITNET Standards List
	STD-L@UGA	(Peered) BITNIC STD-L List
STD-UNIX	STD-UNIX@TCSVM	STD-UNIX redistribution list
STINGCRN	STINGCRN@CERNVM	List STINGCRN
STKACS-L	STKACS-L@USCVM	Storage Tek Automated Cartridge System Discu+
STLHE-L	STLHE-L@UNBVM1	Forum for Teaching & Learning in Higher Educ.
STOPRAPE	STOPRAPE@BROWNVM	Sexual Assault Activist List
STPAUL-L	STPAUL-L@UOTTAWA	St-Paul's User Discussion Group
STRATEGY	STRATEGY@BITNIC	CREN Board list for strategy discussion
STREK-D	STREK-D@PCCVM	Star Trek Fan Club (Digests)
STREK-L	STREK-L@PCCVM	Star Trek Fan Club list
STRFLEET	STRFLEET@PCCVM	STARFLEET forum
STROKE-L	STROKE-L@UKCC	Stroke Discussion List
STS-L	STS-L@NCSUVM	ALA STS Conference Committee
STUD-VM	STUD-VM@HUEARN	Student discussion on VM and EARN (Hungarian+
STUDENTS	STUDENTS@JPNTUVM0	Tohoku Univ Students Forum
STUDSRVC	STUDSRVC@PURCCVM	CPT Student Services Commmittee
STUDYUSA	STUDYUSA@TWNMOE10	Chinese students that in U.S.A discussion li+
STUNET-L	STUNET-L@HEARN	Prikbord voor alle studenten op het Nederlan+
STUNT	STUNT@HEARN	STUNT (Samenwerkingsverband Thuiswerkende Un+
STUTT-L	STUTT-L@TEMPLEVM	Stuttering: Research and Clinical Practice
STUXCH-L	STUXCH-L@PSUVM	Exchange list for Department of Architecture+
SUEARN-L	SUEARN-L@UBVM	Connecting the USSR to Internet digest
SUG-L	SUG-L@UNCVM1	RTPNC SAS Users Group.
SUGGEST	SUGGEST@TEMPLEVM	Temple's mainframe discussion
SUMINFO	SUMINFO@UNBVM1	Information Summit Discussion
SUNIBI-L	SUNIBI-L@YALEVM	Focus/Sun Discussion Group
SUNSPOTS	SUNSPOTS@RICEVM1	(Peered) Sun Microsystems Hardware and Softw+
	SUNSPOTS@UBVM	(Peered) Sun Spots Discussion
SUNYEC-L	SUNYEC-L@BINGVMB	SUNY Educational Communications Centers
SUNYHA-L	SUNYHA-L@BINGVMB	SUNY Housing Affairs Discussion List
SUNYHC-L	SUNYHC-L@BINGVMB	SUNY Health Council Discussion List
SUNYLA-L	SUNYLA-L@BINGVMB	SUNY Library Association Listserv
SUNYSA-L	SUNYSA-L@BINGVMB	SUNY Student Affairs Discussion List
SUNYSPHL	SUNYSPHL@ALBNYDH2	State University of New York School of Publi+
SUP-COND	SUP-COND@TAUNIVM	SuperConductivity List
SUP-L	SUP-L@UKACRL	
SUPER	SUPER@BLEKUL11	Super list
SUPER-L	SUPER-L@BRUSPVM	Supercomputadores
	SUPER-L@MCGILL1	Super Computer Users Forum
SUPER-U	SUPER-U@UNCVM1	UNC/OIT Super Computer Users.
SUPERESP	SUPERESP@EBCESCA1	Supercomputacion en Espanya
SUPERGUY	SUPERGUY@UCF1VM	UCF SUPERGUY List
SUPERIBM	SUPERIBM@UKCC	Super Computing Issues Forum
SUPEUR	SUPEUR@FRMOP11	Supercomputing in Europe (user's group)
SUPSTEER	SUPSTEER@FRMOP11	Supeur Steering Committee
SUSCON-L	SUSCON-L@CFRVM	SUS SOFTWARE CONSORTIUM

SUTPPLS	SUTPPLS@JPNSUT10	student's discussion list
SUTTOOLS	SUTTOOLS@JPNSUT00	SUT tool's discussion list
SWIM-L	SWIM-L@UAFSYSB	Discussion of all aspects of swimming
SWIP-L	SWIP-L@CFRVM	Society for Women in Philosophy
Information +		
SWL-L	SWL$L@CUVMB	(Peered) Short Wave Listener's List
	SWL-L@OHSTVMA	(Peered) Short Wave Listener's List
SWL-TR	SWL-TR@TRITU	Short Wave Listening in Turkiye
SWVW	SWVW@CERNVM	No title defined
SW4H-L	SW4H-L@VTVM1	Southwest 4H Center
SYBASE-L	SYBASE-L@UCSBVM	Discussion of SYBASE Products, Platforms &
U+		
SYNTH-L	SYNTH-L@AUVM	Electronic music "gearhead" list
SYSCI-L	SYSCI-L@UOTTAWA	System Science Discussion List
SYSINFO	SYSINFO@INDYCMS	System Availability Information
SYSPRG-L	SYSPRG-L@TRITU	System Programmers List
SYS7-L	SYS7-L@UAFSYSB	Macintosh System 7.0-Specific Discussions
T-ASSIST	T-ASSIST@UNMVMA	University Teaching Assistant Discussion
list		
TACPAAR	TACPAAR@UKCC	Discussion list for Theology and
Continental+		
TACT-L	TACT-L@UTORONTO	TACT-L Discussion - Electronic Forum for
TAC+		
TAG-L	TAG-L@NDSUVM1	TAG-L Talented and Gifted Education
TAINS-L	TAINS-L@JPNTUVM0	Forum on Tohoku Univ OSI Network
TAIR-L	TAIR-L@UTDALLAS	Texas Association for Institutional
Research		
TAMIL-L	TAMIL-L@DHDURZ1	TAMIL-L Tamil Studies
TAPLIST	TAPLIST@UTXVM	The Austin Project
TASM-L	TASM-L@BRUFPB	Borland Turbo Assembler and Debugger List
TAXACOM	TAXACOM@HARVARDA	Biological Systematics Discussion List
TAXRES	TAXRES@WAYNEST1	Tax Research Discussion List
TCHED-L	TCHED-L@UREGINA1	WestCan List
TCL-DGST	TCL-DGST@BROWNVM	THINK Class Library Digest List
TCL-TALK	TCL-TALK@BROWNVM	THINK Class Library List
TCP-IP	TCP-IP@BLIULG11	TCP-IP Redistribution List
	TCP-IP@UTDALLAS	ARPA TCP-IP Discussion Redistribution
TCP-IP-L	TCP-IP-L@UIUCVMD	TCP-IP discussion from SRI-NIC
TCP-ITA	TCP-ITA@ICNUCEVM	TCP-ITA Utenti Internet italiani
TCPIP-L	TCPIP-L@IRLEARN	TCPIP Information Distribution List
	TCPIP-L@UIUCVMD	TCP-IP Bitnet discussions
TCPIPGWU	TCPIPGWU@GWUVM	GWU's Local TCPIP Discussion List
TCPLUS-L	TCPLUS-L@UCF1VM	TURBO C++ Discussion group.
TC11-I	TC11-I@HEARN	TC11-I IFIP TC11 Global information
TEACH-L	TEACH-L@UICVM	Classroom Dynamics
TEACHEFT	TEACHEFT@WCU	Teaching Effectiveness
TEAM-L	TEAM-L@NMSUVM1	NMSU/Sandia Team learning center
TEC-L	TEC-L@ICNUCEVM	TEC-L News
TECGRP-L	TECGRP-L@PSUVM	Technology and Social Behavior Group
TECH-L	TECH-L@BITNIC	(Peered) TECH-L List
	TECH-L@DEARN	(Peered) TECH-L List
	TECH-L@HEARN	(Peered) TECH-L List
	TECH-L@MARIST	(Peered) TECH-L List
	TECH-L@UGA	(Peered) BITNIC TECH-L List
TECH-LAN	TECH-LAN@TECHNION	TECH-LAN - Technion Technic user group
TECHMATH	TECHMATH@TECHNION	TECHMATH - Technion Mathematics Net
TECHNEWS	TECHNEWS@BITNIC	BITNET Technical News List

TECHNO-L	TECHNO-L@MITVMA	Issues In Technology Licensing
TECHWR-L	TECHWR-L@OSUVM1	Technical Writers List; for all Technical Co+
TECH3000	TECH3000@UTCVM	HP-3000 Technical Roundtable
TECLAC-L	TECLAC-L@TECMTYVM	Comite Tecnico de la Red Latinoamericana y d+
TECNOMED	TECNOMED@ICNUCEVM	TECNOMED Database list
TECSUN-L	TECSUN-L@MITVMA	SUN Computer Technical Users List
TEI-L	TEI-L@UICVM	TEI-L: Text Encoding Initiative public discu+
TEL	TEL@USCVM	The Turkish Electronic Mail List
TELEX	TELEX@CEARN	TELEX Users List
TELE290	TELE290@GWUVM	Telecom, Competitiveness, and Org. Change (M+
TELUGU	TELUGU@NDSUVM1	Telugu People Network
TEMP-L	TEMP-L@JHUVM	Temporary 1.7f test list
TEMPUS	TEMPUS@HUEARN	Discussion on the TEMPUS
TESL-L	TESL-L@CUNYVM	TESL-L: Teachers of English as a Second Lang+
TESLA	TESLA@NERVM	Technical Standards for Library Automation
TESLCA-L	TESLCA-L@CUNYVM	TESLCA-L: Computer Assisted Language Learnin+
TESLEC-L	TESLEC-L@CUNYVM	TESLEC-L: Electronic Communications and Penp+
TESLFF-L	TESLFF-L@CUNYVM	TESLFF-L: Fluency First and Whole Language (+
TESLIC-L	TESLIC-L@CUNYVM	TESLIC-L: Intercultural Communication sublis+
TESLIE-L	TESLIE-L@CUNYVM	TESLIE-L: Intensive English Program (TESL-L +
TESLIT-L	TESLIT-L@CUNYVM	TESLIT-L: Adult Education and Literacy TESL-+
TESLJB-L	TESLJB-L@CUNYVM	TESLJB-L: Jobs and Employment Issues (TESL-L+
TESLMW-L	TESLMW-L@CUNYVM	TESLMW-L: Materials Writers Sub-list of TESL+
TEST	TEST@EARNCC	xxx new test list xxx
	TEST@FRORS12	Test
	TEST@ICNUCEVM	TEST Lista di TEST
	TEST@PURCCVM	Test list
	TEST@TRITU	ListEARN Testing
TEST-L	TEST-L@DB0TUI11	Test
	TEST-L@GREARN	Error test List
	TEST-L@IRISHVMA	Notre Dame's Test List
	TEST-L@JHUVM	JHUVM 1.7f test list
	TEST-L@JPNYITP	Soryuushiron Group Bulletin Board
	TEST-L@NMSUVM1	Test list
	TEST-L@PLTUMK11	This is the list for tests.
	TEST-L@UCSFVM	TESTING STUFF...
	TEST-L@UHUPVM1	Public-Access Computer Systems Review Editor+
	TEST-L@UIUCVMD	(Peered) Test list
	TEST-L@UNMVMA	Testing list (UNM use only. Created for inte+
	TEST-L@UOTTAWA	Test List
	TEST-L@VTVM2	test list
	TEST-L@WUVMD	For folks learning how to use Listserv

TESTE-L	TESTE-L@BRUFSC	(Peered) FORUM TESTE-L - Lista utilizada par+
	TESTE-L@BRUSPSCE	Exemplo de definicao de lista
	TESTE-L@BRUSPVM	Teste1
TESTLIST	TESTLIST@INDYCMS	testing testing
	TESTLIST@UICVM	Test list
	TESTLIST@UTXVM	A test list
TESTMAIL	TESTMAIL@INDYCMS	Test network mail
TESTS-L	TESTS-L@TECHNION	TESTS-L
TEST1-L	TEST1-L@GSUVM1	TEST1-L: Wells Computer Center local test li+
TEST2	TEST2@EARNCC	xxx new test2 list xxx
	TEST2@TREARN	Test
TEST2-L	TEST2-L@UNCCVM	Test LISTSERV List 2
TEX-D-L	TEX-D-L@DEARN	German TeX Users Communication List
TEX-ED	TEX-ED@UICVM	TeX Education Forum List
TEX-EURO	TEX-EURO@DHDURZ1	TeX-Euro Distribution List for European TeX+
TEX-IBM	TEX-IBM@DHDURZ1	TEX-IBM Distribution list
TEX-L	TEX-L@BNANDP11	(Peered) The TeXnical topics list
	TEX-L@CLVM	(Peered) The TeXnical topics list
	TEX-L@DEARN	(Peered) The TeXnical topics list
	TEX-L@FRORS13	TeX-L : TeXhax redistribution from ASTON
	TEX-L@HEARN	(Peered) The TeXnical topics list
	TEX-L@MARIST	(Peered) The TeXnical topics list
	TEX-L@UBVM	(Peered) The TeXnical topics list
	TEXHAX@UWAVM	(Peered) TeXhax Distribution List
TEX-NL	TEX-NL@HEARN	TEX-NL
TEXHAX-L	TEXHAX-L@IRLEARN	TeX Information Distribution List
TEXIS-L	TEXIS-L@UTDALLAS	A Texas IS Faculty Research Forum
TEXMAG-L	TEXMAG-L@DEARN	(Peered) TeXMaG list
	TEXMAG-L@HEARN	(Peered) (TeXMaG)
	TEXMAG-L@IRLEARN	(Peered) TeXMaG - Magazine for TeX Enthusias+
	TEXMAG-L@PUCC	(Peered) (TeXMaG)
	TEXMAG-L@TCSVM	(Peered) (TeXMaG)
	TEXMAG-L@UICVM	(Peered) (TeXMaG)
	TEXMAG-L@UTORONTO	(Peered) (TeXMaG)
TEXROX-L	TEXROX-L@TAMVM1	The TeXrox Information List
TEXTILES	TEXTILES@TREARN	Textiles & Clothing Studies Discussion List
TFTD-L	TFTD-L@TAMVM1	THOUGHT FOR THE DAY
TGIS-L	TGIS-L@UBVM	Temporal Topics on GIS List
THEATRE	THEATRE@GREARN	The Theatre Discussion List
THEM92-L	THEM92-L@BRUFMG	Grupo de discussoes tematicas da ECO 92
THEO-L	THEO-L@FRCPN11	Journal des theoriciens des particules
THEORY-A	THEORY-A@NDSUVM1	Theory-A - TheoryNet World-Wide Events
THEORY-B	THEORY-B@NDSUVM1	Theory-B - TheoryNet Ongoing Seminars and Le+
THEORY-C	THEORY-C@NDSUVM1	Theory-C - TheoryNet General Discussions
THEORYNT	THEORYNT@NDSUVM1	TheoryNet List
	THEORYNT@UICVM	Computer Science Theory Net
THETAXI	THETAXI@GITVM1	Discussion list for Theta Xi Fraternity
THPHYSIO	THPHYSIO@FRMOP11	Thermal Physiology
THYST-L	THYST-L@BROWNVM	Thistle Discussion List
TIBET-L	TIBET-L@IUBVM	Tibet Interest List
TIDBITS	TIDBITS@RICEVM1	TidBITS - a newsletter for Mac users

TIGER-L	TIGER-L@UKANVM	TIGER Test Project
TIME-L	TIME-L@UFRJ	Forum para debates do Grupo de Eng. Software+
TINCAN-L	TINCAN-L@YALEVM	Macintosh Terminal Emulator Issues
TIP	TIP@PLEARN	LIST OF THEORETICAL COMPUTER SCIENCE TIP
TIPSHEET	TIPSHEET@WSUVM1	Computer Help and Tip Exchange
TJLREF-L	TJLREF-L@UMSLVMA	Thomas Jefferson Library Reference List
TKRING_U	TKRING_U@UNAMVM1	Lista de informacion para responsables de la+
TMA-L	TMA-L@PSUVM	The Maintenance Authority user group
TML-L	TML-L@IUBVM	Thesaurus Musicarum Latinarum Database for L+
TN-WP4	TN-WP4@IRLEARN	TN-WP4
TNC	TNC@GITVM1	"TECHNOCULTURE" discussion list
TNT-L	TNT-L@UMAB	TNT Discussion Group
TN3270-L	TN3270-L@RUTVM1	tn3270 protocol discussion list
TOLKIEN	TOLKIEN@JHUVM	list for J.R.R.Tolkien's books readers
TOOLB-L	TOOLB-L@UAFSYSB	Asymetrix "Toolbook" product discussions
TOUCHE	TOUCHE@RICEVM1	Rice Fencing Club
TOUCHTON	TOUCHTON@SJSUVM1	Touch-Tone/Voice Response Systems Discussion+
TOUS	TOUS@FRMOP11	Liste du personnel du CNUSC
TPRINT-L	TPRINT-L@YALEVM	TPrint Issues
TQM-L	TQM-L@UKANVM	TOTAL QUALITY MANAGEMENT IN HIGHER EDUCATION
TRACK-D	TRACK-D@AWIIMC12	(Peered) "TRACK Distribution List"
	TRACK-D@MARIST	(Peered) "TRACK Distribution List"
	TRACK-D@PUCC	(Peered) "TRACK Distribution List"
TRACK-L	TRACK-L@AWIIMC12	(Peered) "TRACKers forum"
	TRACK-L@MARIST	(Peered) "TRACKers forum"
	TRACK-L@PUCC	(Peered) "TRACKers forum"
TRAFIC-L	TRAFIC-L@BITNIC	(Peered) Traffic Monitoring List
	TRAFIC-L@DEARN	(Peered) Traffic monitoring list
	TRAFIC-L@HEARN	(Peered) Traffic monitoring list
	TRAFIC-L@MARIST	(Peered) Traffic monitoring list
	TRAFIC-L@UGA	(Peered) Traffic Monitoring List
TRAIN-L	TRAIN-L@BROWNVM	College and University Computer Trainer's Li+
	TRAIN-L@UTMARTNV	UTM Training List
TRAN-AMB	TRAN-AMB@UNALCOL	Transporte y Medio Ambiente en el Contexto L+
TRANS-L	TRANS-L@BITNIC	(Peered) File transfer list
	TRANS-L@DEARN	(Peered) File transfer list
	TRANS-L@HEARN	(Peered) File transfer list
	TRANS-L@MARIST	(Peered) File transfer list
	TRANS-L@UGA	(Peered) BITNIC TRANS-L List
TRANSGEN	TRANSGEN@BROWNVM	TS/TV/TG List
TRANSIT	TRANSIT@GITVM1	Transit Issues Discussion List
TRANSP-L	TRANSP-L@ASUACAD	Transportation & Traffic Engineering Discuss+
TRAOM-L	TRAOM-L@AEARN	TRends in Angular Overlap Model
TRAVEL-L	TRAVEL-L@TREARN	Tourism Discussions..
TRDEV-L	TRDEV-L@PSUVM	Training and Development List
TRIO	TRIO@NDSUVM1	TRIO Program Educators
TRKDAY-L	TRKDAY-L@NMSUVM1	NMSU CC -- Daily Problem Reporting List
TRKMTH-L	TRKMTH-L@NMSUVM1	NMSU CC -- Monthly Problem Reporting List
TRKNWS-L	TRKNWS-L@USCVM	Turkish Cultural Program List

TRKWK-L	TRKWK-L@NMSUVM1	NMSU CC -- Weekly Problem Reporting List
TSA-L	TSA-L@MSU	Turkish Studies Association
TSAA-L	TSAA-L@PURCCVM	Turkish Students Assistance Association
TSO-REXX	TSO-REXX@UCF1VM	TSO REXX Discussion List
TSSACT-L	TSSACT-L@UTKVM1	Tunisian Scientific Society Scientific Activ+
TSSNEWS	TSSNEWS@PSUVM	Tunisian Information Office, Washington D.C.
TSTEVL-L	TSTEVL-L@EMUVM1	- Testing and Evaluation Discussion
TUBA-L	TUBA-L@VTVM2	Tupa Players Mailing List
TUES230	TUES230@PUCC	COM 337 Tuesday 2:30 Precept List
TUES800	TUES800@PUCC	COM 337 Tuesday 8:00 Precept List
TUG-Q	TUG-Q@TAMVM1	TUG Conference question list
TUGBD-L	TUGBD-L@IRLEARN	TEX User Group Board of Directors
TUGBY-L	TUGBY-L@IRLEARN	TEX User Group Bylaws Committee
TUGEL-L	TUGEL-L@IRLEARN	TEX User Group Elections Committee
TUGEX-L	TUGEX-L@IRLEARN	TEX User Group Executive Committee
TUITREIM	TUITREIM@MITVMA	Industry-Wide Tuition Reimbursement Policies
TUNA	TUNA@UTDALLAS	Texas University Netware Administrator's List
TUNINFO	TUNINFO@PSUVM	Tunisian Information Office, Washington D.C.
TUNISNET	TUNISNET@PSUVM	The Tunisia Network
TURBOC-L	TURBOC-L@TREARN	(Peered) TURBO C Discussion group.
	TURBOC-L@UCF1VM	(Peered) TURBO C Discussion group.
	TURBOC-L@UTFSM	TURBO C Discussion group, Peer en UTFSM. Idi+
	TURBOC-L@YALEVM	Borland Turbo C Discussion Group at Yale
TURBVIS	TURBVIS@VTVM1	TURBVIS DISCUSSION LIST
TURKCE-L	TURKCE-L@TRITU	Bilim Dili Olarak TURKCE
TURKMATH	TURKMATH@TRMETU	(Peered) Turkish Mathematician's Discussion +
TV-L	TV-L@TREARN	TV Discussions.. ..
TWAIN-L	TWAIN-L@YORKVM1	Mark Twain Forum
TWGMLC-L	TWGMLC-L@IRLEARN	TWGMLC-L TeX Users Group TeXnical Working Gr+
TWNAD-L	TWNAD-L@TWNMOE10	TWNAD-L Taiwan BITNET NODE administration di+
TWUNIV-L	TWUNIV-L@TWNMOE10	Chinese Scholars and students discussion list
TW2002-L	TW2002-L@FERRIS	TW2002-L Trade Wars 2002 Discussion List
TXBITNET	TXBITNET@UTDALLAS	Texas BITNET issues list
TXCENSUS	TXCENSUS@UTDALLAS	Texas 1990 Census Issues
TXDXN-L	TXDXN-L@UHUPVM1	Texas Documents Information Network
TYPO-L	TYPO-L@IRLEARN	TYPO-L Discussion of Typography, Type and Ty+
T271-L	T271-L@MIZZOU1	Discussion List for T271
T321-L	T321-L@MIZZOU1	Teaching Science in Elementary Schools
UACSR-L	CAPDU-L@UALTAVM	Canadian Association of Public Data Users
UAEXT-L	UAEXT-L@UALTAVM	An Informal List for Discussion at UOFA Exte+
UAPHIL-L	PHIL-L@UALTAVM	Dedicated to the Philosophical/Technical Asp+
UA2PRIME	UA2PRIME@CERNVM	UA2 Collaboration
UBLIB-L	UBLIB-L@UBVM	UB Libraries Distribution List
UBNMA-L	UBNMA-L@DEARN	UBNMA-L (Uni Bonn Mathematik - Liste)

UBOWN-L	UBOWN-L@UBVM	UB Lists Owners List
UCCS-92	UCCS-92@AKRONVM	SIGUCCS 1992 Information
UCCSATT	UCCSATT@UTKVM1	SIGUCCS '92 Information
UCEA-L	UCEA-L@PSUVM	University Council for Educational Administr+
UCGIA-L	UCGIA-L@UBVM	Univ Consort for Geo Info & Analysis List
UCLAMAIL	UCLAMAIL@OHSTVMA	UCLAMAIL TSO MAIL Interested parties list
	UCLAMAIL@UCLACN1	UCLAMAIL TSO MAIL Interested parties list
UCONF-L	UCONF-L@WVNVM	WVNET User Conference List
UCP-L	UCP-L@UBVM	University Computing Project Mailing List
UCRC-L	UCRC-L@VTVM1	University Communications Resources Committee
UCSFANGR	UCSFANGR@UCSFVM	UCSF Department of Anesthesia Grand Rounds C+
UCSFNEWS	UCSFNEWS@UCSFVM	Information from the UCSF News and Public In+
UD-L	UD-L@URIACC	Ultimate Dungeon List
UDD-L	UDD-L@CEARN	LISTSERV User Directory Database discussion
UFIT-L	UFIT-L@TRMETU	Applied Physics Group List UFIT-L
UFO-L	UFO-L@BRUFPB	FORUM FOR UFOLOGY
	UFO-L@PSUVM	UFO related phenomenon
UFRJNCEN	UFRJNCEN@UFRJ	Jornal Eletronico UFRJ-NCE Noticias
UFSC	UFSC@BRUFSC	(Peered) FORUM UFSC
UG-L	UG-L@BITNIC	(Peered) Usage Guidelines List
	UG-L@DEARN	(Peered) Usage Guidelines List
	UG-L@HEARN	(Peered) Usage Guidelines List
	UG-L@MARIST	(Peered) Usage Guidelines List
	UG-L@UGA	(Peered) Usage Guidelines
UGCOLL-L	UGCOLL-L@UBVM	SUNY/Buffalo Undergraduate College Discussio+
UICMATH	UICMATH@UICVM	UIC Mathematics
UICNETP	UICNETP@UICVM	UIC Campus Network Discussions
UIGIS-L	UIGIS-L@UBVM	User Interfaces for Geographic Information S+
UKERA-L	UKERA-L@UKCC	Dialogue on Educational Reform
UKGEG	UKGEG@UKCC	Discussion list for anyone in Geography Depa+
UKRAINE	UKRAINE@ARIZVM1	Ukraine
UKTEX	UKTEX@FRORS13	UKTeX : UKTeX redistribution from ASTON
UKTEX-L	UKTEX-L@DHDURZ1	UKTeX-L Distribution List for German TeX Use+
ULGNET	ULGNET@BLIULG11	ULGNET General Discussion list
ULGNETAD	ULGNETAD@BLIULG11	ULGNET Administrators List
ULTIMATE	ULTIMATE@PUCC	Princeton Ultimate Frisbee List
ULTRA-L	ULTRA-L@HASARA11	List for discussion of Ultranet LAN's
UMCLIS-L	UMCLIS-L@UMDD	CLIS Discussion List
UMSFAC-L	UMSFAC-L@MAINE	University of Maine System Facilities Manage+
UMTNEWS	UMTNEWS@GWUVM	University Mission of Tunisia
UNAMUSR	UNAMUSR@UNAMVM1	Lista de los usuarios de la REDUNAM
UNC-L	UNC-L@YALEVM	University Network Committee
UNCC-L	UNCC-L@UNCCVM	UNCC LISTSERV Discussion
UNCEDGEN	UNCEDGEN@UFRJ	UNCEDGEN - Public discussion List about Envi+
UNCE92-L	UNCE92-L@BRUFMG	Grupo de discussao e divulgacao da UNCED (EC+

UNCJIN-L	UNCJIN-L@ALBNYVM1	United Nations Criminal Justice Information +
UNCSYS-L	UNCSYS-L@UNCVM1	UNC/OIT/CS Systems Test List.
UNIANDES	UNIANDES@ANDESCOL	Espacio Abierto para UniAndinos
UNICRN-L	UNICRN-L@PSUORVM	SIRSI/UNICORN Automated Library Systems
UNINFSEC	UNINFSEC@CUVMC	University Administrative Information Securi+
UNIRAS	UNIRAS@HEARN	UNIRAS Discussion List
UNISYS	UNISYS@UBVM	SUNY Unisys Sites Discussion List
UNISYS-L	UNISYS-L@UFRJ	Forum dos Usuarios UNISYS - Brasil
UNIV-SUN	UNIV-SUN@ANDESCOL	Comite de Trabajo UniverSUN
UNIVOC	UNIVOC@UCBCMSA	UNIVOC - NCRVE UC Berkeley Voc Ed University+
UNIX-EMACS	EMACS@BNANDP11	(Peered) UNIX-EMACS distribution list
UNIX-L	UNIX-L@ALBNYDH2	UNIX-L HINTS using UNIX on the NYS Dept of H+
UNIX-SRC	UNIX-SRC@NDSUVM1	Unix-Sources Mailing List
UNIX-TR	UNIX-TR@TRITU	UNIX Tartisma ve Yardimlasma Listesi
UNIX-WIZ	UNIX-WIZ@NDSUVM1	Unix-Wizards Mailing List
UNIXAK-L	UNIXAK-L@DOSUNI1	UNIX-Arbeitskreis der Uni Osnabrueck (lokal+
UNIXPRGS	UNIXPRGS@TECHNION	UNIXPRGS - TECHNION CC Unix programmers list
UNIXRZ-L	UNIXRZ-L@DOSUNI1	Fragen zu UNIX-Problemen, (lokale Liste, Uni+
UNMETHOD	UNMETHOD@GWUVM	UN University Millennium Project Discussion +
UNXBTA-L	UNXBTA-L@UTKVM1	Disucssion of UNIX CAFE Beta Testing
UNXNAD-F	UNXNAD-F@FRMOP11	Liste des 'Node ADministators' UNIX francais
UP-LADB	UP-LADB@UNMVMA	Latin America Data Base
UPGRADE	UPGRADE@IPFWVM	IBM UPGRADE DISCUSSIONS
UPSA-L	UPSA-L@UKANVM	KU Unclassified Professional Staff Associati+
UPSAC	UPSAC@GWUVM	UPSAC Discussion List
URANTIAL	URANTIAL@UAFSYSB	Discussion of _The_Urantia_Book_
URBAN-L	URBAN-L@TREARN	Urban Planning Discussion List
URBANET	URBANET@MSU	Urban Planning Student Network
URBAREG	URBAREG@UQUEBEC	Etudes urbaines et regionales
UREAD-L	UREAD-L@MSU	UREAD-L Mailing List
UREP-L	UREP-L@IRLEARN	(Peered) Discussion of UREP software
	UREP-L@PSUVM	(Peered) UREP-L Mailing list
USCINT-L	USCINT-L@USCVM	USC Office of International Student Services+
USERSERV	USERSERV@UVMVM	USERSERV: Vt. User Services Support Group
USGA-L	USGA-L@SIUCVMB	Student Government Net
USMARC-L	USMARC-L@MAINE	USMARC Advisory Group Forum
USRDIR-L	USRDIR-L@BITNIC	(Peered) User Directory List
	USRDIR-L@DEARN	(Peered) User Directory List
	USRDIR-L@HEARN	(Peered) User Directory List
	USRDIR-L@MARIST	(Peered) User Directory List
	USRDIR-L@UGA	(Peered) User Directory List
USRGROUP	USRGROUP@GWUVM	GWU's USERGRP Discussion List
USTC85-L	USTC85-L@RICEVM1	Discussion for Univ of Science & Technology +
USTIMSS	USTIMSS@MSU	TIMSS Info List
USUMTS-L	USUMTS-L@BRLNCC	Usuarios do sistema MTS no LNCC

USUVM-L	USUVM-L@BRLNCC	USUARIOS DO SISTEMA BRLNCC (VM/XA)
UT-CICS	UT-CICS@UTORONTO	CICS Conference
UTCRB-L	UTCRB-L@UTORONTO	UofT Subcommittee on Computing of the Reasea+
UTIL-L	UTIL-L@ALBNYDH2	PLATFORM UTILITIES LIST AT ALBNYDH2
UTINET-L	UTINET-L@BRLNCC	UTI Eletronica do Hospital Universitario da +
UTOS2-L	UTOS2-L@UTKVM1	Discussion of OS/2 Operating System at UTK
UTS-ITC	UTS-ITC@UTXVM	UT System Information Technology Council List
UTS-L	UTS-L@DEARN	Amdahl UTS discussion list
UUS-L	UUS-L@UBVM	Unitarian Universalists
UVHINF-L	UVHINF-L@UVVM	UVic Health Info Science Bulletins
UVNETS-L	UVNETS-L@UVVM	UVic Network Contacts
UVP-A	UVP-A@BITNIC	BITNIC Update Program Administration list
UVP-D	UVP-D@BITNIC	BITNIC Update Program development list
UVTERM-L	UVTERM-L@UVVM	UVic UVTERM users
UWDECUS	UWDECUS@UWAVM	Mailing list for UW DECUS group
UWINGRES	UWINGRES@UWAVM	UW Ingres List
UWNSF-L	UWNSF-L@UWAVM	NSF Doc U of Washington Distribution
UWREFLIB	UWREFLIB@UWAVM	UW Reference Library List
UZAY-L	UZAY-L@TRITU	Hava-Uzay Bilimleri ve Teknolojileri Tartism+
VAL-L	VAL-L@UCF1VM	Valentine Michael Smith's commentary
VAL-X400	VAL-X400@IRLEARN	Value X.400 Implementation Contract (closed)
VAMPYRES	VAMPYRES@GUVM	Vampiric lore, fact and fiction.
VAXSYS	VAXSYS@INDYCMS	VAX user account request/changes from consul+
VECSRV-L	VECSRV-L@TREARN	Ege University Remote Vector Processor Users+
VECTOR-L	VECTOR-L@UNBVM1	IBM 3090 Vector Facility
VERN-USR	VERN-USR@VTVM1	VERnet Users
VETADM-L	VETADM-L@TAMVM1	VETERINARY HOSPITAL ADMINISTRATION ISSUES
VETCAI-L	VETCAI-L@KSUVM	VETERINARY MEDICINE COMPUTER ASSISTED INSTRU+
VETE-ULG	VETE-ULG@BLIULG11	VETE-ULG General Discussion list
VETHIS-L	VETHIS-L@UIUCVMD	Veterinary Hospital Information Systems - VE+
VETIMM-L	VETIMM-L@UCDCVDLS	Veterinary Immunology Discussion Group
VETINFO	VETINFO@UCDCVDLS	Veterinary Informatics Discussion Group
VETLIB-L	VETLIB-L@VTVM2	Veterinary Medicine Library issues and infor+
VETMED-L	VETMED-L@UGA	(Peered) Veterinary Medicine
	VETMED-L@VTVM2	(Peered) Veterinary Medicine
VETMICRO	VETMICRO@UCDCVDLS	Veterinary Microbiology Discussion Group
VETMYCOP	VETMYCOP@UCDCVDLS	Veterinary Mycoplasma Discussion Group
VETTE-L	VETTE-L@EMUVM1	Corvette Discussion - Service Info, Shows, e+
VEVA-L	VEVA-L@VTVM2	Virginia Educational Vax Association List
VFORT-L	VFORT-L@EBCESCA1	(Peered) VS-Fortran discussion list
	VFORT-L@JHUVM	(Peered) VS-Fortran discussion list
VICTORIA	VICTORIA@IUBVM	VICTORIA All Aspects of 19th-Century British+
VIDEOTEC	VIDEOTEC@VTVM1	ARPA Videotech relay
VIDNET-L	VIDNET-L@UGA	Video Network Discussion List
VIETNET	VIETNET@USCVM	The Bitnet feed for the

soc.cuture.vietnames+
VIFLIS VIFLIS@ARIZVM1 Virtual Int'l Faculty in Library & Info Scie+
VIGIS-L VIGIS-L@UWAVM VIGIS-L
VIOLEN-L VIOLEN-L@BRUSPVM Violence Discussion Forum
VIRTU-L VIRTU-L@UIUCVMD VR / sci.virtual-worlds
VIRTUAL VIRTUAL@INDYCMS Libraries for the Future
VIRUS-L VIRUS-L@TRITU Open Discussion List About PC Viruses
VIRUS-TR VIRUS-TR@TRITU Bilgisayar Virusleri Uzerine Tartisma Listes+
VISBAS-L VISBAS-L@TAMVM1 Discussion for Microsoft Visual Basic and Re+
VISION-L VISION-L@PSUVM Vision Research Group
VISUAL-L VISUAL-L@VTVM1 VISUAL-L DISCUSSION LIST
VIZGRP-L VIZGRP-L@UGA Visual Computing Users Group
VLSI-L VLSI-L@MITVMA BITNET part of Info-VLSI@Think.COM
VM-REXX VM-REXX@MARIST (Peered) VM/SP REXX Language Discussion List
VM-REXX@OHSTVMA (Peered) VM/SP REXX Language Discussion List
VM-REXX@UCF1VM (Peered) VM/SP REXX Language Discussion List
VM-SHOW VM-SHOW@TREARN VM-Show - Comics Magazine in Turkish
VM-UTIL VM-UTIL@DEARN (Peered) VM Utilities Discussion List
VM-UTIL@MARIST (Peered) VM Utilities Discussion List
VM-UTIL@OHSTVMA (Peered) VM Utilities Discussion List
VM-UTIL@TECMTYVM (Peered) VM Utilities Discussion List
VM-UTIL@TREARN (Peered) VM Utilities Discussion List
VM-UTIL@UBVM (Peered) VM Utilities Discussion List
VM-UTIL@UCF1VM (Peered) VM Utilities Discussion List
VM-UTIL@UTARLVM1 (Peered) VM Utilities Discussion List
VMAINT-L VMAINT-L@UIUCVMD VM Maintenance discussions
VMARCHL VMARCHL@GWUVM GWU's VMARCHIVE Discussion List
VMBATL VMBATL@GWUVM GWU's VMBATCH Discussion List
VMCENTER L-VMCTR@AKRONVM VMCENTER Components Discussion List
VMCOMMS VMCOMMS@UKACRL TEST LIST
VMCONS VMCONS@MIAMIU (Peered) VM Consultants discussion list
VMEDIA-L VMEDIA-L@UOTTAWA VIP Media Discussion Group
VMESA-L VMESA-L@UAFSYSB VM/ESA Discussions
VMESA-L@UCSFVM VM ESA Conversion List
VMGOPHER VMGOPHER@PUCC VM GOPHER discussion list
VMKIDS-L VMKIDS-L@DEARN (Peered) VM low-key Tech-staff discussion
VMKIDS-L@IRISHVM (Peered) VM low-key Tech-staff discussion
VMKIDS-L@MARIST (Peered) VM low-key Tech-staff discussion
VMKIDS-L@UBVM (Peered) VM low-key Tech-staff discussion
VMNAD-F VMNAD-F@FRMOP11 Liste des 'Node ADministators' VM francais
VMPR-L VMPR-L@MCGILL1 VM PERFORMANCE
VMPROB-D VMPROB-D@UTCVM VMPROBE Distribution List
VMPROB-L VMPROB-L@UTCVM VMPROBE List
VMREL6-L VMREL6-L@UAFSYSB VM Release 6 (SP and HPO) Discussions
VMS-L VMS-L@SEARN VMS give-and-take forum
VMS-SE VMS-SE@SEARN Swedish EARN Node ADministrators - VMS syste+
VMS-STORE VMS-STOR@SEARN VMS Store administrators
VMSLSV-L VMSLSV-L@UBVM VAX/VMS LISTSERV Discussion List
VMSNAD-F VMSNAD-F@FRMOP11 Liste des 'Node ADministators' VMS francais

VMSTEX-L	VMSTEX-L@UICVM	VMSTEX-L
VMSYS-L	VMSYS-L@UGA	VM Systems Programmers List
VMTAPEL	VMTAPEL@GWUVM	GWU's VMTAPE Discussion List
VMTOOL-L	VMTOOL-L@UIUCVMD	VM Tools discussions
VMUSER-L	VMUSER-L@JPNSUT00	IBM soft & hard discussion list
VMUTIL-A	VMUTIL-A@UIUCVMD	VMUTIL-A (archive files only)
VMVIRUS	VMVIRUS@PCCVM	Open Discussion forum on VM viruses and worms
VMVTAM-L	VMVTAM-L@UIUCVMD	VM VTAM discussions
VMWKSHOP	VMWKSHOP@MARIST	1993 VM Workshop - July 20-23
VMXA-L	VMXA-L@DEARN	(Peered) VM/XA Discussion List
	VMXA-L@UGA	(Peered) VM/XA Discussion List
VM3800-L	VM3800-L@UIUCVMD	VM 3800 printer discussions
VNEWS-L	VNEWS-L@UBVM	VNEWS Discussion List
VNIX-L	VNIX-L@RICEVM1	(Peered) Personal UNIX on VM discussion
	VNIX-L@TAMVM1	(Peered) Personal UNIX on VM discussion
VOCNET	VOCNET@UCBCMSA	VOCNET - NCRVE UC Berkeley Voc Ed Practition+
VOLCANO	VOLCANO@ASUACAD	VOLCANO
VOXHUM-L	VOXHUM-L@EMUVM1	VOX Humanities
VPIEJ-L	VPIEJ-L@VTVM1	Publishing E-Journals : Publishing, Archivin+
VRA-L	VRA-L@UAFSYSB	Visual Resources Association
VRAPP-L	VRAPP-L@UIUCVMD	VR Apps / sci.virtual-worlds.apps
VSAM-L	VSAM-L@TREARN	Virtual Storage Access Method Discussion List
VSNU-L	VSNU-L@HEARN	Vereniging van Samenwerkende Nederlandse Uni+
VSTAT-L	VSTAT-L@ALBNYDH2	VITAL STATISTICS AT ALBNYDH2
VT-HSNET	VT-HSNET@VTVM1	VT K-12 School Network
VTCAD-L	VTCAD-L@VTVM2	Virginia Tech Computer Aided Design Discussi+
VTLOG	VTLOG@VTVM1	Virginia Tech Computing Center LOG
VTLSLIST	VTLSLIST@VTVM1	VTLS users list
VTNOVELL	VTNOVELL@VTVM1	Virginia Tech NOVELL users
VTSSI-L	VTSSI-L@VTVM2	Virginia Tech Single System Image Mail Discu+
VTWOMEN	VTWOMEN@VTVM1	Virginia Tech Women
VTX-L	VTX-L@NCSUVM	DEC VideoText Discussion List
VUGMAIL	VUGMAIL@UKACRL	VUGMAIL LIST
VWAR-L	VWAR-L@UBVM	Viet Nam War Discussion List
VZLA-L	VZLA-L@YALEVM	ATARRAYA (Red Venezolana)
WAACC-L	WAACC-L@UMDD	Washington Area Academic Cmputing Centers di+
WATER-L	WATER-L@WSUVM1	Water Quality Discussion List
WCDRT-L	WCDRT-L@UALTAVM	Western Canadian Dairy Research and Technolo+
WCETALL	WCETALL@UNMVMA	WICHE Western cooperative for educational te+
WCETINFO	WCETINFO@UNMVMA	Western Cooperative Information Clearinghous+
WED230	WED230@PUCC	COM 337 Wednesday 2:30 Precept List
WEIRD-L	WEIRD-L@BROWNVM	Mmytacist Mmanufacture
WELSH-L	WELSH-L@IRLEARN	WELSH Language Bulletin Board
WESTDIR	WESTDIR@UREGINA1	WESTDIR LIST
WFFT-L	WFFT-L@UBVM	WFFT Member Distribution List
WFW-L	WFW-L@UMDD	Microsoft Windows for Workgroups

WG-PIST	WG-PIST@SEARN	Philippines Policy Issues on Development and+
WHIM	WHIM@TAMVM1	WHIM - a discussion list for "Humour Studies"
WHITE-PG	WHITE-PG@BITNIC	CREN White Pages List
WHSCL-L	WHSCL-L@EMUVM1	Health Sciences Library Discussion
WHV-L	WHV-L@UOTTAWA	Penn State University test list
WIML-L	WIML-L@IUBVM	WIML-L (Women's issues in music librarianshi+
WIN-L	WIN-L@DEARN	X.25 - Wissenschaftsnetz (techn. Koord.)
WIN-VAX	WIN-VAX@UMDD	MS-Windows interfaces to VAX-Rdb
WINTCP-L	WINTCP-L@UBVM	Wollongong TCP/IP Discussion List
WIN3-L	WIN3-L@UICVM	Microsoft Windows Version 3 Forum
WIOLE-L	WIOLE-L@MIZZOU1	Writing Intensive Online Learning Environmen+
WISCNET	WISCNET@TCSVM	WISCNET interested party list
WISE	WISE@UICVM	Workshop on Information Systems Economics
WISENET	WISENET@UICVM	Women In Science and Engineering NETwork
WITSENDO	WITSENDO@DARTCMS1	ENDOmetriosis Treatment and Support
WKSH-L	WKSH-L@UCSFVM	Windowing Korn Shell Discussion List.
WKSPHYS	WKSPHYS@IDBSU	WKSPHYS@IDBSU - WORKSHOP PHYSICS LIST
WMN-HLTH	WMN-HLTH@UWAVM	WMN-HLTH
WMST-L	WMST-L@UMDD	Women's Studies List
WMSYS-L	WMSYS-L@WMVM1	William and Mary Systems Engineering Staff D+
WMTS-L	WMTS-L@WMVM1	William and Mary Technology Support Staff Di+
WMUN-L	WMUN-L@CSEARN	WMUN-L World Model United Nations 1993
	WMUN-L@DEARN	WMUN-L World Model United Nations 1993
WNS699	WNS699@SBCCVM	Stony Brook WNS699 Discussion List
WONCAR-L	WONCAR-L@BROWNVM	Woncar-l List
WOODWEEK	WOODWEEK@IPFWVM	WOODWORKING DISCUSSIONS WEEKLY DIGEST
WOODWORK	WOODWORK@IPFWVM	Woodworking Discussions
WOPEC	WOPEC@UKACRL	Title "Current Awareness Service for Working+
WORDS-L	WORDS-L@UGA	English Language Discussion Group
WORKS	WORKS@RUTVM1	WorkS List
WORKS-L	WORKS-L@NDSUVM1	WORKS-L Writers List Works
WORLD-L	WORLD-L@UBVM	World-L - Forum on non-Eurocentric world his+
WPCORP-L	WPCORP-L@UBVM	WordPerfect Corporation Products Discussion +
WPWIN-L	WPWIN-L@UBVM	WordPerfect For Windows Discussion List
WP51-L	WP51-L@UOTTAWA	WordPerfect 5.1 Discussion Group List
WRITERS	WRITERS@NDSUVM1	WRITERS
WS_T4_AU	WS_T4_AU@ICNUCEVM	WS_T4_AU INET92 DEV. COUNTRIES WORKSHOP AND +
WSFIBL-L	WSFIBL-L@HEARN	Vergadermedium van de WSF IBL medewerkers
WSULAB-L	WSULAB-L@WSUVM1	Computer Lab Management
WU-AIDS	AIDS@WUVMD	Sci.Med.AIDS Newsgroup
WUNET-L	WUNET-L@WUVMD	General list for Campuswide Network Users
WUNIHG-L	WUNIHG-L@WUVMD	Washington University NIH Guide Distribution
WUNOVELL	WUNOVELL@WUVMD	Campuswide Novell Network Discussion List
WUSCT-L	WUSCT-L@WUVMD	Washington University Sentence Completion

Te+
WVGIS-L WVGIS-L@WVNVM WVa GIS Discussion List
WVNCM5-L WVNCM5-L@WVNVM WVU Parallel Processing Discussion
WVNCSF-L WVNCSF-L@WVNVM WVNET Computer Science Faculty List
WVRK12-L WVRK12-L@WVNVM RuralNet Discussion Group
WVUBBN-L WVUBBN-L@WVNVM Campus Backbone Network Information
Exchange
WVUBOT-L WVUBOT-L@WVNVM Board of Trusties Initiatives on
Instruction+
WVUCWS-L WVUCWS-L@WVNVM Campus Wide Info System
WVUEGS-L WVUEGS-L@WVNVM English Graduate Students
WVUENG-L WVUENG-L@WVNVM English Faculty and Staff
WVUSEN-L WVUSEN-L@WVNVM Mailing List Faculty Senate
WVUVTC-L WVUVTC-L@WVNVM WVU Video Technology Coordinating Council
WWII-L WWII-L@UBVM World War II Discussion List
WWP-L WWP-L@BROWNVM Brown University Women Writers Project
WX-LSR WX-LSR@UIUCVMD WX-LSR Local Storm Reports and other local
WX
WX-MISC WX-MISC@UIUCVMD WX-MISC Miscellaneous WX products
WX-NATNL WX-NATNL@UIUCVMD WX-NATNL National Wx Summary and Selected
Ci+
WX-PCPN WX-PCPN@UIUCVMD WX-PCPN Precipitation WX products
WX-STLT WX-STLT@UIUCVMD WX-STLT Satellite interpretive messages
WX-SUM WX-SUM@UIUCVMD WX-SUM Summary Weather Products
WX-SWO WX-SWO@UIUCVMD WX-SWO Severe Weather Outlooks
WX-TALK WX-TALK@UIUCVMD WX-TALK General weather discussions and
talk
WX-TROPL WX-TROPL@UIUCVMD WX-TROPL Tropical Storm and Hurricane WX
pro+
WX-WATCH WX-WATCH@UIUCVMD WX-WATCH WX Watches and cancellations
WX-WSTAT WX-WSTAT@UIUCVMD WX-WSTAT WX Watch status and storm reports
WXMAP-L WXMAP-L@UIUCVMD Discussions about the wxmap program
WYLBUR-L WYLBUR-L@CUNYVM WYLBUR System Maintainers Mailing List
W5AC W5AC@TAMVM1 TAMU Amateur Radio Club
XCULT-L XCULT-L@PSUVM International Intercultural Newsletter
XCULT-X XCULT-X@UMRVMB Intercultural Communication Practicum
XCULTINS XCULTINS@UNMVMA Effects of Culture on Instruction Design
XEDIT-L XEDIT-L@MARIST (Peered) VM System Editor List
XEDIT-L@OHSTVMA (Peered) VM System Editor List
XEDIT-L@RUTVM1 (Peered) VM System Editor List
XEDIT-L@TCSVM (Peered) VM System Editor List
XEDIT-L@UGA (Peered) VM System Editor List
XEROX-L XEROX-L@TAMVM1 The Xerox Discussion List
XF-L XF-L@DB0TUI11 Tcl/Tk based interface builder XF
XFBRIGHT XFBRIGHT@HARVARDA Fulbright/LASPAU Scholars List
XMAILBUG XMAILBUG@PUCC Mailer release 2.0 bug list
XMAILER XMAILER@BITNIC (Peered) The Columbia Mailer List
XMAILER@DEARN (Peered) The Crosswell Mailer List
XMAILER@HEARN (Peered) The Crosswell Mailer List
XMAILER@MARIST (Peered) The Crosswell Mailer List
XMAILER@UGA (Peered) Crosswell Mailer
XMELLONE XMELLONE@HARVARDA Mellon/LASPAU Participants Support List
XTROPY-L XTROPY-L@UBVM Extropians - discussion/development of
Extro+
XXI XXI@UCHCECVM XXI Ciencia & Tecnologia. (Science &
Techno+
X25-L X25-L@UFRJ Acesso X.25 - Discussoes e Informacoes

X400-L	X400-L@BITNIC	(Peered) BITNET X.400 Discussion
	X400-L@DEARN	(Peered) BITNET X400 List
	X400-L@HEARN	(Peered) BITNET X400 List
	X400-L@MARIST	(Peered) BITNET X400 List
	X400-L@UGA	(Peered) x.400 Protocol List
Y-RIGHTS	Y-RIGHTS@SJUVM	Y-Rights: Kid/Teen Rights Discussion Group
YACHT-L	YACHT-L@GREARN	The Yachting Sailing and amateur BoatBuildin+
YARDIMCI	YARDIMCI@TREARN	Sistem ile ilgili tartisma
YCIAS-L	YCIAS-L@YALEVM	YCIAS Student Discussion List
YESCAMP	YESCAMP@UNBVM1	Youth Engineering and Science Camps of Canada
YONEYLEM	YONEYLEM@TRITU	Yoneylem Arastirmasi Tartisma Listesi
YOUTHNET	YOUTHNET@INDYCMS	Youth Net
YP_TECH	YP_TECH@YALEVM	Technical Issues Relating to the Yale People+
YP_USER	YP_USER@YALEVM	Yale People Project User Discussion
YTERM-L	YTERM-L@YALEVM	Yale Terminal Emulator Issues
YUNUS	YUNUS@TRMETU	(Peered) Turkish TeX Users Group YUNUS
Z-SENATU	Z-SENATU@PLTUMK11	Reports from sessions of Nicolaus Copernicus+
ZAPP	ZAPP@UCSFVM	Zapp! The Lightning of Empowerment
ZIKBN	ZIKBN@PLEARN	DISCUSSION LIST FOR NASK-KBN RELATIONS. ZIKBN
ZWSUG	ZWSUG@MARIST	Marist Zwriter Users Group
ZZZ-L	ZZZ-L@UCSFVM	Zeke/Zebb/Zack Project group
Z3950IW	Z3950IW@NERVM	Z39.50 Implementors Workshop
1-UNION	1-UNION@UVMVM	1-Union: Industrial democracy and industrial+
12SLAFES	12SLAFES@USACHVM1	(Peered) XII Simposio Latinoamericano de Fis+
2BNFCC	2BNFCC@SEARN	2nd BNFNET Annual Computer Conference
21ST-C-L	21ST-C-L@BRUFPB	Forum about the 21ST century discussions
3COM-L	3COM-L@NUSVM	3Com Discussion List
3D-L	3D-L@ARIZVM1	A discussion of 3D-Graphics
4AD-L	4AD-L@JHUVM	4ad recording artists list
9NOV89-L	9NOV89-L@DB0TUI11	Events around the Berlin Wall
9370-L	9370-L@HEARN	IBM 9370 and VM/IS specific topics list
94PGM-L	94PGM-L@EMUVM1	SRA/NCURA Regional Program 1994 in Puerto Ri+

Obtaining Host and Address Information

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Homewood Academic Computing
Johns Hopkins University
Version 1.0
October 19, 1990

Electronic mail is one of the most popular facilities used on wide area networks. Users separated by hundreds or thousands of miles can exchange messages and documents on-line, usually in a small period of time. Like U.S. postal mail, electronic mail uses an addressing scheme to ensure correct delivery of messages. Unlike U.S. postal mail, the form of the electronic mail address varies from one network to the next. In general, an electronic mail address is composed of a username and a computer host name. Unfortunately, there is no general scheme for disseminating host names and usernames.

Finding information about a host on a wide-area network can be surprisingly difficult. One common problem involves finding information about a username and a host name when only a personal name and an organization name is available. The best solution to this problem is to contact the person by postal mail or phone and ask for their username and network address. Unfortunately, this is not always possible. The user may not be available or they may not know their network address. Other common problems include finding a network address when only the host name is known and finding a username when the network address is known but the username is not known. If there is no way to contact the intended recipient by mail or phone, a detective game must be played using whatever resources a given network provides. These resources vary from network to network. They are often indifferently documented and sometimes several overlapping resources are available on the same network. The purpose of this document is to acquaint the reader with some of the resources that are available and how they are used. Readers should note that this document is most applicable to the resources available at or from the Hopkins network. An attempt has been made, however, to provide enough general information to aid users at other sites.

I. Bitnet. Bitnet is a wide-area network of about 3000 hosts connected mostly by point-to-point links. Bitnet address information is probably easier to find than address information associated with other wide area networks. This is due to several factors. One, all Bitnet host names are included in a single file that's kept on every host connected to the Bitnet. An organization name is usually included following the Bitnet address. It's possible to search this hosts file using the organization name as the search string, and find the host address or addresses associated with this organization. The name and location of this file should be obtained from the system administrator since it varies from system to system. Second, there is a central facility which provides a database, informational files and other resources about Bitnet. Finally, there are a variety of other hosts, called LISTSERVs, that provide files, databases of usernames and other resources.

The Bitnet Information Center keeps files of host names, host information, gateways to other networks, etc. on line for retrieval. In addition, some

files can be searched with a database server which will return, via mail, only those records that are selected by the search. The host name associated with the Bitnet information center is BITNIC. It should be noted here that Bitnet is connected to identical networks in Canada and Europe named NetNorth and Earn. There are nodes on these networks running the NETSERV file servers that provide similar information to that provided by BITNIC.

I.1. NETSERV. A list of files available from BITNIC can be retrieved by sending the following interactive command to BITNIC's file server (named NETSERV):

```
  $ send  NETSERV@BITNIC get NETSERV filelist  ! for VMS machines running
JNET

   tell NETSERV at BITNIC get NETSERV filelist  ! for VM/CMS machines
```

Note, most of these files are lists of other files that can be received. A particular file can be retrieved with the command:

```
     $ send NETSERV@BITNIC get <filename> <filetype> ! for VMS machines

     tell NETSERV at BITNIC get <filename> <filetype> ! for VM/CMS machines
```

One important piece of information that can be retrieved in this fashion is the so-called node entry. This record contains things like the electronic mail address of the host administrator, the type of computer etc. Sometimes the Bitnet host name is known but the mail recipient's username is not known. In this case, the host node entry can be consulted for the postmaster's electronic mail address. The postmaster can be asked, via E-mail,
for information about the desired address. The node entry information can be obtained with the following command:

```
   $ send NETSERV@BITNIC get nodentry <nodename> ! for VMS machines running
                                                 JNET

     tell NETSERV at BITNIC get nodentry <nodename> ! for VM/CMS machines
```

More information about using NETSERV at BITNIC can be obtained with the command:

```
     $ send NETSERV@BITNIC get helpfile             ! for VMS machines
running
                                                      JNET

     tell NETSERV at BITNIC get helpfile             ! for VM/CMS machines
```

It's also worth noting that NETSERV commands can be placed in the first line of a mail message sent to NETSERV@BITNIC.

I.2. LISTSERVs. LISTSERV is software developed for IBM VM/CMS Bitnet hosts. The original function of this software was to service mailing lists. Since then the software has been updated to offer other features such as file service, user directory service , on-line help and a database server. A list of LISTSERV servers (and other Bitnet servers) can be obtained by sending the command:

```
$ send service@BITNIC get Bitnet servers              ! for VMS machines
                                                        running JNET

tell service at BITNIC get Bitnet servers             ! for VM/CMS machines
```

One of the things that is contained in this file is a list of LISTSERV's that have user directory services. If it's necessary to find someone's username at one of these hosts, the command:

```
$ send LISTSERV@<nodename> /whois  <search-string>    ! for VMS machines
                                                        running JNET

tell LISTSERV at <nodename> /whois <search-string>    ! for VM/CMS machines
```

where search-string is a personal name or some substring of a personal name, will return the username associated with the search string (if it's in their database). Some LISTSERV's maintain a general user directory service for users anywhere on the Bitnet. Unfortunately, there is no simple way to find out who subscribes to these LISTSERVs. The LISTSERV at the host MARIST has the largest collection of usernames since it keeps the names of all subscribers to Bitnet mailing lists.

A list of Bitnet related files can be obtained from LISTSERV by means of the command:

```
$ send LISTSERV@BITNIC get netinfo filelist           ! for VMS machines
                                                        running JNET

tell LISTSERV at BITNIC get netinfo filelist          ! for VM/CMS machines
```

or by sending the text:

```
get netinfo filelist
```

on the first text line of a mail message sent to LISTSERV@BITNIC.

LISTSERVs also have a database server. Documentation for the database server is contained in the file LISTDB MEMO. This file can be obtained with the command:

```
$ send LISTSERV@BITNIC get listdb memo                ! for VMS machines
                                                        running JNET

tell LISTSERV at BITNIC get listdb memo               ! for VM/CMS machine
```

Special software can be obtained for VMS and VM machines that allows the LISTSERV database server to be accessed interactively. Mail can also be used to access the database server but the commands must be incorporated in a special job shell. A sample job shell is shown below:

```
// Job
Database Search DD=Rules
//Rules DD *
command 1
command 2
...
/*
```

The following mail text could be used to find all records in the BITEARN database that contain the string "university of central florida":

```
// Job
Database Search DD=Rules
//Rules DD *
search University of Central Florida in BITEARN
print
/*
```

All records containing "University of Central Florida" will be returned when the above job is mailed to LISTSERV. This is obviously not desirable behavior if a general search is done on a large database. The command "index" should be substituted for "print" if a large number of records may be accessed, . The index command returns the record number and a brief description of each record accessed by the search command. This information can be used to request specific records. For example, the following job could be mailed to LISTSERV:

```
// Job
Database Search DD=Rules
//Rules DD *
search florida in bitearn
index
/*
```

An index of all records containing the string florida would be retuned. Interesting records could be then be obtained by mailing the following job to LISTSERV:

```
// Job
Database Search DD=Rules
//Rules DD *
search florida in bitearn
print <record-number> <record-number> ...
/*
```

The document named LISTDB MEMO should be consulted for more information about using the LISTSERV database server.

A final point that should be noted is that in this entire section on Bitnet we have pretended, for simplicity's sake, that the various Bitnet information resources are only available from BITNIC. There are a number of information servers on Bitnet that may be closer in a network sense then BITNIC but yet provide the same information. The file BITNET SERVERS is available at BITNIC and contains a list of all the servers and services they provide.

II. The Internet. The Internet is a rapidly growing wide-area network of more than 100,000 hosts. It is not really a single network. Instead, it is a network of networks, whose host names are partitioned in a tree-like fashion. The partitions, and sub-partitions, etc. are called domains. Responsibility for the internet domains is largely local to the domain. Each domain has its own organization and contacts. Information about hosts associated with a domain are provided by the domain name service. Several

hosts associated with a given domain are designated as nameservers for the domain. The nameservers keep information about the hosts associated with the domain and /or other nameservers associated with further partitions of their domain. Internet hosts needing address information about hosts associated with a domain automatically query the appropriate nameserver. Note, internet hosts running old versions of the internet communications software, tcp/ip, may be unable to do this. These hosts have to resort to using large but incomplete tables of internet hosts. Central information for the internet is provided by the Network Information Center, NIC. NIC provides information about first and second level domains, manages the registration of domains and provides general support for the internet.

Troubles with host names and addresses and with E-mail addresses can often be resolved by first using facilities provided by NIC, such as whois, and then manually querying the Domain Name Service for local domain information.

II.1. The whois database maintains information about hosts, domains and users. Information from the database can be obtained by running a whois client program from a remote host, by telneting to nic.ddn.mil and running the whois program interactively, or by sending mail to server@nic.ddn.mil with a database query in the subject line. Note, telnet is the remote login application provided with tcp/ip.

Not all hosts on the internet are in the whois database. Instead, information about the top two domains is maintained. This information includes an E-mail address of a contact person for that domain. Some individual hosts and individual usernames are also registered with the NIC and therefore available from whois.

Information about domains can be obtained by issuing the following command:

```
whois domain  jhu.edu      ! where jhu.edu is the domain for
                           ! which information is desired
```

This command can be included in the subject line of a mail message sent to service@nic.ddn.mil. Information returned by this query includes the E-mail address of the responsible person for the domain, organization name and address and addresses of the domain name servers.

A wildcard search can be done by including a dot or dots after the argument. This will match all records whose specified field begins with the argument. Note, a general search on all fields of the database can be achieved by leaving off the keyword argument and simply typing in the text to be searched for. For example, the following query would return several records, one of which would be the domain jhu.edu:

```
whois jhu...
```

If a general search is done and/or if a wildcard is used many database entries may be located. In this case a summary of the records found will be returned. Full information on a particular record can then be requested by specifying the desired record more completely as, for example, "domain jhu.edu", or by specifying the record's handle in the database query. A record's handle is a unique identifier associated with each record in the

database. The handle is always enclosed in parentheses and always follows the record's name. A query of the form:

whois handle net-jhu

will return just the record associated with the handle net-jhu. Some record types have subdisplays associated with them. A subdisplay is simply additional information associated with a record. For example, host records have a subdisplay of registered users. The output keyword of "expand" forces the output of all subdisplays associated with a record. The following query will show all the registered users associated with the host jhunix.hcf.jhu.edu:

whois host expand jhunix.hcf.jhu.edu

If some information is known about an internet hosts domain, organization name, or other associated field, whois can be used to initiate a hierarchical search for the necessary information. Locating the domain or network record will provide a E-mail address. Inquiries could be made to this address for other E-mail addresses associated with lower level domains or individual hosts that might be able to provide help. Alternately, the domain service addresses provided could be used with another utility called nslookup to obtain further information. Finally, the desired host or E-mail address information may be directly obtainable from whois. The proportion of registered to non-registered hosts and addresses is small, however. The query:

whois help

can be used to obtain more information about the use of whois. It should be noted that some client versions of whois have a different command syntax then that described above.

II.2. A number of online files are kept at NIC. These include files containing addresses of responsible persons for domains, files detailing host administrator duties, etc. They can be accessed by anonymous FTP or by sending mail to service@nic.ddn.mil. To get a list of what types of files are available, send mail to service@nic.ddn.mil with the command "help" in the subject line: To retrieve a specific file, use the command "send XXX" where XXX is a fully specified filename. For example, host administrator addresses are contained in the file named HADMINBYADDR.TXT located in the netinfo directory. The command:

send netinfo:hadminbyaddr.txt

when included in the subject line of a mail message to service@nic.ddn.mil can be used to obtain the file by mail.

II.3 Nslookup. Nslookup is a utility that allows users to query nameservers. It can be used to get addresses associated with host names, host names associated with addresses, mail addresses of the server manager, as well as to locate a server associated with a particular domain. The reader should be aware that nslookup is not always available on hosts with internet access. Also, the syntax used in the following material may not apply to all implementations of nslookup.

Some tcp/ip implementations don't have the ability to use nameservers. Instead, they keep tables of addresses and host names. If these hosts need to access another host whose address is not in their table, they can consult someone with access to nslookup to obtain the address. Addresses associated with a particular domain name can be obtained by typing the domain name in response to the nslookup prompt. For example, the address associated with the host name jhmail.hcf.jhu.edu would be obtained as follows:

```
$ nslookup
> jhmail.hcf.jhu.edu.
```

Sometimes users will have a particular address and will want to know the host name associated with the address. To obtain a host name associated with a particular address the address is entered with the bytes reversed followed by .in-addr.arpa. For example, to get the host name associated with the address 128.220.2.7 type:

```
$ nslookup
nslookup> set type=ptr
nslookup> 7.2.220.128.in-addr.arpa
```

The nameservers allow hosts that are not really internet hosts to appear to be on the internet for mail purposes. This is done by means of mail exchange or MX records. Unfortunately, not all mailers can do MX lookups. When the situation occurs where a correct appearing address doesn't work with mail or where a simple nslookup query for the address doesn't work, the nameserver should be queried for the existence of an MX record. This can be done by entering:

```
nslookup> set type=mx
nslookup> enter-the-address-here
```

If an MX record exists for an address and if a particular mailer can't do MX lookups, an address of the following form will probably work:

```
username%mail-address@MX-address
```

Nslookup can be used to provide information about who maintains a domain's nameserver. This user, the technical contact, may be able to provide additional information when contacted via E-mail. If a nameserver associated with a particular domain is known, the procedure is as follows:

```
nslookup>set type=soa

nslookup> jhu.edu
```

A variety of domain information will be returned, one item of which is the E-mail address of the technical contact. The relevant line of output will begin with the string "mail addr =" . The mail address is in the form:

```
username.hostname.domain-name
```

and will have to be changed to:

```
username@hostname.domain-name
```

The address of the nameserver associated with a given domain can be obtained as follows:

```
nslookup> set q=ns
nslookup> domain-name
```

A listing of hosts by domain can be obtained from nslookup by using the "ls <domain>" command where domain is the domain associated with the nameserver.

Bitnet or other users with no direct access to nslookup can still get the basic nslookup information by sending mail to nslookup@sh.cs.net. Domain style addresses can be placed in the body of the message, one per line, and mail will be returned listing all the nameserver records for the named domains.

III.UUCP. The uucp software developed for Unix systems has been used to create a wide-area network. This network is even less centralized than the internet. Access to this network is gained by running uucp and getting dial-up access to another host already on the network. There are no official requirements for membership and hosts can join or leave the network in an unobtrusive fashion. This informality frequently produces problems with addressing. The Uucp project was created to deal with these problems. "Official" uucp hosts register their name with the Uucp project at host uunet. Maps of the uucp network are available from uunet and can be used by software named Pathalias to route information between uucp hosts. Formerly, users had to specify the entire route in a so called "bang style" address. A "bang style" address looks like hosta!hostb!hostc!username. A mail message sent with this address would travel to hosta, then to hostb and finally to hostc.

Users connected to the uucp network rarely have to specify routing information in the E-mail address. Pathalias usually handles the routing. Occasionally, however, some problem will arise where some routing information must be obtained, such as fixing a garbled return address. In addition, since uucp hosts can have a domain style name, it is sometimes necessary to determine whether a host is really a uucp host, or whether it's an internet host.

Interactive information about a UUCP host can be obtained by sending an interactive Bitnet command of the following form:

```
$ send/command psuvax1 uuhosts  <uucp-host-name>        ! for VMS machines
                                                          running JNET

SM RSCS CMD PSUVAX1 uuhosts  <uucp-host-name>           ! for VMS/CMS
machines
```

Information about the path to the host can similarly be obtained by:

```
$ send/command  psuvax1 uupath <uucp-host-name>         ! for VMS machines
                                                          running JNET

SM RSCS CMD PSUVAX1 uupath <uucp-host-name>              ! for VM/CMS
machines
```

The UUCP maps can be examined to get items like the postmaster address, mailing address, etc. The maps are posted in the USENET group comp.mail.maps and must be unpacked or uncompressed. These maps are also available for anonymous FTP from uunet.uu.net in directory uumap.

IV. Info-nets. Info-nets is a mailing list that provides information about addresses, location of users and gateways, and similar matters. Questions can be sent to the list and experienced volunteer members of the list will usually attempt to provide answers. The list can be subscribed to by sending a subscription request to info-nets-requests@think.com. Questions are addressed to info-nets@think.com. Questions that include as much information as possible, such as full headers of bounced mail messages, etc. and that that show that you have made an effort to solve the problem on your own are most likely to be answered. Archives of info-nets questions and answers are kept on some Bitnet servers, such as the one at BITNIC. Users can request these files with interactive or mailed file server commands as outlined in the beginning of this document. A list of the archives can be obtained with the interactive command:

```
$ send  LISTSERV@BITNIC get notebook filelist

tell LISTSERV at BITNIC get notebook filelist
```

This returns a list of all the archive files stored on BITNIC. Each archive or notebook is named infonets logXXXX where XXXX is a date like 8909. For example, the infonets archive for September 1989 can be obtained with the interactive command:

```
$ send LISTSERV@BITNIC get infonets log8909

tell LISTSERV at BITNIC get infonets log8909
```

In addition, the archives can be searched using the LISTSERV database server at BITNIC. A search for all records containing the string china could be done by sending mail to LISTSERV@BITNIC with the following text:

```
// Job
Database Search DD=Rules
//Rules DD *
search china in infonets
index
/*
```

The index could be consulted and the desired records could be obtained by record number by sending mail to LISTSERV@BITNIC with the following text:

```
// Job
Database Search DD=Rules
//Rules DD *
search china in infonets
print <record-number> <record-number> ...
/*
```

More information about using the LISTSERV database service is found in section I.2.

V. Suggested Reading. Several books have recently been published which provide information about networks, gateways, addresses and network resources. They are listed below.

The Matrix: Computer Networks and Conferencing Systems Worldwide
by John S. Quarterman, Digital Press, 1989.

Users' Directory of Computer Networks
by Tracy Lynn LaQuey, Digital Press, 1989.

!:/@\A Guide to Electronic Mail Networks and Addressing
by Donnalyn Frey and Rick Adams, O'Reilly & Associates, 1989.

Appendix A.

This appendix lists a variety of services and techniques which may be of use in obtaining host and address information.

1. White Pages. A large database of E-mail addresses has been created as a demonstration project. Users with internet access can receive help on how to use it by telneting to wp.nyer.net, logging in as fred and typing "help".

2. Internet name expansion. Some internet hosts have mail software that will allow remote users to verify if a given username exits on the host. For example, if a user wants to contact someone named fred on a host named generic.name.edu, they can check if the username fred exits on that host by telneting to port 25 on generic.name.edu and typing "VRFY fred". If the username fred is valid, the mailer might return something like "Fred Smith <fred.generic.name.edu>". Typing the command "quit" will terminate the telnet session.

3. Batch ftp (BFTP). BFTP allows non-internet hosts to obtain files from internet hosts. The files must be freely available. To get instructions for using this service, send mail to info-server@sh.cs.net with the following message in the text:

   ```
   request: info
   topic: help-ftp
   request: end
   ```

   Note, the host sh.cs.net also provides an E-mail nslookup service. See section II.3.

4. Network Guide. A guide on how to send mail from one network to another is available from lietserv@unmvm. The file name is NETWORK GUIDE and it contains gateway information for many different network to network mail transfers in a concise format.

Frequently asked questions about LISTSERV

Revised LISTSERV System Reference Library, Release 1.7c

Copyright (c) Eric Thomas 1992

Last update: April 19th, 1992

Thank you for having ordered this document instead of posting your question to a mailing list. This is a good start - now you will learn how to find the answer to your questions by yourself. There is no file with frequently asked questions and answers, because nobody has had time to prepare one, and it would become obsolete pretty fast unless it was regularly updated. There is, however, a process which allows you to find up-to-date answers to frequently asked questions: the database functions of LISTSERV. Most of the questions about LISTSERV you might ever have to ask have been answered already on the LISTSERV discussion list (LSTSRV-L), which held about 6,500 messages at the time this document was written. You can search this database on any of the following hosts:

BITNET nodeid	Internet hostname
POLYGRAF	GRAF.POLY.EDU (NY state, USA)
SEARN	SEARN.SUNET.SE (Stockholm, Sweden)
UGA	UGA.CC.UGA.EDU (Georgia, USA)

Before you start shaking your head and wondering where on earth I got such a silly idea for a FAQ file, let me give you an example. Let's say you want to find out the exact syntax of netwide unsubscription requests. Here are the results of an actual search:

```
------------------------------------------------------------------------
> search netwide in lstsrv-l
--> Database LSTSRV-L, 195 hits.

> index
Item #   Date   Time  Recs   Subject
------   ----   ----  ----   -------
002062 88/02/07 20:43   75   Global deletion feature
(...)
006466 92/04/17 09:27   14   Re: Netwide deletion
------------------------------------------------------------------------
```

That's right, one hundred and ninety five messages are related to your question, and the first one dates back to 1988. That first message contains a description of the facility, complete with syntax and a sample job file. It is now obsolete in some respects, but still mostly applicable, and it probably does answer your question. You will probably object that this is a rather generic question, and that yours is, quite to the contrary, very specific indeed: you got an "Internal error number 2013" while posting to a list, and want to know what to do about it. Fine, let's try it...

```
------------------------------------------------------------------------
> search 2013 in lstsrv-l
--> Database LSTSRV-L, 11 hits.
```

```
> index
Item #   Date   Time  Recs   Subject
------   ----   ----  ----   -------
003838 89/09/13 11:09   19   Database error
(...)
006018 91/11/21 15:27   42   Error processing file
-------------------------------------------------------------------------
```

A search like that takes at most 5 minutes when you are familiar with the database functions, and gives you a comprehensive answer if there is one. You will not have to thank 20 people individually for having taken the time to answer you by private mail. You will not irritate the subscribers of the list, who want to talk about more interesting things than the syntax of netwide deletions. You will not embarass yourself by having asked a question that invariably comes up once a week, or one whose answer should have been "obvious" if it hadn't been so late or you hadn't had a cold or... People often apologize for having asked such questions, which further adds to the traffic on the mailing list, but I have yet to see someone apologizing to a computer for having wasted its time on a database search.

No matter how you look at it, you win. The only cost to you is time - both to learn how to use the database functions, and to perform the actual search if the network is slow or if you are not yet familiar with the database system. But the more you try it, the more efficient you will become and the less you will be slowed down by network delays: you will soon be able to find the information you want in 2-3 "batch" searches, which you can send and forget about until the answer comes back. Granted, you will not get the answer until the network has delivered the file, but the same is true with any question posted to the list via mail - it's the same destination, after all. A well-trained "searcher" with a couple EXEC's/COM files/scripts to assist in sending requests via mail and good connectivity to one of the archive sites can easily obtain an answer from the computer in less time than a human being could type a new one, unless of course the answer is very short (like "No, this cannot be done").

But there is much more to the database functions than a system to answer questions about LISTSERV, which in itself might not be worth the learning investment. Answering questions about LISTSERV is but one of the countless uses you can put your searching knowledge to. LSTSRV-L is but one mailing list out of the 3,000+ there are on BITNET - and it's up to you to explore the others as well. A well-trained searcher can obtain the answer to almost any question about any academic topic in some 15 minutes, by tapping the archives of one of these mailing lists - find the right list with LIST GLOBAL or with the LISTS database, then find the answer as usual. There are lists about the biology of bees and camels, about the best type of bacteria to use in brewing beer, about holography, early music, boats, all kinds of social and scientific subjects, and, of course, about anything closely or remotely related to computers. All this wealth of information is available through a SINGLE interface, so what are you doing reading this when you could be learning about it now?

Bibliography:

- Send an INFO DATABASE to LISTSERV for a copy of the database manual. Do not worry too much about the date - there have been so little changes since the original version that the documentation did not need to be

updated.

- Release notes (descriptions of the changes from one release of LISTSERV to the next one) are available from LISTSERV@SEARN as 'Vnnt RELNOTES' (for instance, V17B RELNOTES describes the changes introduced in 1.7b). You can also find this sort of information via the database, but it will be scattered across a number of separate messages over a rather long period of time; if you want to know "What's new?", these files and the archives of the LSTSRV-M list (also at SEARN) are the best place to look.

- You may want to subscribe to the LDBASE-L list and read the archives, if you have BITNET connectivity and your system runs VM or VMS.

What is LISTSERV? What is Revised LISTSERV?

Revised List Processor (LISTSERV@FRECP11), Release 1.5d

(c) Eric Thomas 1986 Ecole Centrale de Paris

You can skip the introduction and go to the commands description by instructing your text editor to locate the string "GENCOM" (eg "/GENCOM" under XEDIT).

LISTSERV stands for "list server"... but what does that mean? Originally, LISTSERV was a mailing-list server which was designed to make group communication easier. The first version of LISTSERV, written by EDUCOM and installed at BITNIC under the userid of LISTSERV, offered basic "mail-exploding" capabilities. People with a common interest (eg network protocols, issues related to handicapped people in education, system administration problems) were grouped in a list which was then stored on LISTSERV. They could then communicate with each other by sending mail to a special network address (eg UG-L@BITNIC). Any piece of mail sent to these special user-ids would then be automatically distributed by the list server to each and every person on the list. You did not have to know all the names and network addresses of the people subscribed to the list. The usual messages sent by the mailing systems when mail has been successfully delivered were sent to LISTSERV -- a big relief for the sender... People could join a list by asking the "list coordinator" (actually the person who maintains the list server) to be added to the list and it was a very convenient way to meet people and participate in interesting discussions/forums.

As LISTSERV became popular and the number of lists grew, it started to show some weaknesses and limitations. Even though LISTSERV was installed at a central site, it generated a very important traffic because there was an important number of people from distant nodes in the network. If there were ten persons of the same node on a given list, it sent ten copies of each piece of mail to the node. List maintenance became a problem because of the evergrowing number of requests for subscription. Mail headers became bigger and bigger, and 30 lines was not an uncommon size. Some non-VM users had troubles accessing the server, could not send commands nor mail to it and received files in a format their system was not able to read. Non-mail files could not be sent to a list. The server was often caught looping on a rejection mail from a network mailer. No help or command description was available, and unknown commands were ignored. Sending a "HELP" command did not produce any kind of answer from the server.

Revised LISTSERV is a brand new list processor which was developped at the Ecole Centrale de Paris in France to overcome the restrictions and lack of functionnality of the first version of LISTSERV. It retains the basics of the old LISTSERV and provides good ascending compatibility, while offering more sophisticated functions, helpfiles and more user-friendliness. Revised LISTSERVs can be linked together to create peer lists for better network efficiency in a way that is nearly transparent for the user. Users can send a command to the server to subscri-

be to a list. For more information about the differences between the BITNIC-type LISTSERV and Revised LISTSERV, send the following command to the nearest Revised LISTSERV: Info FEATures (or just: I FEAT)

! Additionally, Revised LISTSERV provides powerful file-server func-
! tions which allow list moderators to make pertinent datafiles and/or
! programs available to the subscribers of their lists. For more informa-
! tion on this new feature, issue the following command to the nearest
! Revised LISTSERV: Info FILE

****
* Terminology and general information about LISTSERV documentation *
****

All the information guides available from LISTSERV follow the IBM convention that changes since last release are indicated by a vertical bar in column one. These vertical bars are "reset" when the release number is incremented. Post-releases (indicated by a lowercase letter following the release number, eg "1.3c") will have exclamation marks in column one to indicate the changes from the base release (1.3 in our example) and to differentiate them from the vertical bars that must be reset when the next version (1.4 in our example) is released. Temporary restrictions/warnings will be indicated by a ">" sign in column one and will stay until the restriction is removed or the warning is no longer applicable.

Backwards compatibility of all documented features will be kept across release changes unless technically impossible (eg a feature which is discovered to be incompatible with system security). Applications programmers should be careful not to use any feature or command which is not documented since these are subject to change without notice.

All throughout the LISTSERV documentation, several terms will be used to refer to distribution lists, mailing systems, etc. Here is a short definition for some of them:

"Distribution list", "LISTSERV list", "list": this is a list of persons to be used by LISTSERV to distribute mail and/or program files. It can be reviewed by sending a "REView" (qqv) command to the server

"List title": this is the "title" of the list, eg "IBM 7171 protocol converter list". It appears in the "Sender:" field of every piece of mail distributed to the list.

"List name": this is the 1-8 characters name by which a distribution list is identified to the server. It will often end in "-L", eg "CHAT-L", "UG-L", etc.

"List userid": this is the network address/userid@node/mailbox to which mail and files must be sent in order to be redistributed to the list. The first part ("userid") will always be the list name (see above), while the second part ("node") is the node name of the LISTSERV server. Examples: CHAT-L@DEARN, UG-L@BITNIC. The domain name (if required by your mailing system) is always ".BITNET"

"LISTSERV userid": this is the network address of the LISTSERV server, eg LISTSERV@FRECP11. The userid will usually be LISTSERV, but could be something else due to accounting conventions or suchlike. This is the network address you must send commands to.

"List owner": the person(s) who maintain the list and who have authority to perform list-maintenance functions. You will sometimes get a message saying that "Your request has been forwarded to the list owner".

"List editor": the person, if any, who reviews material sent by users to the list before allowing the server to distribute them. If the list you send mail to is controlled by an editor, you will get a message saying that "Your mail has been forwarded to the list editor". Most distribution lists do NOT have an editor and mail received by the server is distributed "as is".

"File format": the "format" in which a computer file is transmitted across the network. There are several formats which all have limitations or flaws, and are not necessarily supported by all operating systems. LISTSERV can send files in five different formats: Punch, Disk Dump, Card Dump, Netdata and Listserv-Punch (issue an "Info LPunch" command for more information on the latter). It accepts only three formats as input: Punch, Disk Dump and Netdata.

> Card Dump format will be accepted as input in a future version.
> There is no need to support Listserv-Punch format as input.

****
* Who should I contact if I have a problem with Revised LISTSERV? *
****

In much the same way as hierarchy does not exist in Revised LISTSERV lists (all the servers are peers), there is no hierarchy in the LISTSERV "management", but three complementary categories of persons:

- The list owners: each list will have one or more owners, who are authorized to add or remove people from the list, change the list attributes, etc. They will have this authority on all the peer LISTSERVs serving their list, and can be considered as "list managers". They are the persons to contact if you have a problem which is specific to a particular list, eg your name being misspelled in the mail header ("To:"), your not being able to send mail to the list, etc. Their name and network address appear in the header of the list definition file (which you can obtain by sending a "REView" command to the server -- see below) under the keyword "Owner=".

- The "postmasters": each LISTSERV will have one or more postmasters (send a "RELEASE" command to get their names and network addresses). Postmasters are usually systems programmers and are the people who maintain the list servers and make sure they operate properly. They create and delete lists on their servers but do not maintain them -- that's what list owners are for. They have full authority over their own server and all of its lists, but this authority does not usually extend to other LISTSERVs. This means that even though they can modify the copy of any list on their server, they will not be able

to affect peer lists on other servers (if any). They do not qualify for list maintenance, unless the list has no peer.

Being system administrators, postmasters are usually pretty busy and it will probably take them longer to answer a question than list owners. It is therefore your interest to make sure that you do not send them complaints that ought to be directed to list owners, and they will be thankful for the time you are saving them. Typical questions that should be sent to postmasters are: "LISTSERV is not logged on, is it normal?", "Here is a copy of a piece of mail I sent to LISTSERV and it said it was not valid, why?", etc.

- The LISTSERV coordinators: their names, network addresses and task are defined in LISTCOOR MEMO (send an "INFO COORD" to obtain it). Basically, they (try to) provide technical help information to the postmasters, assist new LISTSERV owners in installing the code, coordinate the placement of the servers and distributed lists on the network and correct bugs in the software. They have no special autho rity or privilege on the LISTSERVs or their host systems and there- fore do not qualify for list or server maintenance. They should be contacted mainly by postmasters, and only for reporting bugs, sugges ting improvements to the software and for questions that the owners/ postmasters were not able to answer. They should of course be con- tacted for obtaining a copy of the LISTSERV code.

The following 3 sections are designed to help non-BITNET or non-VM/SP users in sending commands to LISTSERV and mail to distribution lists. If you are on a BITNET VM system and you are familiar with this concepts, just do a "/GENCOM" command to skip to the commands description.

****
* How can I send commands to LISTSERV? *
****

Commands can be sent to LISTSERV in three basic ways: interactive messages, mail, and non-mail files. The distinction between mail files and non-mail files is very important on some systems and inexistant on others; some systems provide only mail files, and some will only have normal files. In the following discussion it will be assumed that you want to send an "Info GENintro" command to LISTSERV at FRECP11 (or LISTSERV@FRECP11.BITNET in RFC822 terms).

A) Interactive messages

Interactive messages is a facility that is not available to all sys tems; besides, only computers which are directly connected to BITNET can send interactive messages. However, this is the fastest and most convenient way of sending commands to LISTSERV: all you have to do is send it a message with the command text as message text. Example: "*message* Info GENintro", where "*message*" is the command that must be used on your system to send an interactive message to LISTSERV at FRECP11.

- On VM/SP systems, this command is "TELL LISTSERV AT FRECP11", ie what you must do is "TELL LISTSERV AT FRECP11 Info GENintro". You could also use CP SMSG rscs MSG FRECP11 LISTSERV Info GENintro, where "rscs" is the name of the RSCS virtual machine at your site.

- On MVS systems with TSO/E, this command would be TRANSMIT or XMIT:
  "TRANSMIT FRECP11.LISTSERV NOPROLOG"
  When the message text screen is displayed, enter "Info GENintro" as first text line and press PF3 to send it.

- On some JES2 systems, the command could be TO, VMSG or XMSG, depen ding on the local implementation:
  "TO LISTSERV@FRECP11 Info GENintro"

- On VAX systems the command would be "SEND" or "SEND/MSG":
  "SEND LISTSERV@FRECP11 Info GENintro"

- Other systems might, or might as well not, have a command for sending interactive messages. Please send any appropriate informa- tion to the author for inclusion in this help file, other users will be thankful for the hint.

B) Mail files

Those systems which do not have interactive messaging capabilities will usually have a mailing system (although this is not necessarily the case). "Command jobs" can be submitted to LISTSERV via RFC822, PROFS, or IBM NOTE formatted mail. Systems which are not capable of sending mail in any of these standards must resort to the third method (see below). Command jobs can also be used by people on sys- tems which do have interactive messaging capabilities for the usual reliability reasons (messages can be lost in a line glitch while files are *much* safer), and also because command jobs allow several commands to be submitted at once and give better control on their output. They are ideal for commands generated by programs or servers, as opposed to commands sent by human persons.

| You can obtain a detailed description of the commands-job feature
| by sending an "INFO JOB" command to LISTSERV.

To send a command to LISTSERV via mail, all you have to do is send mail to the LISTSERV mailbox and type in the command text as first line in the mail body or note or whatever it is called in your sys- tem. You can enter additional commands if required, as long as you type each command on a separate line. You will get a reply via RFC822 mail, regardless of the mail agent you used to submit the command.

- All VM systems can send IBM NOTEs by issuing a "NOTE LISTSERV AT FRECP11" command. Issue a "HELP NOTE" command for more information on the IBM NOTE command format.

- VM systems equipped with a Crosswell mailer can send RFC822 mail by issuing a "MAIL LISTSERV@FRECP11" command. The subject field is ignored and needs not be specified.

- PROFS users will have no problem finding out how to send PROFS mail to LISTSERV; however, the piece of mail must be sent as MAIL and not as a DOCUMENT. Documents cannot be sent to LISTSERV because LISTSERV is not a PROFS user.

- Note: Netdata files in NOTE format generated by MVS systems are not considered as "mail" files unless they contain an IBM NOTE formatted header, which is usually not the case. You should therefore expect them to be processed as non-mail files when sent to the LISTSERV userid.

- There are other commands on other systems of which the author is not aware of. Any information would be appreciated.

C) Non-mail files

Those systems which do not have interactive messaging capabilities nor mailing facility will be able to transmit normal files, otherwise
! they would not be on a network... To submit a command job to LIST-
! SERV via non-mail file, all you have to do is to prepare a file (or
! dataset) containing the required commands, one command at a line, and
!> send it to the LISTSERV userid using the appropriate command. The
!> "//" trick which was mandatory with the previous releases of LISTSERV
!> is no longer required to identify the file as a command job; it will
!> of course still be accepted (and may even speed up command processing
!> under certain conditions).

- On VM systems the command is "SENDFILE filename filetype TO LISTSERV AT FRECP11". There are a lot of other specialized commands depending on the format you wish to use, but SENDFILE will work. Please note that CARD format is not accepted as INPUT to LISTSERV, although it does know how to generate it if specifically requested (see "F=" keyword description).

- On MVS systems the command will usually be:
  "TRANSMIT FRECP11.LISTSERV DATASET(dsname)", where dsname is the
! name of the dataset containing the command lines.

  Most MVS systems will also accept the following job:
```
//       EXEC PGM=IEBGENER
//SYSUT2 DD   SYSOUT=A,DEST=(FRECP11,LISTSERV)
```

- On Multics systems the command is "sdm" and you must specify a destination of LISTSERV at node FRECP11 when prompted to enter it.
! You must then enter "Info GENintro" as mail contents.

How do I send mail to a LISTSERV list?

To send mail to a LISTSERV distribution list, you will have to know the network address of this list. In the following discussion we will assume that you want to send mail to "SAMPLE-L@FRECP11.BITNET" (or, in

IBM terms, SAMPLE-L at FRECP11). Mail can be sent to a distribution list in either of the two following ways:

A) Using a mailing system

If your system is equipped with a mailing facility, all you have to do is send mail to the network address mentioned above. Refer to the information in the previous section for a description of the command to be used on your system.

Note: MVS NOTEs in Netdata format fall in this category, even though they do not have a valid IBM NOTE formatted header. LISTSERV will generate a standard header and insert it on top of the note.

B) Without any mailing system

If your system is not equipped with a mailing facility, you will have to resort to files. Note that LISTSERV distributed mailing is primarily designed to work on systems who DO have a mailing facility; | sending mail as a normal file is always possible (see below) but can | be quite tedious.

| Mail can always be sent to a distribution list by means of the | DISTRIBUTE MAIL command. To do so, you must prepare a distribution | job as indicated in LISTDIST MEMO (you can obtain this memo by sen- | ding an "INFO DIST" command to LISTSERV) with the list userid as one | and only destination, and a valid RFC822 mail (header + text) as | "data". This method should be used only if the network interface in | your system is so poor that no other method can be used.

To send mail to SAMPLE-L@FRECP11, you will have to prepare a file named "anything NOTE", "anything.NOTE", etc, as dictated by your system's file naming conventions. The file name can be anything while the file type/extension/whatever must be "NOTE" (all caps please). This file must contain the text to be distributed to the list, and nothing else. It must be sent "as is" to SAMPLE-L@FRECP11.BITNET, using the appropriate method. LISTSERV will generate a header and add it on top of the file.

****
* How do I send files to LISTSERV for redistribution? *
****

To send a file to LISTSERV for redistribution, all you have to do is to send the desired file "as is" to the list userid. No header should be inserted, and no particular name is to be used. The only restriction on the file name is that the filetype/file-extension/whatever it is ! called on your system must not be "MAIL" nor "NOTE". The only restric- ! tion on the contents of the file is that it must not be a Netdata NOTE ! NOTE file nor a PROFS-mail formatted file (otherwise it would be classified as a mail file).

In some instances where the list owner suspects that files might involuntarily be sent to the list userid although they are not destined for being redistributed, he will have enabled an additional test to be

performed on the files before redistributing them. In that case the server will expect files destined for actual redistribution to have a "FORM" value of "REDIST" (or "QUREDIST" if you want to trigger the "Quiet file transfer" feature installed at some RSCS sites). This is indicated by a "Formcheck= Yes" keyword in the list header (send an "Info KEYwords" for more information on list control keywords). Not all systems allow the user to control the FORM value of network files. On a VM system you would have to issue a "CP SPOOL PUNCH FORM REDIST" before issuing the SENDFILE command. On a MVS system you would have to expand the SYSOUT= parameter of the IEBGENER dataset: SYSOUT=(A,,REDIST)

****
* Commands description (non-privileged users) * ---> GENCOM <---
****

A description of command-keywords format (eg "F=") can be found at the end of this section. Please refer to it for more information on how, where and when to specify these keywords.

Info <? | topic> <F=fformat>

Sends you an information file like this one. Use "Info ?" for a list of topics. Please note that some of the documents available through the INFO command are restricted to certain categories of users.

Help

Sends you a brief description of the most useful commands, along with the names and network addresses of the server's postmasters.

List <Detailed | Long | Short> <F=fformat>

Get a description of all lists. The default option is "Short", and will send you a brief description of each list (via messages). The "Long" and "Detailed" options are synonyms and will send you the "header" portion of each list (via file).

Query listname

Displays your list distribution options for the corresponding list. Refer to the SET command description for more details on the meaning of these options.

SUBscribe listname <your_full_name>
SIGNUP

Use this command to subcribe to a list. You will be automatically added to it unless the list owner has disabled this option, in which case he will be sent a request-for-addition note. If you have misspelled your name when issuing this command in the first place, you will be able to

correct it by re-issuing it without having to sign off from the list first. In that case no notification is sent to the list owner. Note that it is not necessary to supply your full name if you have already signed up to another list of the same server. The name you provided on your first signup command will automatically be used for the new subscription. Also note that you will always be able to issue a signup command to correct your name, regardless of the list being open for automatic subscription or not: as long as you are already on the list, the SUBSCRIBE command is not disabled (unless the list is set to "Validate= All commands" to protect you from UREP hackers and suchlike who might issue a SUBSCRIBE command "from" you and change your name to something you would not want to see in front of your userid; in that case, your request will be forwarded to the list owner).

| In the case that the list has one or more peers and that the server you
| are sending your SUBscribe request to is not the nearest to your node,
| it will automatically determine the nearest host server for the list
| you are subscribing to and forward your request to it. This applies
| only if you are not yet subscribed to the list, of course.

SIGNOFF listname
UNSubscribe

This is the counterpart of the SUBSCRIBE command. Note that you can remove yourself from any list you have been added to, unless it is specially protected by a "Validate= All commands" keyword. Whether you have subscribed to the list yourself or you have been added to it by the list owner is irrelevant.

SET listname options
Mail/NOMail
Files/NOFiles
ACK/NOACK/MSGAck

Changes your distribution options for the specified list. You can specify more than one option if desired. The previous settings will be retained unless specifically changed, ie if you want to change only one of the options you do not have to specify the settings of the options you do not want to change if they differ from the standard ones.

If the list is protected by a "Validate= All commands" keyword, your command will not be executed but it will be forwarded to the list owner.

Mail/Nomail indicate whether you want to receive mail from this list or not. The default value is "Mail", of course.

Files/NOFiles indicate whether you want to receive non-mail files from the list or not. The default is "Files", but it is recommended that no more than one person per node has this option active on any given list, for obvious network efficiency reasons.

ACK/NOACK/MSGAck define the mode in which acknowledgements for mailing or file distribution are to be sent to you. ACK is the default and indicates that you want a file acknowledgement (short mail file which in-

cludes some statistics on the mailing). NOACK directs the server not to send out any acknowledgement; a single message will be sent to you when the file has been processed, but nothing else. MSGAck indicates that you are interested in the statistics report contained in the acknowledgement but want it sent to you as messages rather than mail. It is probably the best alternative for local lists (ie lists comprised of users from your local node only).

```
REView    listname  <(options>        <F=fformat>
                      LOCal
                      Msg
                      Countries
                      Short
                      NOHeader
```

Sends you the (formatted) contents of a list. Private lists cannot be
! reviewed by users who do not appear on it. However, the header of the
! list (without any information about the subscribers) will still be sent
! to you even if you are not authorized to review the list, as long as
! you would qualify to obtain this header by means of a "List Detailed"
! (qqv) command.

The command will be automatically propagated to all the linked servers, if any, so that you get the complete list of all the persons who are subcribed to the list, not just the local subcription. For a description of the keywords defined in the list header, please issue an "Info KEYwords" command to LISTSERV.

! If the list is a "centralized" one, ie a list without any peer, the
! output of the REVIEW command will have a fileid of "listname LIST". If
! the list is found to have one or more peers, the file will be sent as
! "listname nodeid" so that a different fileid is generated for each peer
! list. This will make it easier to keep a copy of the list on your disk.

The "LOCal" option indicates that you want only the list of subscribers served by the local LISTSERV and that the command should therefore not be propagated to the peer servers.

The "Msg" option causes the command output to be sent to you via interactive messages, unless it is larger than 30 lines.

The "Countries" option indicates that you want a summary of the number of subscribers in each country, sorted by country name.

The "Short" options causes the list of subscribers not to be sent to you: only the list header and possible country summary is sent out.

"NOHeader" is the counterpart of "Short" and suppresses the list header but not the country summary nor the list of subscribers. Specifying both "NOHeader" and "Short" is valid and will display only the number of persons subscribed to the list, and possibly the country summary.

```
STats     listname  <(LOCal>         <F=fformat>
```

Sends you the statistics report for the desired list. Note that statis-

tics may have been disabled for the list, or may not be available to everybody. The report will indicate the total number of mailing operations, the number on (non-local) outbound mail files, the number of (non-local) outbound 80-lines records and possibly the resulting network load in "link.kbytes". A link.kbyte corresponds to one kbyte of data being transferred across one link, 512 bytes of data being sent over two links, etc. When this measurement is enabled, the server will compute the distance between itself and all the recipients of the mailing operation and compute the exact "link.kbyte" amount. Since this operation takes a relatively important amount of CPU time and requires relatively large data files, it may have been disabled by the postmaster in some cases.

The "LOCal" option indicates that the command is not to be forwarded to the peer servers linked to the list. The default is to propagate the command to all the servers housing a peer copy of the list.

```
GET       fn ft  <filelist_name>     <F=fformat>
SENDME
!
! Sends you  the requested file  provided you are authorized  to retrieve
! it. A more detailed description  of this command, including information
! about the optional "filelist_name" operand and the general structure of
! the FILELISTs can  be found in LISTFILE MEMO (send  an "Info FILE" com-
! mand to obtain it).
!
! Synonyms have been  defined for the GETND, GETDD, GETPP  and GET80 com-
! mands of Netserv.  "GETND xxxx" is translated to  "GET xxxx F=Netdata",
! etc. Note  that in  this implementation, GETPP  and GET80  are strictly
! equivalents and will cause the file to be sent in Listserv-Punch format
! if its logical record length is  greater than 80. Send an "Info LPUNch"
! command to  LISTSERV for more information  about Listserv-Punch format.
!
!>Note that the Netserv "prologtext" feature  is NOT yet supported on the
!>GET command.


INDex     <filelist_name>            <F=fformat>
!
! Sends you the specified filelist  (defaults to LISTSERV FILELIST). This
! command is strictly equivalent to  "GET filelist_name FILELIST" and has
! been made  available for compatibility  with other file servers  on the
! network.


PW         ADD    new_password
!          CHange old_password new_password
!          DELete old_password
!
! This command allows you to define yourself a password for use with LIST
! SERV, change that password, or delete it if you no longer need it. Note
! that the PW ADD function may have been disabled or restricted to a cer-
! tain category of  people by the local LISTSERV  management. Please con-
! tact the local LISTSERV management, not the author, if you find youself
! unable to  use the PW  ADD and think  you ought to  be able to  use it.
!
```

```
! A more detailed description of this command and the use of passwords in
! LISTSERV can be found in LISTAFD MEMO (which you can obtain by means of
! an "Info AFD" command).


AFD        ADD    filename filetype <filelist_name>  PW=password
FUI        DELete filename filetype <filelist_name>  PW=password
!          GET    filename filetype <filelist_name>
!          List
!          Query
!
! This command allows you to subscribe to a file or package which you are
! normally authorized to retrieve from the  server by means of a GET com-
! mand (qqv). AFD/FUI DELete will remove your subscription to one or more
! files/packages (wildcard  characters are accepted), while  AFD/FUI List
! or Query will list the files/packages to which you have subscribed. The
! GET option allows file owners to request a list of people who have sub-
! scribed to their files.
!
! AFD refers to  "Automatic File Distribution", ie  automatic shipment of
! the updated file,  while FUI refers to "File  Update Information", that
! is notification of the update  without the new file being automatically
! shipped to you.  There are two different commands, FUI  and AFD, with a
! (nearly) identical syntax,  and two independent lists, one  for FUI and
! one for AFD.
!
! A more detailed description of this command and the use of passwords in
! LISTSERV can be found in LISTAFD MEMO (which you can obtain by means of
! an "Info AFD" command).
!
! Note  that the  Netserv "prologtext"  feature is  supported on  the AFD
! command. See LISTAFD MEMO for more information.


PUT        filename <filetype <filelist_name <NODIST>>>
!          <PW=password> <LRECL=nnn> <RECFM=V|F> <"parameters">
!
! This command  allows file  owners to  store a file  in the  server. The
! default filetype is  "LIST" and causes a  normal list-storing operation
! to be  performed (this can be  useful for list owners  whose networking
! system does not  allow them to send  the file with a  spool filetype of
! "LIST"). Note  that the spool fileid  is completely ignored by  the PUT
! command. "NODIST" indicates  the file should not be  distributed to the
! other servers (in case the file is not a local one). The optional para-
! meters may be required for files which receive special handling -- con-
! tact the local LISTSERV operation staff  if you have any doubt on this.
!
! A more  detailed description of this  command can be found  in LISTFILE
! MEMO, which you can obtain by means of an "Info FILE" command.


RELEASE

  Sends you  information messages  containing the  release number  of the
  server and the names and network addresses of the server's postmasters.
  This is the  same information that you obtain from  a HELP command, but
  without the help information itself.
```

> Servers which have not yet installed version 1.4 or better of LISTSERV
> will not understand that command.

```
SERVE     userid@node
|
| Returns service to a disabled user. To prevent loops and 'message wars'
| to occur, LISTSERV will automatically "disable" a user after receiving
| 10 invalid commands from him. Further commands will be completely igno-
| red without any error message being sent back, until service is resto-
| red from another userid/account by means of the SERVE command.


DISTribute < <MAIL> <DD=ddname> <FROM=userid@node | FROM=DD=ddname>
|            <ACK=NOne | MAIL | MSG> <TO DD=ddname | u@n1 <u@n2...>> >
!            <PRIOR=* | nn> <INFORM=MSG | MAIL>
|
| A complete description of the DISTRIBUTE command can be found in LIST
| DIST MEMO, which can be obtained from LISTSERV by sending it an "INFO
| DIST" command.
```

Command keywords: why, when, and where to specify them

Command keywords provide a means whereby some command-independent information can be passed to the LISTSERV "supervisor" in a standard way. Command keywords will be accepted on ANY LISTSERV command and they will always be processed the same way; however, there will be commands for which some or all of the accepted control keywords are irrelevant. Only relevant keywords are listed in the commands description (see above).

All command keywords can be specified anywhere in the command-text, AFTER the command name itself. They can appear at the end, in the middle of the arguments of before the command arguments. A command keyword is an expression of the form: " keywordname=keywordvalue " (the double-quotes are not part of the keyword expression). The blank before the keyword name is mandatory, while there must be NO blank between the keyword name and the equal sign. There can be one or more blanks between the equal sign and the keyword value. The reason for these restrictions is to avoid "finding keywords where none was intended".

Valid examples:

```
 "REV F=Netdata CHAT-L (Countries"
 "REV CHAT-L F= Netdata (Countries"
 "REV CHAT-L (Countries   F=     Netdata"
```

Examples of improperly specified keywords:

```
 "F=Netdata REV CHAT-L"    (keyword must appear after command name)
 "REV CHAT-L F = Netdata"  (blank between "F" and the equal sign)
 "REV CHAT-LF=Netdata"     (missing blank before keyword name)
```

```
*******************************************
* Description of available command keywords *
*******************************************
```

Unrecognized keywords will be left unhampered in the command line, ie you can use equal signs in command arguments without problem. Since key words are processed before the command itself is analyzed, specifying an improper value for a keyword will cause the command to be terminated immediately without any further checking.

F= Netdata | Disk | Card | Punch | *

This keyword controls the "format" in which files will (possibly) be sent to you. The default value, ie the value taken if the keyword is omitted, is "*", which instructs LISTSERV to use the default file format defined by your system administrator in the BITEARN NODES database. This format will (hopefully) be the most efficient format that your operating system is able to handle. However, if this default format is incorrect or if for some other reason you want files to be sent to you in another format, you can specify a "F=" keyword to override the default specification. Only the first letter of the format needs be given. "Punch" format is automatically changed to "Listserv-Punch" if the file being sent to you is larger than a card image (80 characters).

PW= password

This keyword provides a means whereby a "password" can be specified on a LISTSERV command. The password to be given will be different depending on the category of command (list-maintenance, server-operation, server-maintenance) and will be processed accordingly. Generally speaking, the command will be rejected or only partially honored if the password is incorrect. General user commands will never require any password, and thus the "PW=" keyword is irrelevant for general users.

Revised LISTSERV: Database Functions

Revised LISTSERV System Reference Library, Release 1.5n
(c) Eric Thomas 1986,1987,1988 Ecole Centrale de Paris

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| Revised LISTSERV: Database Functions |
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| |
| Document number: U01-012-0 (September 3rd, 1988) |
| |
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| |
| Document fileid: "LISTDB MEMO" (from "Info DATABase") |
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Preface

This manual is an introduction to the LISTSERV database functions. It is intended to be a reference document for general users with little or no knowledge of database systems. It does not contain any technical information that general users do not need to worry about. In particular, the interactive database access protocols are not documented in this manual; they can be found in the "Revised LISTSERV: Application Programmer's Guide" , document number A01-004.

This document will discuss the syntax and operational characteristics of the LISTSERV database subsystem. It is assumed that the reader either

- Has obtained a copy of the interactive database access user interface, LDBASE, and is familiar enough with his operating system to know how to install and invoke it.
- Is familiar enough with the the "LISTSERV Command Job Language Interpreter" to build up a simple job and send it to LISTSERV for execution. A sample job "skeleton" is described later on.

Conventions

The following typographical conventions have been made in this document to improve its readability:

| o Recent changes in the publication are indicated by a vertical bar in the left margin.

! o Intermediate changes between two releases of the document ("Pre-

! releases") are flagged with an exclamation point in the left
! margin. Features described in this fashion should be considered
! as not documented and not officially supported until the exclama-
! tion point is removed.

> o Temporary restrictions or circumventions are marked with a
> "greater than" sign in the left margin. This sign may also be used
> to signal obsolete features for which support will be dropped in
> the next release.

+
+ Paragraphs marked with a '+' sign in the left margin contain detailed
+ explanations for experienced users and can be skipped at first
+ reading.
+

****
* Introduction *
****

The LISTSERV database functions have been developed in an attempt to make it possible for users to extract relevant information from list archives without having to retrieve a large "notebook" file and scan it locally. Users will send commands to LISTSERV, requesting it to perform search operations locally and to send out only the selected items from the list archives. The following goals have been kept in mind all throughout the development of the new facilities:

- The functionalities provided must be general enough to allow for databases other than list archives (i.e. electronic mail) to be used if needed.

- Users with little or not database experience must be able to learn how to use the LISTSERV database in a few minutes.

- The syntax should be as close to "natural english" as possible, and should be easy to remember.

- The commands must be powerful enough to be functional, but they should not be overly complex so as not to discourage beginners.

- Interactive access to the database through the network is primordial. Once the search has been carried out, the user should have the option to retrieve the results in a file rather than as interactive output.

Because their main application is the scanning of list archives, the LISTSERV database functions are document-oriented and therefore quite different from "usual" commercial database systems.

Accessing the database

The database can be accessed either interactively or in "batch" mode. In the former case, you must obtain the LDBASE user interface by sending the following commands to your nearest LISTSERV:

- For VM/SP CMS systems:
  - TELL LISTSERV AT nodeid GET LDBASE EXEC
  - TELL LISTSERV AT nodeid GET LSVIUCV MODULE

  The command to start the user interface is simply LDBASE to access your "home" server, or LDBASE nodeid to access the LISTSERV server at nodeid.

- For VAX/VMS systems:
  - SEND LISTSERV@nodeid GET LDBASE COM

  The command to start the user interface is @LDBASE. This will install the required files in your directory and display more detailed instructions about the program.

- Other systems may not presently access the database in interactive mode.

Interactive access

The exec is self-documented, and will ask you the userid and nodeid of the server you wish to access, after which it will try to establish a network connection to its database. This may fail if a line is down or if interactive database access has been disabled at the installation you are trying to reach. In that case, you would be forced to send requests in "batch" mode. In interactive mode, you must enter your commands directly (without any embedded CJLI orders) when, and only when, you are prompted to do so. Entering a command out of sequence is interpreted as a request to cancel the session and leave the user interface. You should do so only if you have reasons to think that the network connection has been broken, or if you have to leave your terminal, etc.

Batch access

When accessing the database in "batch" mode, you must construct a CJLI job which you must then submit to the appropriate server for

execution. This means that you must know in advance what you want to do exactly. If you are not familiar with CJLI, you can use the following "job skeleton" to build up your database search job:

```
//      JOB  Echo=No
Database Search DD=Rules
//Rules DD   *
command 1
command 2
...
/*
```

Figure 1. Sample database job skeleton

You will then receive a "DATABASE OUTPUT" file containing the results of your search. This file might look like this:

```
> Select * in TEST-L
--> Database TEST-L, 4 hits.

> Index
Item #   Date   Time  Recs   Subject
------   ----   ----  ----   -------
000001 87/10/18 13:09   12   This is a test looking for upcasing
000002 87/08/24 09:18    9
000003 87/10/18 13:09    8   Test - please acknowledge receipt
000004 87/10/18 13:09    7   Does Reply-To=Both work correctly?
```

Figure 2. Sample DATABASE OUTPUT: Each of the commands in the original job is echoed in the output file (unless specifically disabled).

If you realize that the items you were interested in are number 1 and 3, you will have to submit a new job to ask for a copy of them, and LISTSERV will have had to do part of the work twice. This is the main advantage of interactive access over batch.

Organization of the manual

The next chapter of this manual will introduce the concepts required to understand the LISTSERV database system. The various database commands will then be explained, starting with the simplest syntax forms. For each command, there will be a short tutorial describing the most important forms of the syntax, followed by a detailed, exacting description of the command. The last chapter will describe the more advanced functions like changing the CPU limit, output lines limit, etc.

```
************
* Concepts *
************
```

This chapter introduces the various concepts required to understand the LISTSERV database system.

What is a database?

A database is a collection of items of homogeneous type, which can be stored in computerized form. For example, a telephone directory, the archives of a distribution list, a list of employees can all be considered to be databases. Database items will often be referred to as documents since they will, in most cases, be just that.

The actual "physical" structure of the database is usually quite complex, but it is completely transparent to the end-user who sees only a series of documents.

Finally, to each database is associated a database type. Databases of the same type can be expected to contain roughly the same type of documents. For example, all list archives have a database type of "Notebook". The user does not have to specifically know the type of a database in order to access it. However, the keywords (see definition below) that can be searched will normally depend on the database type. For example, you can search a list-archives database for a "Subject" of "Comments on the minutes of the last meeting", but not for a "Diameter" of "1/10th" (which might be valid for a database of electric wires).

What are the attributes of a document?

Attributes common to all database types

Each document is assigned a document number, which is unique all throughout the database and can therefore be used to identify it.

+
+ The structure of the LISTSERV database system does not guarantee that
+ document numbers will not change from one session to the other. If,
+ for example, a list archive file is edited to add or remove some
+ entries, other documents might be renumbered and assigned a different
+ document number.

+

In addition, to each document is associated a date/time field, whose exact meaning will depend on the type of the database. It will usually be either the document creation date or the date of the last change made to it.

Other attributes

Document keywords

Depending on the type of database, one or more keyword might have been defined for the documents. Each of these keywords is a name/value pair, such as "REFCODE 2378237" or "SENDER WIZARD@TOWER.FaerieNet". Abbreviations or synonyms might have been defined for the keyword name. For example, you might be able to specify "Author" instead of "Sender" when performing a search operation.

Document portions

In any case, these "keywords" contain information which is external to the document, in much the same way as a label sticked on a book contains information (e.g. the price of the book) which cannot be found inside the book itself.

A document portions, on the contrary, is a name that refers to a subset of the contents of the documents, like "Foreword" or "Epilogue" in our book example above. There is a built-in document portion, "ALL" , which is common to all the database types and corresponds to the complete document.

What are the attributes of NOTEBOOK databases?

The following "keywords" are available for list-archives databases (shortest abbreviation is Capitalized):

- Subject corresponds to the contents of the "Subject:" field of the mail header (case is preserved).

- SEnder or From identify the RFC822 address of the originator of the mailfile (case is preserved). You should note that "FROM" may be a reserved database keyword, depending on the context in which it appears. You should therefore avoid to refer to the mail-originator keyword as "FROM", unless you use an abbreviated form.

The following "document portions" have been defined for list-archives databases (shortest abbreviation is Capitalized):

- Header and HDR both identify the RFC822 header of the mailfile.
- Body and Text correspond to the contents of the mailfile, i.e. anything which appears after the header.
- And of course, ALL corresponds to the complete mailfile, header and body.

What is a hit?

Before you are able to display anything, you will have to perform a search on the database (if you have nothing to search in particular, there is a special form of the search command which lets you select all the items from the database). You will specify a series of search rules, which will be applied to all the documents in the selected database. Each document that matches these search rules is called a hit and is considered to have been selected for further processing. Most database commands will, by default, be applied to all the documents that have been "hit" in the last search you have performed. This means that if your previous search did not yield any "hit", you will not be able to do anything until you issue another search command.

How can I get a list of existing databases?

Although there is no global list of all the available databases, each LISTSERV can send you a list of all the databases that it keeps. If you are not allowed to access a given database, it will (usually) not be listed so that you do not waste your time trying to search it. To get this list, simply send a DATABASE LIST command to the desired server.

Database	Description
APPPRG-L	Archives of "ADMCSC Application Programmers list"
BITEARN	Information on all the BITNET/EARN/NetNorth nodes
LISTS	Information on all the network-wide LISTSERV lists
MANUALS	Information about IBM manuals in the ADMCSC library
PEERS	Information on all the LISTSERV servers in the network
SYSPRG-L	Archives of "ADMCSC Systems Programmers list"
SUPPORT	LISTSERV software support database

Figure 3. Sample DATABASE LIST command

****
* The SEARCH command *
****

This chapter will introduce you to the SEARCH command. This minimum abbreviation of this command is just "S", and there also exists a synonym of SELECT with a minimum abbreviation of "SEL".

The syntax of this command is a bit complex, and will be introduced step by step.

Basic search functions

The two most important things you have to indicate when you search a database are:

1. The name of the database you want to search.

2. What you want to search the individual documents for.

The name of the database to be searched is specified after the words or phrases to be sought and is prefixed with an IN keyword. For example, we might do this:

```
Search Rosemary in MOVIES
```

This would select all the entries from database "MOVIES" containing the string "ROSEMARY".

Now if you just wanted to see the list of all the movies you can see this week, you could have used an asterisk as search argument to select all the entries in the database:

```
Search * in MOVIES
```

Note that the database name doesn't have to be uppercased. This is merely done to make the examples look better.

If you want to "narrow" your previous search, i.e. perform additional tests on the documents that have been previously selected, you must omit the IN keyword. In that case, the search will be applied to the previous "hits" and will create a new "hit list".

But in most cases, we will want to search for something longer than one word, for example part of a "key" sentence.

```
Search Hardware problem with a 4381 in IBMFORUM
```

Another problem is that we might not remember the exact original

sentence.
This is not very important, since LISTSERV will search each word individually: in the above example, any entry that contained the words "hardware", "problem", "with", "a" and "4381" would have matched the search, even if the words appeared in a different order.

But what if the original document had "4381-13" in it, instead of "4381"?
This is again no problem, as LISTSERV does not require the word to be surrounded by blanks to find a match. Case is also ignored when performing the search operation. That is, "problem" would have found a match on "problems"... and "with" would have found a match on "without" or "withstand"! This may sound like inconsistent behaviour, but you should keep in mind that it is always possible to "narrow down" a search operation. However, once a document has been excluded from the list of "hits", it is very difficult to bring it back.

Now what if I want to search for an exact string? For example, I am interested in the string "in C". It is very likely that just any document in the database will contain both a "in" and the letter C. But what I am interested in is things which have been written, or programmed, or implemented, "in C".
In that case, it is possible to force LISTSERV to group words together by quoting them, as in:

```
Search 'in C' in UTILITY
```

This method can also be used to insert extra blanks between or before words: leading and trailing blanks are normally removed automatically, but they are preserved inside quoted strings. Please note that quotes must be doubled when specified inside quoted strings, as in:

```
Search 'Rosemary''s baby' in MOVIES
```

The search for 'in C' resulted in over fifty hits, because a match was erroneously found against "in clear", "in core", etc. However, I do not want to search for 'in C ' because there might be hits with "in C." or "in C," in the database and I don't want to miss them.
If the search respected the capital C, it would no longer find all those irrelevant hits. To do this, you must enclose your search string in double-quotes instead of single quotes, for example:

```
Search "in C" in UTILITY
```

Note that single quotes should not be doubled inside double-quoted strings, and vice-versa. Only quotes of the same type than the string should be doubled.

It is important to understand the difference between the two types of quoting. If you request a search for 'TEXT', you will find a match on "TEXT", "Text", "text" or even "teXt". This is the same behaviour as unquoted text. However, if you request a search for "TEXT", it will only find a match on "TEXT", not on "text" nor "Text".

+

+ Quoting is also the only way to search for a reserved keyword like
+ "IN": if you tried "Search in in UTILITY", LISTSERV would report that
+ database "IN" does not exist and would reject the command. This is
+ because the keyword IN indicates the end of your search arguments. If
+ you quote it, however, it will not be recognized and will be searched
+ as you wanted it done. Similarly, if you want to search for an
+ asterisk, you will have to quote it since "Search *" indicates that
+ all entries should be selected.
+

Now the problem is that there may be sentences starting with a capital I, e.g. "In C, it would be coded this way:". How can I catch these sentences?
Actually, you have been using "complex search expressions" from the beginning without even being aware of it. When you specified a search on "Hardware problem with a 4381", you had in fact been asking LISTSERV for: "Hardware AND problem AND with AND a AND 4381". The "AND" is implicit, but it may be overriden. You may even use parenthesis if needed:

```
Search ("in C" or "In C") and program in UTILITY
```

The "AND" can still be implied, as in:

```
| Search wooden chair (blue or green) in CHAIRS                        |
| Search (wooden chair) or (plastic chair) in CHAIRS                   |
| Search plastic chair (blue or green but not streaked) in CHAIRS      |
|                                                                      |
| The following commands are strictly equivalent:                      |
|  Search (wooden chair) or (plastic chair not blue) in CHAIRS         |
|  Search chair (wooden or (plastic not blue)) in CHAIRS               |
|  Search chair (wooden or (plastic but not blue)) in CHAIRS           |
|  Search chair AND (wooden OR (plastic AND NOT blue)) in CHAIRS       |
|                                                                      |
| Figure 4. Sample SEARCH commands using complex document search       |
|           arguments                                                  |
```

Date specifications

Since each document has been assigned a "date/time" field, it is possible to select documents based on this date field. This is accomplished by appending "date search rules" to the search expression, as in:

```
| Search problem (serious or severe) in BBOARD since july              |
| Search problem in BBOARD since oct 85                                |
| Search symptom in BBOARD since 12/28                                 |
| Search error report from 12 january to august in BBOARD              |
| Search user complaint until 18 sept in BBOARD                        |
```

```
| Search data check since today 11:53 in EREP                          |
|                                                                      |
| Figure 5.  Sample SEARCH commands using date search arguments        |
+----------------------------------------------------------------------+
```

The default values for omitted arguments are always chosen so as to exclude as little entries as possible. For example, "July" would mean "1 July 00:00:00" in a SINCE specification, and "31 July 23:59:59" in an UNTIL clause. The only exception is the year field, which always defaults to the current year.

Keyword search specifications

The last thing you may wish to search is the "keywords" list. For example, you might want to select those plastic chairs which cost less than 50 dollars. It is assumed that the price will vary often (maybe almost daily), and that it is therefore kept externally from the document describing the chair. Thus, you would have a "Price" keyword which you could search in the following way:

```
Search plastic chair in CHAIRS where price < 50
```

You may of course use complex expressions (with parenthesis) in the WHERE clause. There are new comparison operators available for this clause, like IS, CONTAINS, all the usual arithmetical comparison operators, and some more. However, the AND operation is no longer implied, but it can still be specified explicitly of course:

```
Search plastic chair in CHAIR where price < 50 and avail > 4
```

The problem now is that, as the search commands become more and more complex, they will no longer fit in a single line. To solve this problem, it has been decided that any database command ending in a dash indicates that more is to follow on the next line. This process can be repeated several times if desired. This applies to both interactive and batch commands.

```
+----------------------------------------------------------------------+
| Search chair (wooden or (blue or green but not streaked)) -          |
|        in CHAIRS -                                                   |
|        where price < 50 & avail > 4                                  |
|                                                                      |
| Search chair (wooden or (blue or green but not streaked)) -          |
| in CHAIRS where price < 50 & avail > 4                               |
|                                                                      |
| Search chair (wooden or ( -                                          |
| blue or green but not streaked) -                                    |
| ) -                                                                  |
| in CHAIRS where price < 50 & avail > 4                               |
|                                                                      |
| Figure 6.  Sample  SEARCH  commands  with continuation lines:  All   |
|            these commands are  strictly  identical,  although  the   |
|            first one is obviously more legible.                      |
```

```
+-------------------------------------------------------------------+
```

The only "trick" about this continuation line business is that you should always keep quoted strings on a single line. The process of identifying continuation lines and concatenating them afterwards may cause unwanted blanks to be inserted in the command line, which is no problem outside a quoted string since blanks are ignored, but might cause erroneous results in a quoted string.

If you want to search for several possible values in a given keyword, you do not have to repeat the keyword name and operator:

```
+-------------------------------------------------------------------+
| > Search * in BBOARD where -                                      |
| > subject contains (PC or (Personal and computer))                |
|                                                                   |
| is strictly equivalent to:                                        |
|                                                                   |
| > Search * in BBOARD where -                                      |
| > subject contains PC or -                                        |
| > (subject contains Personal and subject contains computer)       |
|                                                                   |
| Figure 7.  Sample use of "factorization"                          |
+-------------------------------------------------------------------+
```

However, it should be noted that this "factorization" is performed according to the rules of logic, which may not necessarily match those of english grammar. This removes any possible ambiguity as to the meaning of these clauses. Let's consider the following example:

machine does not contain (IBM and DEC)

This clause will get translated into:

machine does not contain IBM and machine does not contain DEC

In english you would probably say "machine contains neither IBM nor DEC" . This is how LISTSERV will understand it. However, if you read the clause aloud, you will probably not pronounce the parenthesis and will end up saying "machine does not contain IBM and DEC", in other words, "machine does not contain both IBM and DEC" , which is a totally different thing (and would most probably be true all the time). The "english meaning" could be obtained with the following clause:

not (machine contains (IBM and DEC))

In the former case, the negative "does not contain" operator is inserted inside the parenthesis. In the latter, only "contains" is moved, and the negation remains outside.

```
+-------------------------------------------------------------------+
| > Search gateway problem -                                        |
| > in BBOARD -                                                     |
| > since sept 86 -                                                 |
| > where sender contains (john or paul but not mick) -             |
| > and subject does not contain lost                               |
```

```
| --> Database BBOARD, 5 hits.                                          |
|                                                                       |
| > Index                                                               |
| Item #   Date   Time  Recs   Subject                                  |
| ------   ----   ----  ----   -------                                  |
| 000012 87/10/18 13:09   12   The gateway has stopped working          |
| 000017 87/08/24 09:18    9   Glory glory alleluja! Again!!!           |
| 000018 87/10/18 13:09    8   You know what? It WORKS!!!               |
| 000024 87/10/18 13:09    7   Guess what happened today?               |
| 000205 87/10/04 16:59    9   Who's going to babysit it today?         |
|                                                                       |
|                                                                       |
| You  might now wish to narrow your search down to exclude postings    |
| whose subject contains "work".  You can do this  by  specifying  a    |
| new WHERE clause with no associated IN.                               |
|                                                                       |
| > Search * where subject does not contain work                        |
| --> Database BBOARD, 3 hits.                                          |
|                                                                       |
| > Index                                                               |
| Item #   Date   Time  Recs   Subject                                  |
| ------   ----   ----  ----   -------                                  |
| 000017 87/08/24 09:18    9   Glory glory alleluja! Again!!!           |
| 000024 87/10/18 13:09    7   Guess what happened today?               |
| 000205 87/10/04 16:59    9   Who's going to babysit it today?         |
|                                                                       |
| Figure 8.  Sample SEARCH commands with keyword search clauses         |
+-----------------------------------------------------------------------+
```

Finally, the reason why the database name appears in each reply from LISTSERV is that you can specify several database in the IN clause:

```
+-----------------------------------------------------------------------+
| > Search user complaint in BBOARD1 BBOARD2 -                          |
| > since august -                                                      |
| > where sender is charles                                             |
| --> Database BBOARD1, 2 hits.                                         |
| --> Database BBOARD2, 8 hits.                                         |
|                                                                       |
|                                                                       |
| Figure 9.  Sample SEARCH commands involving several databases         |
+-----------------------------------------------------------------------+
```

Phonetic search

There may be cases where you are looking for a certain value of a keyword, the exact spelling of which you cannot remember. In these cases, it may be useful to try a phonetic search. A phonetic search will yield a match for anything that "sounds like" your search string, as dictated by a predefined algorithm which is of course not perfect. It may give a hit for something which does not actually sound like your search string, or, more rarely, omit a keyword which did sound like what you entered. The main reasons for this are that the algo-

rithm must be fast to execute on the machine and therefore not too sophisticated, and that the way a given word is pronounced depends on the idiom in which the word was written. For example, the phonetical transcription of the name "Landau" will be different in French, English, German and Russian. Thus, it is impossible to decide whether a word sounds like another if the language in which the words are pronounced is not known (and of course LISTSERV does not have, a priori, any way to know it).

Phonetic searches are performed through the use of the SOUNDS LIKE and DOES NOT SOUND LIKE operators, which are syntactically similar to CONTAINS and DOES NOT CONTAIN. That is, you could do something like:

```
Select * in PHONEBOOK where NAME sounds like WOLF
```

There is a little trick with the SOUNDS LIKE operator that you should be aware of. If your search string (WOLF in our above example) is a single word, it will be compared individually to all the words in the reference string (i.e. the data from the database), and will be considered a hit if it "sounds like" any of the words in the reference string. Thus, the search word "Ekohl" sounds like the reference string "Ecole Normale Superieure" because it matches the first word. If the search string contains more than one word, the search and reference strings will be compared phonetically as a whole (and "Ekohl Dzentrahll" will therefore not match "Ecole Normale Superieure"). Note that any search string containing more than a single word must be quoted, as explained in the previous sections of this chapter.

```
> Select * in BITEARN where site sounds like (COHRNEAL and LAPORRAD|RY)
--> Database BITEARN, 3 hits.

> Index
Ref# Conn  Nodeid   Site name
---- ----  ------   ---------
0292 87/03 CRNLASSP Cornell University Cornell Laboratory of Atomic|
0301 87/03 CRNLION  Cornell University Cornell Laboratory of Plasma|
0307 87/06 CRNLNUC  Cornell University Laboratory of Nuclear Studes|

> Select * in BITEARN where SITE sounds like HOPTIKK
--> Database BITEARN, 2 hits.

> Index
Ref# Conn  Nodeid   Site name
---- ----  ------   ---------
0751 87/09 FRIHAP31 Assistance Publique - Hopitaux de Paris
2120 87/04 UOROPT   University of Rochester The Institute of Optics|

> Select * in BITEARN where SITE sounds like SCHIKAGO
--> Database BITEARN, 1 hit.

> Index
Ref# Conn  Nodeid   Site name
---- ----  ------   ---------
0140 86/03 BMLSCK11 Studiecentrum voor Kernenergie (SCK/CEN), Mol,
```

Figure 10. Sample SEARCH commands involving phonetic match: The

first command shows an example of accurate phonetic match, where the result is exactly what the user expected. In the second example, the user found what he was looking for ("Optics"), but an additional unwanted entry was selected. This is by far the most common case. The last command is a typical example of phonetic clash, where the algorithm did not translate the search string into phonetics as the user expected it, with the result that the desired name ("Chicago") was not found and that completely irrelevant entries were presented instead.

+
+ The phonetic matching algorithm used by LISTSERV is a slightly modified version of SOUNDEX -- a well-known algorithm that provides reasonably accurate matches at a very low CPU cost. Although it gives best results with the English language, for which it was originally designed, it is not too strongly tied to it and can still be used with other languages. It is of course absolutely impossible to write an program that would work for all the languages in the world, or even for the most widley used ones, since their interpretation of the most common combinations of letters are completely incompatible.
+

Exact syntax description

This section describes the exact syntax of the "SEARCH" command in technical terms. You can skip it if you are not interested in learning about the details of this command.

General syntax

Search SELect	search-rules <optional-rules>
	Optional rules are:
	date-rules keyword-rules db-list

The optional "date-rules", "keyword-rules" and "db-list" arguments may appear in any order.

Database list specification

For each SEARCH command, you may specify a list of databases to be searched. The default is to narrow the search, i.e. to use the result of the previous search as input for the new search. This is of course possible only if the previous search yielded one or more "hits".

The syntax of the "db-list" specification is the following:

db-list: IN <(> dbspec1 <dbspec2 <...>> <)>

The parenthesis are optional. If they are omitted, database names may not be reserved keywords like SINCE or WHERE.

Finally, the syntax of "dbspec" is the following:

db-spec: db-name<.<(>range1<,><range2<,><...>><)>>

where "db-name" is the name of the database to be searched, and "ranges" are optional parameters restricting the search to a sub-list of entries in this database. Each "range" may be either a single entry number like 1274, or a range of numbers like 12-17, 827- or -40. They may be either enclosed in parenthesis and separated by blanks, or separated by commas, in which case the parenthesis are optional.

```
IN (BBOARD1 BBOARD2)
IN BBOARD1.12-40 BBOARD2 MGMT.(30-35 200-)
IN REXXBB.200-,12-13 VMSTAFF.(61 80-100 12)
```

Figure 11. Sample IN clauses

Date rules specification

You may optionally restrict the search to only those entries that lay within a given interval of time. This is accomplished by specifying one of the following date rules:

```
SINCE date-spec  <time-spec>
FROM  date-spec1 <time-spec1> TO date-spec2 <time-spec2>
UNTIL date-spec  <time-spec>
```

The format of a "date-spec" is quite complex because of the number of different ways date/time specifications are usually expressed:

```
TODAY
yy
dd mm
<dd><->monthname<-><yy>
mm/yy
mm-yy
```

```
  yy/mm/dd
  yy-mm-dd
```

Month names can be abbreviated to any length. If there is an ambiguity, the first month in chronological order is retained. For example, "J" would mean "January", "JU" would be "June" and "JUL" would unambiguously select "July".

The format of a "time-spec" is simply <hh:mm<:ss>>.

```
+-------------------------------------------------------------------+
| FROM 14 july TO oct 87                                            |
| SINCE 86                                                          |
| UNTIL 23-JUN-87                                                   |
| SINCE today 11:30                                                 |
|                                                                   |
| Figure 12.  Sample date clauses                                   |
+-------------------------------------------------------------------+
```

NOTE: Case is irrelevant in date specifications. The keywords (SINCE, UNTIL, etc) have been capitalized only for better legibility, and can be entered in lower case if desired.

Keyword rules specification

You may request the actual document search to take place only for those entries which match a set of "keyword comparison" rules. The syntax is the following:

```
  WHERE kwd-expression
  WITH
```

"kwd-expression" is, generally speaking, an mathematical expression of keyword/value comparisons, possibly bound by logical operators. Comparison operators have a higher precedence than logical operators, that is, "A>10 AND B=20" is interpreted as "(A>10) AND (B=20)". The available comparison operators are listed below. All the operators appearing on a given line are synonyms.

```
+-------------------------------------------------------------------+
| = IS                                                              |
| ^= <> IS NOT                                                      |
| >                                                                 |
| <                                                                 |
| >=                                                                |
| <=                                                                |
| CONTAINS                                                          |
| DOES NOT CONTAIN                                                  |
| SOUNDS LIKE                                                       |
| DOES NOT SOUND LIKE                                               |
|                                                                   |
| Figure 13.  Comparison operators for WHERE clauses                |
+-------------------------------------------------------------------+
```

All these operators are self-explanatory, except the last two which allow you to search the keyword value for a given "substring". That is, "Sender contains jeff" would be true if the value of the "Sender" keyword was "Jeff Smith" or "Jeffrey Donaldson". The case is ignored during the comparison unless the search operand is double-quoted.

If no valid comparison operator is specified between two arguments, "IS" (identity) is assumed.

The available logical operators are:

^ NOT
& AND BUT
| / OR
Figure 14. Logical (boolean) operators

Finally, keywords and operators can be "factorized" when the same comparison is to be applied to a given keyword and a series of comparands. For example, you might enter:

```
Search * where sender contains ('CS Dept' and (Jack or Phil))
```

This is internally expanded to:

```
SEARCH * WHERE sender CONTAINS 'CS Dept' AND -
(sender CONTAINS Jack OR sender CONTAINS Phil)
```

Please note that the expression must always be enclosed in parenthesis, even if it is a simple one:

```
Search * where sender contains (Joe or Morris)
```

This stems from the fact that comparison operators have a higher priority than logical (boolean) ones.

WHERE Sender is "Arthur Dent" -
and Subject does not contain tea
WITH Refcode 8467272 and Location Roubaix
WITH (QTY > 100 | PRICE > 1000) & MAT = COPPER
Where Sender is (Atiaran@Land or Elena@Land) -
and Subject contains ('Be true' but not Ur-Lord)
Figure 15. Sample WHERE clauses

Search rules specification

Finally, you must specify what is to be searched inside the document. If you do not want anything to be sought at all (e.g. if you are only selecting known items from the database), you can specify an asterisk as a placeholder to waive the search. Otherwise you must specify a mathematical expression where arguments are search strings, possibly bound by logical operators (see Figure 14for a comprehensive list). The default operator is AND, so that a search for "INTERPRET STEM PROBLEM" will select all entries where "INTERPRET", "STEM" and "PROBLEM" can be found (not necessarily in the same line).

```
+-------------------------------------------------------------------+
| Search *                                                          |
|                                                                   |
| Search 'I/O' Error                                                |
|                                                                   |
| Select Interpret (performance or tips -                           |
| but not (bug or question))                                        |
|                                                                   |
| Figure 16.  Sample document-search clauses                        |
+-------------------------------------------------------------------+
```

Reserved words and quoting

When to quote strings

Keyword names and search arguments need not be quoted, unless:

- They are formed of more than one word (search arguments only).
- They contain leading or trailing blanks (search arguments only).
- Their name matches one of the "reserved keywords" of the LISTSERV database system, and appears in a context where it can be mistaken for such. The "reserved keywords" are: FROM, IN, SINCE, TO, UNTIL, WHERE, WITH.
- They contain a parenthesis, logical operator or comparison operator symbol. More generally, you should quote any string that contains one of the following characters:

  ( ) < > = | & ^ /

Any non-quoted word will be stripped of leading and trailing blanks and converted to uppercase before the search.

Single-quoted strings

Strings quoted in single-quotes (') are converted to upper case and cause case to be ignored during the search. That is, they behave in the same manner as un-quoted strings as far as the search algorithm is concerned. As a rule of thumb, any string can be single-quoted if desired, even if it does not have to.

Single quotes must be doubled inside single-quoted strings, but double quotes should not:

```
Search '"T''amo, ripetilo, si caro accento' in OPERA
```

Double-quoted strings

Strings quoted in double-quotes (") are not converted to upper case. They result in a case-sensitive search, which means that you should never double-quote a string unless you want case to be respected during the search.

Double quotes must be doubled inside double-quoted strings, but single quotes should not:

```
Search """T'amo, ripetilo, si caro accento" in OPERA
```

The INDEX command

If you have understood everything in the previous chapter, you will have no problem with this one, nor with the following. The SEARCH command is by far the most complex database command you will have to use, and you will find INDEX and PRINT to be quite simplistic as compared to it.

Introduction

The INDEX command can be used to display a list of all the "hits" that your last search resulted in. For each such "hit", a single line of information will be displayed. This information will depend on the type of the database you were searching of course, but it will typically contain the following columns:

- Item number and possibly name of the database, although the latter is often suppressed to make room for more useful information.

- Date and time the item was created or last modified (the exact meaning depends on the database type).

- Number of records or, more generally speaking, some indication on the size of the document.

- Any other information relevant to the type of database you are searching.

To each database type is associated a unique, predefined index format.

+
+ You will learn later how to define your own "formats" to produce
+ customized index displays. This knowledge is not necessary to perform
+ normal searches on the database.
+

Syntax

The syntax of the INDEX command is simply INDEX with no argument (minimum abbreviation is "I"). You will learn later that this is a lie, and that you can specify a flurry of horrendous parameters on the INDEX command, but for now you are better off without this knowledge. So, let's the syntax be simply INDEX for now.

Examples

Since the index format is the same for all databases of the same type, we will simply give an example of "Notebook" index, and another example for a fancy database type of "Opera" which we will use extensively in the following chapters.

```
> Select * IN EARNTECH where Sender contains HEARN
--> Database EARNTECH, 6 hits.

> Index
Item #   Date   Time  Recs   Subject
------   ----   ----  ----   -------
000013 87/06/20 13:04   13   Re: Prior 1 files from mailers
000046 87/07/09 11:32   10   phone number change
000079 87/07/28 15:30   17   Re: HW/SW at nodes
000172 87/10/07 10:02   16   portugal meeting ?
000173 87/10/12 08:58   16   again errors in xmailer names
000187 87/10/15 10:06   18   SNA - VTAM help needed.
```

Figure 17. Sample INDEX for a "Notebook" database

We will assume that the "Opera" database type is designed to process opera libretti, and defines the following keywords and document portions:

AUTHOR The name of the composer (keyword).

FROM The name of the opera from which the tune is extracted (keyword).

SINGERS The name of the singers in "my own official preferred best record" (keyword).

NAME The "name" generally given to the tune (keyword).

TUNE A few lines out of the text, which are supposed to help the reader remember what it is exactly (portion).

CHARACTERS The name of the character(s) singing the tune (portion).

We could then have an index looking like this:

```
> Select felice IN OPERA.250- where Singer is Bergonzi
--> Database OPERA, 2 hits.

> Index
Item #     From      Singer     Recs   Name
------     ----      ------     ----   ----
000254 Rigoletto     Bergonzi     27   La donna e mobile
000259 La Traviata   Bergonzi     34   Di quell'amor che palpito
```

Figure 18. Sample INDEX for a (fancy) Opera database

* The PRINT command *

Tutorial

The PRINT command (minimum abbreviation "P") can be used to display the contents of documents which have been previously selected. Where INDEX displayed only one line of information, PRINT will typically display one or more pages. You should therefore be careful to not PRINT documents that you are not interested in, as this may generate a lot of unwanted output.

Furthermore, if you are accessing the database in interactive mode from a remote node, you will not be allowed to generate more than 30 lines of interactive output per command. If you attempt to print too much information with a single command, your command will be terminated and only 30 lines will be shown. You may request larger output by means of the SENDBACK command, which will be explained later on. In any case, you should understand that interactive database access is expensive in network and computer resources, and that it has been allowed only to let you decide which are the documents you are interested in. Once you know exactly what you need, you can request a copy to be sent to you as a file and terminate the interactive session.

The PRINT command will, by default, apply to any and all selected documents. That is, it is assumed that everything you have selected is of interest to you. It is also assumed that, by default, you want the entire contents of the selected documents printed out (which will usually be the case anyway).

You can, however, request only specific document portions to be printed. This is done by listing the name of the "portions" after the PRINT command, as in:

```
Print Characters Tune
```

A separator will be printed between each document portion (see examples below).

You can also request to print only specific documents among the ones that have been selected. To do this, simply specify the document numbers after the PRINT keyword. If you also wish to specify portion names, these must appear before the document numbers and may optionally be followed by an OF keyword:

```
Print Tune OF 127 232 841
```

For your convenience, it has also been made possible to PRINT the contents of keywords associated with the selected documents. This will cause each keyword value to be displayed as if it were a one-line document portion. The output therefore takes three lines per entry (separator, keyword value and one blank line), and the INDEX command should obviously be preferred. However, there may be cases where you want to display the value of a particular keyword in a particular entry, which was not listed in the index because there is usually not enough room to display all keywords in a single 80-characters line:

```
Print Author OF 254
```

+
+ You could also get this information through the use of the "LIST"
+ command, which will be explained later on. However, this command
+ would produce an output similar to the index, with one line per
+ selected entry. This would most likely be longer than the PRINT
+ output if you were interested in a few entries only.
+

Finally, you can indicate several print specifications on a single PRINT command by separating them with commas:

```
Print Author of 254, Tune of 220 226-230
```

Examples

In the examples that will follow, we will assume that the following search has been executed prior to issuing the PRINT command:

```
> Select fleur or diletto or belleza IN OPERA.100-150 -
> where singer is not Domingo
--> Database OPERA, 5 hits.

> Index
Item #     From       Singer      Recs   Name
------     ----       ------      ----   ----
000103 Carmen         Carreras      41   La fleur que tu m'avais jete
000118 Don Giovanni   Sciepi        23   La ci darem la mano
000121 Rigoletto      Fisher-Die+   37   Veglia o donna
000127 Aida           Moll          25   Mortal, diletto ai Numi
000142 La Traviata    Bergonzi      52   Brindisi
```

Figure 19. Search/Index upon which the sample PRINT commands are based

+
+ The meaning of the "+" sign appearing after the truncated "Fisher-
+ Dieskau" will be explained later.
+

Let's first see what happens when you print document portions. To avoid making the example too long, we will print only the "Tune" portion which is not very large.

```
> Print Tune
>>> Item number 103, dated 87/10/18 13:09:30 -- TUNE
La fleur que tu m'avais jetee
Dans ma prison m'etait restee

>>> Item number 118, dated 87/10/18 16:29:12 -- TUNE
La ci darem la mano,
La mi dirai di si...
Vedi non e lontano,
Partiam ben mio da qui.

>>> Item number 121, dated 87/08/15 09:23:45 -- TUNE
```

```
| Ah, veglia o donna questo fior                                        |
| Che a te puro confidai                                                |
|                                                                       |
| >>> Item number 127, dated 87/02/12 19:26:02 -- TUNE                  |
| Mortal, diletto ai Numi                                               |
| A te fidate son d'Egitto le sorti                                     |
|                                                                       |
| >>> Item number 142, dated 87/11/29 13:52:10 -- TUNE                  |
| Libiamo, libiamo nell' lieti calici                                   |
| Che la belleza infiora                                                |
|                                                                       |
| Figure 20.  Sample PRINT of a document portion                        |
+-----------------------------------------------------------------------+
```

The name of the singer of "Veglia o donna" has been truncated in the INDEX output, and you would like to see it in full, as well as the name of the character singing the tune. You also don't remember who is the author of "Carmen", and you would like it printed. Finally, you would like to print the whole of tune number 127.

```
+-----------------------------------------------------------------------+
| > Print singer character of 121, author of 103, all of 127            |
| >>> Item number 121, dated 87/08/15 09:23:45 -- SINGER                |
| Fisher-Dieskau, Dietrich                                              |
|                                                                       |
| >>> Item number 121, dated 87/08/15 09:23:45 -- CHARACTERS            |
| Rigoletto                                                             |
|                                                                       |
| >>> Item number 103, dated 87/10/18 13:09:30 -- AUTHOR                |
| Georges Bizet                                                         |
|                                                                       |
| >>> Item number 127, dated 87/02/12 19:26:02 -- ALL                   |
|   Ramfis (a Radames)                                                  |
|                                                                       |
| Mortal, diletto ai Numi                                               |
| A te fidate son d'Egitto le sorti                                     |
| Il sacro brando dal Dio temprato                                      |
| Per tua man diventi ai nemici                                         |
| Terror, Folgore, Morte!                                               |
|                                                                       |
| Figure 21.  Sample PRINT of both document keywords and portions       |
+-----------------------------------------------------------------------+
```

Syntax

This section will describe the exact syntax of the PRINT command. You may skip it if you are not interested in details.

The syntax of the PRINT command is:

```
+-----------------------------------------------------------------------+
| Print   <print-spec1><,print-spec2<,...>>                              |
|                                                                       |
```

```
| Each "print-spec"                                                    |
|  has the following form:                                             |
|   <part1 <part2 <...>>> <OF> <range1 <range2 <...>>>                  |
|                                                                      |
| Figure 22.  Syntax of the PRINT command                              |
+----------------------------------------------------------------------+
```

Each "part" must be a valid "document portion" or "keyword" for the database against which the PRINT command is being issued. "ALL" is the default and is always valid, regardless of the database type. You may optionally specify "ranges" (xxxx, xxxx-yyyy, xxxx- or -yyyy) to further restrict the list of database items to be displayed. However, this does not allow you to display a document that has not been previously selected by means of a SEARCH command.

Finally, you may place more than one set of print specifications on the command line, provided you separate them with commas.

The SENDBACK command

The SENDBACK command allows you to request large database output to be sent back to you as a file. It is valid only when accessing the database in interactive mode. In batch mode, output will always be returned as a file.

The syntax of the SENDBACK command is very simple: you just put the word SENDBACK before the command whose output you want returned in a file:

```
+----------------------------------------------------------------------+
| > SENDBACK Print all                                                 |
| File "DATABASE OUTPUT" has been sent to you in Netdata format.       |
|                                                                      |
| Figure 23.  Sample SENDBACK command                                  |
+----------------------------------------------------------------------+
```

After you have ordered the desired output, you can terminate your interactive session and wait for the file to arrive. You can of course enter additional commands in interactive mode if you so desire.

The FORMAT command

The next two chapters will deal with the definition of "index formats", which allow you to view indexes different from the default ones. You may wish to skip them if you are not interested in details.

You should now know enough about the database commands to be able to perform most kind of searches.

Introduction

The FORMAT command lets you define a named index format. An "index format" is a series of specifications which define one or more columns of output. For each column, you must specify the name of the keyword which is to be listed, along with some information like the number of characters (width) of the column, whether it must be left-justified, right-justified or centered, and optionally a title for the column. The default title is the (upper case) name of the keyword associated with the column.

Please note that the FORMAT command itself does not cause any information to be displayed. This is done by the LIST command, which will be explained in the next chapter.

Syntax

The exact syntax of the FORMAT command (minimum abbreviation "F") is:

```
+-------------------------------------------------------------------------+
| Format fmtname<:> fmtspec1 <fmtspec2<...>>                              |
|                                                                         |
| Each "fmtspec" defines a column in the output chart, using the          |
| following syntax:                                                       |
|                                                                         |
| fieldname<(<start><,end>)><.  cols<just>> <"heading"<hd-just>>          |
|                                                                         |
| Figure 24.  Syntax of the FORMAT command                                |
+-------------------------------------------------------------------------+
```

This will create a column in the table, under the specified heading, where a substring (start,end) of the specified keyword (fieldname) will be displayed. The default values for start and end are 1 and 255, respectively. The width of the column is controlled by the cols specification, which defaults to 12 columns. Finally, the data in the column will be justified according to the just specification, whilst the header is justified as indicated by hd-just. Both justification parameters default to L, but can be any of the following:

```
+-------------------------------------------------------------------------+
| L  -- Left justification                                                |
| R  -- Right justification                                               |
| C  -- Centered                                                          |
| R0 -- Right justification with leading zeroes (for numerics)            |
|                                                                         |
| Note that the R0 justification type is invalid for headings.            |
|                                                                         |
```

| Figure 25. Justification keywords for use with the FORMAT command |
+---+

If the data does not fit entirely in the column space you have provided ("cols" parameter), i.e. if characters other than blanks (or leading zeroes for numeric fields) had to be removed in order for the keyword substring to fit into the column, a "+" sign will be placed in the following inter-column gap. This merely informs you that more data is available, but could not be displayed with the format you specified.

It is also possible to specify a previously defined format name in lieu of column definition. This will insert the complete format specification that had been recorded when the format was defined.

Each "fieldname" must be a valid "keyword" name for the database against which the format will be used. No verification is made during the definition of the format. In addition, some common keywords are provided irrespective of the database type:

```
+---------------------------------------------------------------------+
| DATABASE -- Name of the database (1-8 characters)                   |
| DATE     -- Date of the database entry (yy/mm/dd)                   |
| TIME     -- Time of the database entry (hh:mm:ss)                   |
| #RECS    -- Number of records in the database entry                 |
| #        -- Reference number of the database entry                  |
|                                                                     |
| Figure 26.  Reserved keywords for use with the FORMAT command       |
+---------------------------------------------------------------------+
```

Example

We will assume that you want to create a new index format for the "Opera" database, because you are not satisfied with the default one. You would want to see the name of the character singing the tune, not the "Singer" name which is what the person who keyed-in the database entries considers to be the best singer for the tune -- something which you might not agree about and don't want to see in the index. You also want to reduces the "Recs" column to 2 characters, since tunes are rarely longer than 99 lines. Finally, you want to change the heading of the "For" column to say "Excerpted from".

The first thing to do is to prepare the "Item #" column, which you don't want to change. The "keyword" associated with the item number is #, the contents are numeric, must be right-justified with leading zeroes and there are 6 characters. Just to practise, we will change the header to "Nb" instead of "Item #", and will cause it to be centered in the column. The resulting specification is:

```
#.6R0 "Nb"c
```

For the second column, we only want to change the title. There were

13 characters displayed, left-justified (which is the default) and the title must now be "Excerpted from". Since the title is 14 characters long, we will make the field 14 characters long too:

```
From.14 "Excerpted from"
```

The "Recs" column must be shortened to 2 characters. The title must therefore be shortened too, and we will use "Sz". This is numeric data, so we want it right-justified but without leading zeroes:

```
#Recs.2R "Sz"
```

Now we want to create a new column for the character name. This could be up to, say, 12 characters, left-justified and with a title of "Character":

```
Characters.12 "Character"
```

Finally, we must prepare the "Name" column. We want it to take all the remaining room in the output display. The simplest way to do this is to assign it a length of 80, and let LISTSERV truncate the resulting output lines to 80 by itself:

```
Name.80 "Name of the tune"
```

Assuming we want to call this new format "MYINDEX", we would use the following command:

```
> Format MYINDEX: #.6R0 "Item #" -
>   From.14 "Excerpted from" #Recs.2R "Sz" -
>   Characters.12 "Character" -
>   Name.80 "Name of the tune"

> Select fleur or diletto or belleza IN OPERA.100-150 -
>   where singer is not Domingo
--> Database OPERA, 5 hits.

> Index MYINDEX
   Nb   Excerpted from Sz Name of the tune
   --   -------------- -- ----------------
000103 Carmen         41 La fleur que tu m'avais jetee
000118 Don Giovanni   23 La ci darem la mano
000121 Rigoletto      37 Veglia o donna
000127 Aida           25 Mortal, diletto ai Numi
000142 La Traviata    52 Brindisi
```

Figure 27. Sample FORMAT command

For your information, the default format provided for "Notebook" databases is the following:

```
+-------------------------------------------------------------------------+
| > Format INDEX: #.6R0 "Item #" Date.8L "Date"c -                        |
| >   Time(1,5).5 "Time" #Recs.4R "Recs" -                                |
| >   #.0 "" Subject.80 "Subject"                                         |
|                                                                         |
| Figure 28.  Default format provided for "Notebook" databases            |
+-------------------------------------------------------------------------+
```

```
********************
* The LIST command *
********************
```

Introduction

The purpose of the LIST command is to allow you to produce output indexes similar to those obtained through the use of the INDEX command, but with different fields.

The syntax of the LIST command is a bit complex, but there is a very simple form when you are using a "format" which you have previously defined:

```
List format-name
```

The minimum abbreviation for the LIST command is "L".

+
+ In fact, the INDEX command is nothing but a synonym for the LIST
+ command. The default "format" is the index provided with the database
+ type definition.
+

Syntax and examples

In fact, the syntax of the LIST command is very similar to that of the FORMAT command. It allows you to specify column definitions directly if you so desire, without having to define an explicit format. That is, if you do not plan to re-use a given format in the same session, you can specify it directly on the LIST command.

For example, let's assume that you have selected a few tunes out of the "Opera" database, displayed an index, and that you realize that you also want to display the name of the author of the opera. You

could do this with the following command:

```
List Author "Author"
```

However, this would produce only a list of authors, without anything else. What you want is whatever was on the previous index, plus the "Author" field. To do this, you can simply append INDEX to your LIST command, to cause the default index specifications to be appended to yours.

```
> List Author.15 "Author" Index
Author          Item #     From      Singer     Recs   Name
------          ------     ----      ------     ----   ----
Georges Bizet   000103 Carmen        Carreras     41   La fleur que +
W.A. Mozart     000118 Don Giovanni  Sciepi       23   La ci darem l+
Giuseppe Verdi  000121 Rigoletto     Fisher-Die+  37   Veglia o donn+
Vincenzo Bellin+000143 Norma         Callas       25   Casta Diva
W.A. Mozart     000187 Le Nozze di F+Fisher-Die+  12   Se vuol balla+
G. Rossini      000203 Il Barbiere d+Kiri te Ka+  38   Una voce poco+
```

Figure 29. Sample LIST command

Note the plus sign after "La fleur que". The full title is "La fleur que tu m'avais jetee", and without the plus sign you might not have realized that some words were missing since the last displayed word was not truncated.

```
**********************
* Advanced functions *
**********************
```

This chapter contains information about "advanced" database functions. You should not read it until you have acquired a good knowledge of the basic database functions. You might in fact never need to use the functions described herein, althought database application programmers would certainly need to.

Syntax of the DATABASE SEARCH command

When performing database searchs in "batch" mode, you submit a job to LISTSERV containing a DATABASE SEARCH command and an inline dataset containing the search commands to be executed. The name of this dataset is specified through the use of a DD= keyword. There are, however, some additional keywords that may be specified on the DATABASE SEARCH command.

The ECHO keyword

The ECHO= keyword lets you choose whether you want search commands echoed in the job output or not. Echoed commands are preceded by a "greater than" sign in the job output. The default is to echo all commands, but this may be overriden by specifying an ECHO=NO keyword on the DATABASE SEARCH command:

```
Database Search DD=Rules Echo=No
```

Specifying a value other than YES or NO causes the search to be aborted with an error.

The CPULIM keyword

The amount of CPU time that a database search job may use is, by default, limited to 60 seconds. The amount of work that can be done in this time depends on the CPU model of course. You can raise or lower this limit by means of the CPULIM= keyword, whose exact syntax is:

```
CPULIM=<mm:>ss
```

The search job is aborted (with a partial output being returned to you) if this limit is exceeded.

The OUTLIM keyword

The number of output lines that can be generated by database search jobs has been limited, by default, to 2000 lines. This is to avoid generating huge output because of an error in the search criteria (for example, an "AND" clause being inadvertently replaced with an "OR"). This default value may be overriden through the use of an OUTLIM=nnnn keyword.

If the maximum number of output lines is exceeded, the job is immediately aborted and its output is returned to you.

Limiting the output of a given command

General description

There might be cases where you want to limit the output of a particular database command. For example, you might want to display the beginning of an index or document which you know to be quite large. This can be achieved by specifying an OUTLIM=nnnn keyword at the end of your command. This keyword can appear anywhere after the last quoted string in the command. This restriction allows you to perform a search on a string containing "OUTLIM=" by just quoting it, without changing the the maximum number of output lines. The keyword may not appear before the command verb itself.

```
| Examples of valid use of the "OUTLIM=" keyword:                    |
|                                                                    |
| Print body of 220 outlim=30                                        |
| Print outlim=100 all of 340-362                                    |
| List Sender.17L "Sender"c Index Outlim= 20                         |
| List Sender.17L "Sender"c OUTLIM=20 index                          |
| List Sender.17L "Sender outlim=10"c index                          |
|                                                                    |
| Examples of invalid use of the "OUTLIM=" keyword:                  |
|                                                                    |
| OUTLIM=20 Print all                                                |
| --> The command verb (PRINT) must appear before the keyword.       |
|                                                                    |
| List Sender.17L "Sender outlim=10"c index                          |
| --> Here the keyword will be considered part of the heading.       |
|                                                                    |
| List Sender.17L outlim=20 "Sender"c Index                          |
| --> There is a quoted string after the keyword.                    |
|                                                                    |
| Figure 30.  Example of valid and invalid use of the OUTLIM keyword |
```

If the maximum number of output lines is exceeded, an error message is issued (in the job output) and all output lines subsequently generated by the command are discarded. However, the job itself is not aborted, and following commands will continue to execute normally.

```
| > Select * in TEST-L                                               |
| --> Database TEST-L, 21 hits.                                      |
|                                                                    |
| > Print header Outlim=10                                           |
| >>> Item number 1, dated 87/10/18 13:09:30 -- ALL                  |
| Date:         29 Jun 1987, 10:00:00                                |
| Reply-To:     Revised LISTSERV -- test list <TEST-L@FRECP11>       |
| Sender:       Revised LISTSERV -- test list <TEST-L@FRECP11>       |
| Comments:     Warning -- original Sender: tag was TEST-L@UGA       |
| From:         PHIL@UIUCVMD                                         |
| Subject:      this is a test looking for upcasing                  |
|                                                                    |
| --> Maximum number of output lines reached, remaining command      |
|     output flushed.                                                |
|                                                                    |
| > Search debugging                                                 |
```

```
| --> No hit.                                                          |
|                                                                      |
| Figure 31.  Example of the use of the OUTLIM keyword                 |
+----------------------------------------------------------------------+
```

Batch mode

In batch mode, there are in fact two OUTLIM keywords: the "global" one, which is defined in the DATABASE SEARCH command, and the "local" one, which applies only to the individual command with which it has been specified.

In batch mode, the default value of the local OUTLIM keyword is "infinite", i.e. it is internally equated to the value of the global keyword. The local OUTLIM keyword cannot be used to override the limitations set by the global keyword. That is, if the global keyword indicates that the job is to be aborted as soon as it generates more than 2000 lines, you cannot allow a particular command to generate 3000 lines of output by appending an "OUTLIM=3000" keyword to it. However, if the command would have generated 3000 lines and you had set a local "OUTLIM=100" keyword, only 100 lines would be actually generated and the job would not be aborted.

Interactive mode

In interactive mode, there is no global OUTLIM keyword. You can generate as much output as you want, provided that each command does not exceed the limit specified by the local OUTLIM keyword, which defaults to 2000 lines for "local" users (i.e. users on the same node as LISTSERV) and 30 lines for "remote" users. Furthermore, the OUTLIM keyword cannot be used to raise these limits. That is, a "remote" user cannot request 100 lines of output to be sent to him in interactive mode by specifying "OUTLIM=100" on the command line. The SENDBACK command should be used to retrieve large amounts of data. See "The SENDBACK command" for more information.

Limiting the CPU time available to a given command

General description

There might be cases where you want to limit the amount of CPU time which may be spent on a particular command. This can be done by specifying a CPULIM=<mm:>ss keyword at the end of your command. It is similar to the "OUTLIM=" keyword in that it may appear anywhere after

the last quoted string in your command, but may not appear before the command verb itself.

If the CPU limit you have specified is exceeded, the job is aborted with an error message, and the (incomplete) job output is returned to you.

Batch mode

In batch mode, there are two CPULIM keywords, a global one and a local one. This is exactly the same as with the "OUTLIM" keyword. The default value of the local CPULIM keyword is "infinite". The local CPULIM keyword cannot be used to override the limitations set by the global keyword.

Interactive mode

In interactive mode, there is no global CPULIM keyword. You can use as much CPU time as you want, provided that each command does not exceed the limit specified by its local CPULIM keyword, which defaults to 20 seconds. However, this limit can be raised by just specifying a CPULIM keyword with the desired value.

Performance considerations

Search clauses

LISTSERV tries to process search clauses in such a way as to minimize the number of I/O operations to the database. Each search operation is done in three steps:

1. The "date" clause is compared against the date of the database item, which is present in the database index and immediately available to LISTSERV at no extra cost.

2. The "WHERE" clause is executed against the document "keywords", which are available to LISTSERV at no I/O cost.

3. The document is read in from the database, and the actual search operation takes place. This step is waived if no search argument was specified, of course.

It is therefore best to specify "date" or "WHERE" clauses which you know to be true for the items you are searching and false for "most"

other items. This will not constitute extra work for LISTSERV, as one might first have thought.

Response time

You should always keep in mind that LISTSERV is not a multi-tasking system, and may only serve a single user at a time. There are two consequences to this:

- Other users will have to wait for your database search to be completed before they can be served. You should therefore avoid sending database jobs that are likely to require more than one minute of wall-clock time to execute. It is always best to send several smaller jobs, especially since the output will be smaller and will therefore reach you faster.

- You may have to wait for other users' commands to complete before you are served. This means you should be prepared to wait longer if you are addressing a server on a "hub" node with a lot of traffic.

You should also remember that the "work unit" is the job when in batch mode, and the command when in interactive mode. If you have five different and independent search operations in a given job, they will all be executed sequentially before the next user is served. In interactive mode, LISTSERV will switch to the next user after each search command.

****
* Appendix A. The LISTSERV Library *
****

- o User's guide . . . . . (U01-001)
- o List Manager's guide . . . . . (M01-002)
- o Installation guide . . . . . (S01-003)
- o Application Programmer's guide . . . . . (A01-004)
- o Maintenance guide . . . . . (S01-005)
- o File Server Functions . . . . . (U01-006)
- o Listserv-Punch Implementation . . . . . (R01-007)
- o File Maintainer's guide . . . . . (M01-008)

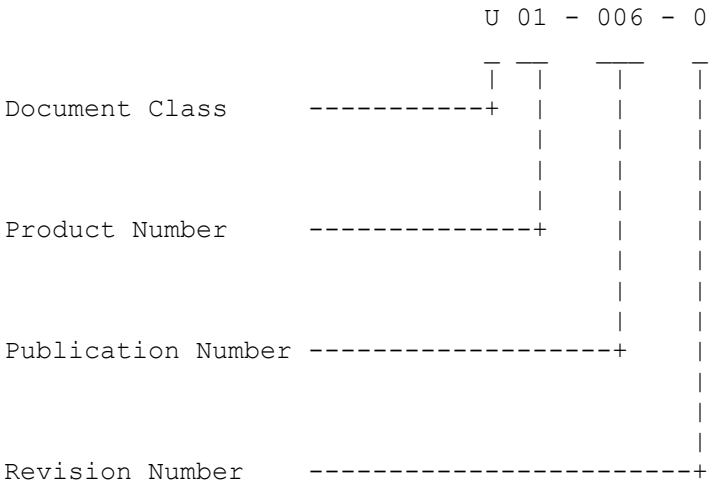
    o BITNET-Oriented Presentation . . . . . (P01-009)

    o Public Utilities Reference . . . . . (A01-010)

    o Licensed Utilities Reference . . . . . (S01-011)

--> o Database Functions . . . . . (U01-012)

LISTSERV Document Numbers



Document Class

The Document Class indicates for which category of persons the publication was written. The current classes are:

A Documents intended for Application Programmers. These publications are usually very technical.

M Documents intended for Software Managers, i.e. operators, "list owners", "file maintainers", et al.

P General Presentation documents intended for persons who do not have any particular knowledge in the product. These are generally non-technical documents.

R Reference documents defining protocols used by the product. These documents are very technical and are intended for people who have to write interfaces for the product or attempt to port

it to an operating system or environment for which it was not originally written.

S Documents intended for Systems Programmers, i.e. the persons responsible for the installation and operation of the product.

U Documents intended for General Users.

Product Number

The Product Number is a unique number associated with the product to which the publication relates. Number 01 refers to LISTSERV, number 02 corresponds to the NETINFO sub-product, etc.

Publication Number

This is a unique number associated with the publication. Publication Numbers are assigned sequentially, disregarding the Document Class. There is a different set of Publication Numbers for each product.

Revision Number

This number is incremented at every release change in the publication. Fractional numbers indicate intermediate changes between two releases.

The Modem Dictionary

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Version 1.30

8N1 - The most common modem format. [See also format].

42A Block - This is a box about two inches square, with a modular jack, that separates the wires coming from the phone company. You can plug a phone or modem into this jacking, using a modular cord. [See also modular cord, modular jack, modular plug].

103 - Officially, `Bell 103' which is the standard controlling transmission at 300 bps in the United States. It was created by AT&T. [See also 212A, V.21].

212A - Officially, `Bell 212A' which is the standard controlling transmission at 1200 bps in the United States. It was created by AT&T. [See also 103, V.22].

300 bps (baud) - A transmission speed that is now almost never used, although most modems will allow communication at the speed (since it was common in the early 1980's). It is roughly equal to 30 characters per second.

1200 bps (baud) - In the mid 1980s this was the most common transmission speed, until 2400 bps became popular/cheaper. It is roughly equal to 120 characters per second.

2400 bps (baud) - A fairly high-speed transmission speed that towards the end of the 1980s gained popularity. It is roughly equal to 240 characters per second.

3400 hertz - The highest pitch that a telephone line will transmit. This cutoff limits the ways in which computers can communicate over telephone lines.

8250 UART - The UART used for the communications ports on most older computers. [See also UART].

9600 bps (baud) - This, along with 14,400 bps are the 2 standard speeds for high-speed modems. It can transmit and receive approximately 960 characters per second (without compression).

14400 bps - Currently, the fastest standard speed for high-speed modems.

16450 UART - The UART used with some 286 computers. [See also UART].

16550 UART - This is the UART used with most newer computers and high speed modems. There are several variations, but they all include one main feature: they include buffering, so that if data comes in or is sent faster than the computer/modem can accept it,

the UART will hold the data (up to 16 bytes) until the computer/modem is ready for it. [See also UART].

16550A UART - See 16550 UART.

16550AF UART - See 16550 UART.

16550AFN UART - See 16550 UART.

---A---

abort - [1] The command word used with editors that allows you to exit, destroying your message. [2] The character used to stop characters from a block of text appearing on your screen. Usually the spacebar or CTRL-X are used to abort a message.

access - Refers to an intangible amount (usually represented by a security level or flags) that indicate to what extent you are allowed to use a BBS. When used in a term such as `you will be granted access', it means the amount of access that new users will generally receive.

account - A term that refers to information that a BBS has about you. It is usually referred to by an ID number or your name. The information it contains can include any information that you have at some point given the BBS, usually including your name, phone number, and security level. [See also user number].

account number - See user number.

Acculink - A packet switched network that is used to save money on long-distance telecommunications.

ACK - A character (CTRL-F) that ACKnowledges something, usually that a certain amount of data has been received correctly. [See also NAK].

acoustic coupler - This was common many years ago, but rare now. It is a cradle in which you would place the handset of a phone. This would be connected to a modem, and the modem would access the phone line through this coupler. Modern modems connect directly to the phone line. [See also acoustic modem].

acoustic modem - A modem that uses an acoustic coupler. [See also acoustic coupler].

adaptive data compression - See ADC.

adaptive dialing - When a modem can determine whether to dial pulse or tone. It will try dialing with tones first. If that doesn't work, it will dial pulse.

adaptive equalization - Modems that have this feature "listen" to

the phone line to find the bandwidth with the least noise, and use that part of the band for transmission. This allows for less interference from noise.

ADC - Adaptive Data Compression. A method of data compression developed by Hayes, with a possible compression ratio of 2:1.

alias - A name that users can use on a bulletin board that is not their own. Aliases are usually used by young BBS users and those who pirate software or do other illegal activities. Some examples of aliases are `Cracker Kid', `Starbuck', and `Midnight Killer'. [Also called handle]. [See also user name].

ampersand - A character (&) that usually means `and'.

analog - As far as electronic signals are concerned, analog refers to signals that can represent an infinite range of numbers, as opposed to digital which can only be distinct whole numbers. Analog data often comes from measurements. The sound a modem makes over the phone is analog since it can be any of a number of different frequencies. [See also digital].

anonymous - Refers to a message, where the author was able to leave out his name. On some BBS's you are allowed to post anonymous messages so that others won't know who you are. The SysOp usually can find out who the author is, however.

ANSI - ANSI is an organization that sets standards. ANSI graphics, however, is a set of cursor control codes which originated on the VT100 smart terminal. Many BBS's use these codes to help improve the sending of characters to communications programs. It uses the escape character, followed by other characters, which allows movement of the cursor on the screen, a change of color, and more.

answering computer - This is the computer that is being called. Therefore, it is usually the BBS or mainframe. [See also originating computer].

answering machine - See voice mail.

answer frequency - The frequency of the carrier that a modem uses when it has been called by another computer. [See also originate frequency].

answer mode - When a modem is ready to pick up the phone when it rings. After picking up the phone, the modem will attempt to make a connection with another modem. All BBS's are in answer mode. [See also originate mode].

apostrophe - The character '. It is usually used in contractions of words, such as "don't".

ARC - When a filename has the extension ARC, it means that it is an archive that has been compressed with the program PKARC. To get the files out of the archive, you need to use the program PKXARC. You should be able to find this program on many BBS's.

[See also archive, unarchive].

archive - [noun] A group of programs that are together, usually compressed, in one file. [verb] the process of combining those files. There are a number of software packages which will compress files into an archive, and most programs on BBS's have been archived with one of these software packages. [See also unarchive, compress, ZIP, ARJ, ARC, PAK, LZH].

area code - The 3-digit number used by the telephone company to designate a geographic area. Each state in the United States has 1 or more area codes. If you call a phone number in a different area code, you must dial "1" and then the area code before the phone number. If you call a number within your area code, you just dial the phone number (if it is long distance within your area code, you must dial "1" and then the number).

ARJ - [1] A file extension that indicates that the file was compressed with the program ARJ. [2] The program ARJ, used to archive and un-archive files with the ARJ extension. [See also archive, unarchive].

ASCII - An acronym for American Standard Code of Information Interchange. It uses 7 bits to represent all uppercase and lowercase characters, as well as numbers, punctuation marks, and other characters. ASCII often uses 8 bits in the form of bytes and ignores the first bit. [See also EBCDIC].

ASCII transfer - When a text file is sent directly as it is, without any special codes.

asterisk - The character *.

asynchronous communication - This is when the beginning and end of each byte that is sent over the phone lines is marked somehow. This way, if there is line noise, the modem can find out right away where the next byte should start. [See also synchronous communication].

AT command - Any instructions sent to a modem that begin with "AT". See also Hayes AT command set.

AT command set - See Hayes AT command set.

at sign - The character @. Often read as 'at'.

AT&T - American Telephone and Telegraph, the inventors of the first modem.

attended mode - This is the mode that a communications program is in while you are operating it. [See also unattended mode].

attention characters - The letters "AT", which get the modem's attention that you are about to send it a command. [See also Hayes AT command set].

audio monitor - A speaker that is included as part of a modem.

It allows you to listen to whatever sound is on the phone line. This is often used to let you hear busy signals or make sure that the other modem picks up the carrier.

auto-answer - When a modem has the ability to automatically pick up the phone when the phone rings and then attempt to connect with another computer.

auto-answer LED - When this LED (found on some external modems) lights up, it means that the modem is ready to answer the phone when the phone rings (it will then try to connect to another modem). If it is not lit, the modem will not answer the phone. [See also LED indicators].

auto-baud detect - The ability of a modem to change to a lower bps rate if the computer it is calling is unable to communicate at the requested speed.

auto-dial - When a modem is capable of dialing a phone number, so that you don't have to dial manually. Almost all modems have this ability.

auto-download - The feature of some file transfer protocols whereby a BBS can automatically make your communications program start a download or upload (if your communications program has this capability too). This saves some time for the user, who would otherwise have to set up his program to upload or download.

auto fall-back - See fall-back.

auto-kill - A feature on some BBS's that will delete a message on a board if a certain threshold limit is reached. For example, a BBS might delete the second message on a board if there are already 100 messages and someone posts another message. This would limit the board to 100 messages, but still keep the first message (which is usually left by the SysOp).

auto-redial - A feature that allows a modem or a communications program to dial a number again after it finds out that the number is busy. This is very handy when trying to get through to popular bulletin boards that are often busy.

auto-reliable - The ability of a modem to be able to communicate both with modems that do have error-control and/or data compression, and those that do not.

auto-reply - To send a message (either public or private) immediately after reading a message on a BBS. Usually, this is used to respond to the author of the original message.

auto-syncing driver - This is the part of a BBS program that automatically determines the bps rate of a caller. [See also manual-syncing driver].

auto-typing - This is when a communications program can upload information to a BBS as if the user were typing in the information. For example, the user might type a message into a file,

and then the communications program can send it to a BBS (which assumes the user is actually typing the message) to post as a message.

---B---

backdoor - A way of getting into certain BBS's and getting full access, without using a regular account. Usually the author of the BBS program built the backdoor into the program so that he could get access to any BBS running his software. Backdoors are less common today than they used to be.

background send/receive - The ability of a fax/modem to send or receive faxes while the computer is being used for other purposes.

backslash - The character \.

backspace - The character (CTRL-H) that causes the cursor on your screen to move back one space. [See also destructive backspace, non-destructive backspace].

bandwidth - A range of radio, audio, or other frequencies. Telephone lines have a bandwidth from 300 hertz to 3400 hertz. Since it is so limited, a modem must carefully change data into sounds that "fit" within this range. Similar to frequency spectrum.

bannerware - A software program that is free to use and copy, but advertises another program or product. [See also public domain].

batch file transfer - This is when more than one file is sent at a time by a file transfer protocol. The user will tell the BBS what files he wants, and then the BBS will send all the files before the user needs to do anything else.

baud - A term referring to the speed at which modems communicate. Technically, it is the number of changes in an electronic signal per second. Since the number of changes used to be the same as the number of bits sent or received per second, bps and baud are often used interchangeably. However, there is a difference, which is very often confused. For example, many 1200bps modems were advertised as 1200 baud, even though they operate at 600 baud. They send out 2 bits 600 times a second, which means that it is 600 baud. However, since it is so often misunderstood, you can assume that when you see "baud" it means bits per second, unless it is stated otherwise. The term comes from the scientist J. M. E. Baudot. [See also bps, dibit].

BBS - An acronym for Bulletin Board System. Usually it is a home computer that has a modem attached and is waiting for calls from other computers. It can, however, also refer to commercial services (such as CompuServe and Prodigy) and any other computers

that you can call via telephone lines. BBS's almost always allow you to leave messages for other users. Most BBS's have programs that you can download and use on your computer. BBS can also be expanded more simply to `bulletin board'.

BCC - Block Check Character. This is used to help make sure that a group of data has not been accidentally altered.

Bell 103 - See 103.

Bell 212A - See 212A.

bisync - Refers to a modem that synchronizes with an electronic signal over the telephone lines that marks the beginning of blocks of data. It is one of a number of synchronous protocols.

bit - A Binary digIT. It is a number in base 2 (binary), which means that it can only be a 0 or a 1. It is used in the expression `bits per second'. [See also byte].

bitstream - BBS's and related activities. For example, you could say that a lot of public domain programs can be found in the bitstream.

blind dial - This is when a modem will dial a number without waiting for a dial tone. Some long-distance telephone services require a number to be dialed, even though there is no dial tone. In this case, your modem should be set to blind dial.

block - A group of data bytes. For example, when downloading a program, blocks of 128 or 1024 characters are often sent.

block check character - See BCC.

block size - This term, when used with either error control or data compression protocols, refers to the number of characters to be sent at one time. If error control is used, the codes are sent immediately following this block. Typical block sizes are 64, 128, 192, or 256 characters. Small block sizes are better when the line quality is bad (such as for long distance calls), while large block sizes are better during good connections (such as for local calls).

board - [1] See BBS. [2] See message base.

bps - Bits Per Second. The transmission speed of most modems is measured in baud or bps. Bps is literally the number of bits sent by the modem every second. [See also baud].

braces - The characters { and }. [See also left brace, right brace].

brackets - The characters [and]. [See also left bracket, right bracket].

break signal - This is a signal sent from one modem to another that lasts for about a second. It is sometimes used to try to

clear up synchronization problems. On CCITT V.42 modems, there are more specialized procedures involved with the break signal, such as regarding the timing. In V.42 there are three kinds of break signals. [See also expedited signaling, destructive signaling, in sequence signaling].

browse - To go through the list of titles of messages or files on a BBS and note which ones you want to read.

buffer - [1] (verb) To save all incoming data in memory. [2] (verb) to temporarily save incoming data until the computer has a chance to process it. [3] (noun) The place in memory where the saved information is stored, as in "I have a 32K buffer."

bulk mailing - Used on a BBS when you send the same message to more than one person. This saves you from having to rewrite the message. [See also E-mail].

bulletin - A special message posted on a BBS, usually written by the SysOp. In most cases all users are expected to read any new bulletins that may have been posted since their last call.

bulletin board - [1] See BBS. [2] Sometimes same as message base.

bulletin board system - See BBS.

busy - When a bulletin board is being used by as many users as it can handle, which is when all the telephone lines are being used.

busy signal - The sound that you hear on a phone when the phone number you are trying to reach is in use (busy). It usually consists of 60 cycles per minute. [See also audio monitor].

byte - A group of 8 bits. It usually represents one character. [See also ASCII].

---C---

call back unit - A device that can be attached to the phone line of a BBS to make it more secure. After you connect with the BBS and tell it who you are, the device will then call your phone number. This is used to make a very secure system to help prevent hackers from invading a system. It then becomes very difficult, if not impossible, for a hacker to get into the computer system.

caller - Anyone who connects with a BBS. It is usually used in a phrase such as "You are caller #4328."

caller I.D. - A code that is sent over the phone lines in some areas when a person makes a phone call. This code includes the phone number of the person making the call. Some modems are able to understand this signal, and let you know who is calling you

before you answer the phone.

caller log - A list of callers who have called a BBS within a given time period. The list may also keep information such as the bps rate of the caller. This is used so that the SysOp can keep track of users, as well as any hackers, if they call the BBS.

call progress monitoring - This is when your modem tells you what is happening when you dial another computer. It will tell you that it has dialed the number, if the number is busy, if you connect, etc.

call waiting - A service that the phone company offers that allows the customer to hear a special sound on the phone if there is an incoming call while the customer is talking on the phone. The customer can then talk with either caller. This is a nice service unless you have a modem and call BBS's. If you are connected with a BBS and someone else calls you, you will be disconnected. In most areas there is a special 2 or 3 digit number that you can dial before a phone call that will disconnect call waiting for that call. If you have call waiting, check your phonebook or call the phone company to find out how to disconnect call waiting.

capital letters - See uppercase.

capture - To 'catch' text that is being sent to your computer from a BBS and put it in a buffer or a file.

capture buffer - The area in a computer's memory where a communications program stores incoming data that is to be saved. [Also called capture memory]. [See also buffer].

capture memory - See capture buffer.

card (peripheral) - Any computer peripheral that can be connected directly, inside a computer. Internal modems are usually peripheral cards.

caret - The character ^.

carriage return - See return.

carrier - The tone that the modem sends over the phone lines before any data is sent on it. It has a fixed frequency and a fixed amplitude. It is then modified to indicate data.

carrier detect - The wire in an RS-232C cable that holds the information as to whether or not the modem senses a carrier (and therefore is connected to another computer). [Also called CD].

carrier detect threshold - A way of measuring how well a modem can detect valid data over noisy phone lines. It is measured in negative dBm's (decibel-milliwatts). The bigger the number (the more negative) the better. For example, -45 dBm is better than -40 dBm. [Same as receive sensitivity].

carrier detect LED - This LED will light up on an external modem when it senses a carrier on the phone line. This indicates that the modem is connected to another modem. [See also LED indicators].

carrier frequency - This is the frequency which a modem uses to transmit or receive data.

carrier loss time - The amount of time your modem will remain on the line when the carrier is lost. It will stay on the line for this amount of time, to see if the carrier comes back. If the carrier does not come back, the modem will hang up the phone line.

CB simulator - A computer service where there are multiple phone lines (usually at least 5). The CB simulator allows all the users to send messages to one another while they are on-line. It usually allows you to send both public messages that everyone who is on-line can see and private messages that only one specific user can see.

CCITT - International Telegraph and Telephone Consultative Committee. This group, created by the United Nations, establishes certain standards for data transmission. Their transmission, data compression, and error control standards all begin with V, for example V.22. To find the standards in this dictionary, look up the standard name, i.e. V.42.

CD - See carrier detect.

character - Any letter, numeral or symbol. [See also ASCII].

character format - See format.

characters per second - The number of bytes or characters that can be sent over the phone lines in 1 second. This is determined by dividing the bps rate by the number of bits it takes to send one byte (usually 10--the start bit, 8 bits of data, and the stop bit). So, a 2400bps modem can send 240 characters per second (2400/10). [Same as CPS].

chat - A mode that allows two or more people (almost always a SysOp and a user on a BBS) to communicate directly with each other using the modem. Usually, each person can see what the other is typing at all times and can interrupt them (a beeping sound with a CTRL-G is useful to interrupt with). [See also page (verb)].

chat mode - This is when a communications program is set up so that the user can "chat" with someone on the other end of the line. One way this can work is that anything that is typed by the other person is printed on the top half of the screen, but anything you type would appear on the bottom half of the screen. [See also chat].

checksum - A number that represents a larger group of numbers in

order to check for errors in data transmission. It is commonly used when downloading a program, as well as in error control protocols. The checksum is the result of a mathematical equation, such as adding all the numbers in a block together (although it is usually more complex than that).

chip set - A group of important IC chips on a modem (or other computer peripheral) that are all made by the same manufacturer. While there are many companies that make modems, there are only a few that make the chips for them. Because the chip manufacturer is making the chips for many companies, they produce more chips, and the price of the chips is lower than if each company produced their own. This decreases the price of the modems on the market.

Christensen protocol - See Xmodem.

circular dialing queue - This is used in some communications programs to allow you to enter a list of phone numbers to call, and it will keep going through the list and dialing numbers until it reaches one of them. This is useful if you are trying to reach BBS's that are often busy.

city code - With many foreign countries, you need to dial a city code before the phone number you are trying to reach. You must dial the country code before the city code. The city code will be from 1 to 5 digits. [See also country code].

clear to send - See CTS.

columns - A measurement of the width of your screen as measured by the number of characters your screen can fit across it. BBS's often ask for your screen width. Most computers have a screen width of 80 columns.

COM port - IBM and compatible computers have the ability to hook up devices (such as modems and mice) to the computer, through ports. These ports are called COM ports, and are numbered 1-8. While all 8 could be used, usually only #1 and #2 are used, while #3 and #4 are used occasionally. [See also selectable COM port].

comm program - See communications program.

command buffer - The place in your modem's memory where it stores the commands that you give it. [See also buffer].

command echo - When this is on, any AT command sent to the modem will then be sent back from the modem to the computer. For example, if you were to type "ATS11=40," the modem would act on the command, and then send "ATS11=40" back to the computer.

command mode - This is when your modem interprets what you type as commands, rather than just sending the data over the phone line. [See also data mode, terminal mode, voice mode].

command set - A list of all the possible commands that you can give something, such as a modem, a BASIC program, or a BBS. [See also Hayes AT command set].

commands - Instructions that you can give to a modem, a BBS, or another similar device.

commercial host system - An on-line system that you can call up, that is operated by a company that charges you to use it.

commercial software - Software that is copyrighted and may not legally be distributed by BBS's or copied and given to other users. [See also public domain, copyright].

communication - The idea of transferring one's thoughts or ideas to another person. This can be through speaking, radio, T.V., telephones, mail, etc.

communications program - A program that controls a modem, and has features that allow the user to do such things as upload, download, etc. It is similar to a terminal program but more sophisticated. It used to be used interchangeably with terminal program. [Same as comm program].

compatible - When one object can work just like another. Although the term is usually used with computers, it is often used with modems. Many modems are compatible with other popular modems. [See also V.42 compatible].

compliant - See V.42 compliant.

compress - To make data take up less space. Archiving programs do this, which means that files will take less time to transfer with modems. Many modems now have the ability to automatically compress the information they send and receive. [See also archive, data compression].

compression ratio - The ratio of the original size of data that is sent to the compressed size. For example, a 3:1 compression ratio means that the original data takes up 3 times the amount of space as the compressed data, and a modem would transfer the data 3 times more quickly than if it was not compressed.

computer network - See LAN.

configure - To set something to your liking. To configure a BBS, you may have to tell it your screen width, whether you need line feeds and other such information.

configuration - Configuration is the information describing what your computer's hardware and software is like, so that a BBS can send information properly. For example, you need to tell a BBS how wide your screen is.

connect - [1] To get to a point where you can start communicating with a BBS, as in "I have connected with the BBS." [2] Any point after you have established contact with a BBS, as in "I am still connected with the BBS" or "I have been connected with the bulletin board for just over an hour."

connect speed - The speed, in bps, which your modem uses when it connects with a BBS. This speed will depend on the speed of your modem, and the BBS's modem. It will be no higher than the lower of the two speeds. If you have a 2400bps modem, and call a 1200bps BBS, your connect speed should be 1200bps.

connection - The actual contact with a BBS. It is used most often in expressions such as "I have a bad connection," meaning that there is line noise.

control character - Any of the 32 ASCII characters that do not print on your screen or printer. These characters are usually used to control your computer. [See also CTRL].

copyright - A term meaning that a program or text file is protected by the government so that it may not legally be copied, except to make backup copies, or as specified by the author of the program. You should not upload a copyrighted program to a BBS, unless it is shareware or freeware. [See shareware, freeware].

Co-SysOp - A term similar to a vice president. The Co-SysOp of a BBS has more access to the BBS than any other user except the SysOp. The Co-SysOp might check messages to make sure that they are suitable for the BBS (not containing illegal messages), and he may be able to validate users. Sometimes a Co-SysOp is just a title given to someone who helped the BBS a lot by doing things such as posting messages and uploading. Also, many times there is more than one Co-SysOp. [See also SysOp].

country code - The code that the telephone company uses to designate a certain country. If you need to call a BBS (or a person) in a foreign country, you need to dial the country code, then usually the city code, and then the local phone number. The country code will be 2 to 3 digits. [See also city code].

CPS - See characters per second.

<CR> - Carriage Return. See return.

CRC - Stands for Cyclic Redundancy Check. CRC is a system to make sure that a block of data (usually from a downloaded program) is as free from error as possible. It is usually 16 or 32 bits long (CRC-16 and CRC-32 respectively).

crash - When a BBS is harmed in such a way that it is temporarily inoperable. The usual cause is that some files are destroyed, either by accident or by a hacker. Some people try to crash BBS's, a fact that most users (and especially SysOps) think is sad.

crash recovery - This feature of some file transfer protocols allows a user to continue a download or upload that had been interrupted. With this system, a user will not have to receive the data that had already been sent before the disconnection, which will save time.

crippleware - This is software, usually distributed as shareware, but it is not a complete program. If it is a game, it might only let you play the first level. If it is a database program, it might only let you have 50 entries (whereas the real version would have more).

CRT - Cathode Ray Tube. This is another name for a computer monitor.

CTRL - The abbreviation for ConTRoL. This abbreviation is followed by a dash and then a character, such as CTRL-C, meaning the control character C. [See also control character].

CTRL-G - The control character G, which usually causes the computer to produce a beeping sound.

CTS - Clear To Send. This is when the modem lets the other computer know that it can send information to the other computer. [See also flow control, RTS].

CTS/RTS - The method of flow control that uses the CTS and RTS signals. It is built into the hardware, not software. [See also CTS, RTS, flow control].

cursor - The marker that points out where text will next appear on your screen. It can be one of many things, usually a plain white or flashing square, or an underline character.

cyclic redundancy check - See CRC.

cycling - When a light (such as the RD light) on an external modem continuously turns on and off.

---D---

dash - The character -.

data - A group of characters that represents meaningful information. This information can be anything, ranging from bank account numbers to computer programs. [See also information].

database - [1] A program that keeps track of data, such as the information contained on mailing labels, or the price of stocks. [2] A large group of data. The sum of the information that you can receive on extensive pay services such as CompuServe can be considered a database.

database hack - A way that hackers attempt to gain access to someone's account on a BBS. They create a list of common passwords (such as SECRET and MINE) and try every one on an account to see if it is the right password. Because of this, an intelligent BBS user will not use easy-to-guess passwords.

data bits - [1] The number of bits that the modem uses to represent one byte. This is usually 8, though it can be 7 since ASCII needs only 7 of the 8 bits. [See also format]. [2] the actual bits within a byte being sent through the phone lines.

data byte - A byte of information that is being sent over the phone lines.

data carrier detect - See DCD.

data communications equipment - See DCE.

data compression - Some modems have the capability to 'squash' data so that it takes up less space. When another modem (that also has this capability) receives the data, it 'unsquashes' the data to its original form. By using data compression, a modem can send information faster. It's a lot like shorthand--all the information is still there, but it takes less space and is quicker. [See also MNP-5, V.42bis].

data grade - A phone line that is set up by the phone company to be more convenient for data communications. It should have better electronic characteristics than a regular phone line. [See also voice grade].

data mode - The mode that a modem is in where all information typed on the computer will be sent through the modem, and all information received by the modem will be placed on the screen. [See also command mode, terminal mode, voice mode]. [Same as on-line mode].

data modem - A modem that does not have the ability to send or receive fax transmissions.

data rate - See data transmission rate.

data set ready - See DSR.

data terminal equipment - See DTE.

data terminal ready - See DTR.

data throughput - See effective transfer rate.

data transmission rate - The speed at which data travels. For example, data may be sent at 115,200bps. [Same as transmission rate, transmission speed, data rate]. [See also bps].

dB - See decibel.

dBm - Decibel referred to one milliwatt. This is used to measure certain levels, such as transmit level. [See also transmit level, receive level, carrier detect threshold].

DB-25 - The 25 pin plug that connects an RS-232C cable to the RS-232 port.

DCD - Data Carrier Detect. This tells the computer whether or not the modem is connected to another modem.

DCE - Data Communications Equipment. These are computer peripherals that communicate. A modem is a DCE. [See also DTE].

decibel - A unit describing how loud one sound is compared to another. [Same as dB].

decompress - The process of converting compressed data back to its original form. [See also archive].

decoy program - A program or text sent on mainframes and multi-line BBS's that simulates the log-on procedure. The unsuspecting user will see this and enter his password, and the person who made the decoy program will get the password and can use the account.

default - A setting or an answer to a question that is automatically assumed. If 80 columns is a default, then you only have to change it if you want something other than 80 columns.

delay time - The time it takes between sending data on a computer and receiving a response from the remote computer. If the delay is long, most file transfer protocols will slow down. [See also protocol].

demodulate - To convert the tones that a modem sends over the phone lines back into data. [See also modulate].

destructive backspace - A term that indicates that your communications program deletes the character the cursor is on when it receives the backspace character. [See also non-destructive backspace].

destructive signaling - This is a type of break signal that causes all data to be destroyed while the break signal is being sent. [See also break signal].

dial - To send out either the tones or pulses that the phone company needs to understand what number you are calling. Most modems will dial automatically (auto-dial).

dialing speed - See touchtone dialing speed.

dialout facility - A service where you call a computer, and from that computer you can call other computers. It is usually used with packet switching networks, which saves you money on long distance calls.

dialup line - A telephone line connected to the telephone company. This is a regular phone line. [Compare to leased line].

dialup modem - A modem that is used over normal (dialup) telephone lines.

dial modifiers - Any commands that are sent to a modem which

change the way a phone number is dialed. For example: tone, pulse, and pause.

dial tone - The sound that you hear when you pick up the phone if it is ready to have an outgoing call made. Your modem, if it can dial, should understand this tone.

dibit - Two bits sent simultaneously by a modem. For example, a modem can operate at 1200bps and 600 baud. What happens in this case is that 600 times a second, the modem sends out a dibit (two bits). Therefore, it is sending 1200 (600 times 2) bits per second. [See also bps, baud].

dictionary - The V.42bis data compression protocol stores certain data that is being sent/received in a "dictionary," which it refers to when compressing/decompressing data. [See also V.42bis, dictionary size]. [Same as encoder dictionary].

dictionary size - This is the number of characters in the dictionary used for the V.42bis data compression protocol. It is usually 2048, but can also be 1024, 512, or 4096. [See also dictionary, V.42bis].

digital - A system using discrete numbers to represent data. In computer systems, these are the numbers 0 and 1 (for binary). [See also analog].

digital signal processing - This is what is used to perform echo cancellation on a CCITT V.32/V.42 modem. [Same as DSP]. [See also echo cancellation].

DIP switch - DIP stands for Dual In-line Package. DIP switches are a group of small switches placed together on electronic equipment. Many modems have these. The switches can be changed to alter various settings. For example, one DIP switch on a modem may change the status of the DTR.

direct mode - See MNP direct mode.

disconnect - To hang up the phone and cause the connection between your modem and another computer to be stopped. Most BBS programs have a way of disconnecting a user who has called the bulletin board, if it is needed.

disk capture - This is when a communications program will save incoming information to the disk. This is useful if you are receiving a text file that you want to read later.

dither tone - See echo suppressor defeat tone.

door - A gateway that will allow a bulletin board to run a program while a user is on the BBS. Games are popular doors on BBS's, although doors can be used for serious purposes, too.

down - A word meaning that a bulletin board is not working, so that you can not connect with it. This can mean that there was a crash, or it could simply mean that the SysOp is playing a game

on his computer. Often a SysOp will leave a phone connected to his BBS line off the hook when he is using the computer so that you will get a busy signal. [See also running].

download - To receive a computer file from a bulletin board. It is usually a computer program, but can also be a text file. [See also upload, protocol].

DSP - See Digital Signal Processing.

DSR - Data Set Ready. This indicates that the modem is on, and ready to accept input from the computer (either commands or data to be sent over the phone line). [Same as modem ready].

DTE - Data Terminal Equipment. This is computer equipment which is not directly responsible for communicating, for example, the computer itself and printers. [See also DCE].

DTMF - Dual Tone Multi-Frequency. This is used in tone dialing. It is a method where 2 distinct tones are sent for each digit dialed.

DTR - Stands for Data Terminal Ready. The DTR signal is sent from the computer to the modem, to let the modem know that the computer is ready to communicate.

dumb modem - A modem that only sends and receives characters to or from the phone line. [See also smart modem].

dumb terminal - A keyboard and monitor that receive and send information either to or from another computer or a phone line. It is up to the other computer to do anything else, such as word wrap. [See also terminal, smart terminal].

duplex - The capability of both sides of a connection to send information at the same time. Full duplex is the same as duplex. When you are talking on the telephone to someone you are using duplex (you can both talk at the same time if you want to). [See also half duplex].

---E---

EBCDIC - Stands for Extended Binary-Coded Decimal Interchange Code. It is a way of coding characters. It is similar to ASCII, but it uses 8 bits instead of 7. [See also ASCII].

EBBS - Electronic Bulletin Board System. See BBS.

echo - [1] A character that is sent back from a BBS instead of the character that was sent to the BBS. For example, if you enter your password on a BBS it will often say `dots will echo', meaning that it will send a period for every character in your password (it is a safety feature). [2] When a bulletin board or

your terminal program sends back the characters that you type. If the bulletin board does not send back the characters, your terminal program should print them to your screen as you type them. [3] Echo on the phone lines is when you hear an echo on a long distance call. This can interfere with modem transmissions. [See also local echo, echo suppression].

echomail - This is a technique used by many BBS's that will allow a message base to be shared by many BBS's. Usually late at night the BBS's will exchange any new messages. This way a user on one BBS can interact with users on other BBS's.

echo canceling - This is included in the CCITT V.32 standard. It attempts to cancel echoing on long distance calls, which otherwise would interfere with the transmission. It sends the exact opposite of the sound it receives, which cancels the echo. [See also echo suppression, digital signal processing].

echo suppression - Echo suppression is a technique that the phone company uses in an attempt to make long distance voice calls sound better, by minimizing echo. However, this can cause the carrier of a modem to be lost (or at least garbled, causing a loss of data). In order to prevent this problem, a modem needs to send a certain tone over the phone line at all times. [See also echo suppression defeat tone].

echo suppression defeat tone - This is a signal sent over the phone lines by some modems in an attempt to cancel out the negative effects of echo suppression. In the Bell standard, it is 2225Hz +/- 10Hz, in CCITT standards it is 2100Hz +/- 15Hz. [Same as dither tone]. [See also echo suppression].

editor - The part of the BBS that allows you to enter a message and edit it.

effective throughput rate - See effective transfer rate.

effective transfer rate - This is the rate at which data can be sent after data compression has been accounted for. For example, a modem may be rated at 9600bps. If it uses data compression with a ratio that averages 2:1, it has an effective transfer rate of 19,200bps. While only 9600 bits are sent over the phone line, they represent 19,200 bits of real information after they are decoded. [Same as throughput, data throughput, effective throughput rate]. [See also raw speed, data compression].

EIA - Electronics Industry Association. They developed the RS-232C standard. [See also RS-232C].

electronic mail - See E-mail.

E-mail - Electronic mail. Messages that are sent to individual people. You choose who to send the message to and only that person receives the message. (Some BBS programs allow you to send bulk E-mail, which goes to more than one person, but the concept is still the same.)

emotion icons - These are groups of several characters that are used to express emotion over the phone line. For example, :) is a happy face (when you look at it from the side). Similarly, :(is a sad face.

emulate - When a communications program imitates a certain brand of terminal.

encoder dictionary - See dictionary.

encryption - Coding data so that people who are not supposed to see the data will not be able to understand it.

ENQ character - This is the same as Control-E, ASCII value 5. It stands for Enquiry.

EOF - Stands for End Of File. It is the character CTRL-Z, which can mark the end of a text file.

equalization - When a modem adjusts its transmit level for different frequencies, to account for the greater loss at certain frequencies over the phone line. [See also transmit level, receive level].

error - When there is line noise and one or more characters are changed. This is especially noticeable when downloading or uploading a program. In this case the error must be detected, and the data must be re-sent (or else the file will be destroyed). [See also line noise].

error control - The ability of a modem to notice errors in transmission, and have any incorrect data re-sent. [See also MNP 1-4, LAPM, V.42].

error correction - See error control. (Error control is a more correct term, since the modem does not correct incorrect data, it just has it sent again).

error free - When referring to data transmission, error free refers to communications equipment in which data is transmitted perfectly. This is actually an impossible situation, but it is possible to have data that is very, very close to error-free.

ESC - See escape key.

escape character - ASCII character 27. [See also escape key, ASCII].

escape character guard time - See guard time.

escape code - See escape sequence.

escape key - The key marked ESC on a computer keyboard. It is often used to 'escape' out of a program or procedure in a program. Also, the ASCII character (ASCII 27) is used by ANSI to produce limited graphics. [Same as ESC]. [See also ANSI].

escape sequence - A sequence of characters (usually +++) that instruct a modem to change from data mode to command mode, if they are typed with a certain delay before and after they are typed. [See also data mode, command mode, guard time].

even parity - This indicates that the parity bit is always set such that the sum of the "1" bits in each byte that is sent, plus the parity bit, is an even number. [See also parity bit, format].

executive mode - When a user is connected to a bulletin board, but the SysOp is controlling the bulletin board. The most common use of an executive mode is when the SysOp validates users without the user having to hang up.

exit - See logoff.

expedited signaling - Break signals that are sent before any other data. All data will remain intact. [See also break signal].

expert mode - Many BBS's have this feature, which allows a user who feels that he knows the system well to save time by not having menus sent to his system. If he forgets some commands that are available, he can have the menu appear. Otherwise, the menus will not appear. This is especially helpful at slow speeds.

extension - The extension of a filename on an MS-DOS system is the last three characters, which are separated from the rest of the filename by a period. For example, the filename SPREDSHT.WKS has the extension "WKS". [See also archive].

external modem - A modem that is located outside of the computer. It is hooked up to the computer with a cable, most commonly an RS-232C cable. [Same as stand-alone modem]. [See also internal modem].

external program - A computer program that is separate from another program. When BBS software runs a program that is separate from it, it is called an external program. [See also door].

external protocol - This is a file transfer program that is not built into your comm program, but the comm program is able to run it anyway (as an external program). [See also internal protocol].

extract - To take out files from an archive. [See also archive, unarchive].

---F---

factory configuration - The way that your modem was set up when

it left the factory. Typing ATZ normally returns your modem to the factory configuration.

fall-back - The ability of a modem to change to a lower speed when there is a problem communicating at the higher speed (usually caused by line noise). [Same as auto fall-back].

fall-forward - This is when a modem will change to a faster speed if line conditions improve after a fall-back occurs.

fax - Short for facsimile. It is a copy of a piece of paper that is sent over the phone lines by a fax machine. Some modems also have fax machines built in them, so that they can send and/or receive faxes. [See also faxmodem].

faxmodem - A modem that also has the capability of sending and receiving faxes. [See also fax].

FCC - Federal Communications Commission. This is the government agency that is responsible for making sure that phone lines are being used correctly and that radio interference is at acceptable levels.

FDM - Frequency Division Multiplexing. A way that some modems transmit full duplex information, by splitting the telephone bandwidth into two sections. One is used to receive data, the other is used to send data. This method can be used at speeds of up to 2400bps. [See also modulate].

feature negotiation - This is when a modem can determine the best protocol to use when connecting to another modem. This includes the fastest speed, error control, and data compression. It is part of hand-shaking. [Same as negotiation scheme].

feedback - A message that is sent by a user to the SysOp of a bulletin board. While it is meant to be a way for the user to let the SysOp know of any complaints or compliments they may have, it is more often a convenient way of sending E-mail to the SysOp.

filter - When a communications program or a BBS program takes out certain characters or words and doesn't accept them. For example, a bulletin board program may filter out CTRL-G's so that the SysOp does not hear the beeping. Also, some BBS programs have the ability to take out obscene words from messages. [See also profanity filter].

filter device - A piece of hardware which goes between the modem and the phone line of a BBS. When a user calls up, they will either have a voice or computer connection that asks them for a special password before they can gain access to the main computer system. This makes it more difficult for hackers to get into the system, but is also more of a burden for the legitimate users.

flash - On a normal telephone, this is when you quickly push down and release the off-hook button. It is often used for call waiting. Many modems have a command that will simulate this

action.

flag - A piece of information that is either TRUE or FALSE. It is used in some bulletin board security systems to indicate whether the user has access to certain parts of the bulletin board. It is also used by modems for certain indicators such as DTR.

flow control - A method of controlling when information is sent. One method is Xon/Xoff, where a BBS will send information until your computer sends an Xoff (CTRL-S). It will resume sending information when you send an Xon (CTRL-Q). [See also Xon/Xoff, CTS/RTS].

format - Information such as "8N1" that describes the way that your computer and a bulletin board should be connected. The first digit is normally 7 or 8, the number of data bits. The second character is a letter describing the parity (N for None, M for Mark, S for Space, O for Odd, and E for Even). The last number is the number of stop bits. 8N1 is the most common format. Data is sent as follows: Start bit (0) - 7 or 8 bits of data - (parity bit, if used) - stop bit (1) - (gap bits, if used) [Same as settings].

forward - To send E-mail that you received to someone else.

framing bits - Bits that are used to separate characters. The bits themselves are not used as information. [See also stop bits, start bits].

framing error - This occurs when the UART in a modem does not detect a stop bit. The modems are probably out of sync with each other.

freeware - Computer programs that are copyrighted, but they may be legally copied if there is no payment involved. They are almost the same as public domain programs, except that public domain programs are not copyrighted and may be sold for payment. Freeware programs often can not be changed when they are distributed. [See also public domain].

frequency division multiplexing - See FDM

frequency shift keying - See FSK.

frequency spectrum - A range of frequencies having similar characteristics. All sounds we hear are grouped as the audio frequency spectrum. Similar to bandwidth.

FSK - Frequency Shift Keying. This method that low-speed modems use to transmit information over phone lines uses 4 frequencies, which are used to represent 0's and 1's for both sending and receiving. These modems can only operate up to a speed of 600bps at full duplex (or 1200bps at half duplex). [See also modulation].

full duplex - See duplex.

full flow - See streaming.

---G---

gap - See gap bits.

gap bits - A series of 0's that are sometimes sent between data bytes over the phone lines.

garbage - Unwanted characters that appear because of either line noise or incorrect settings. [See also line noise, format].

gateway - A connection between one network and another. For example, on some commercial on-line services, you can reserve airplane tickets. This usually involves the on-line service you called connecting to the airline's computer.

general file - Any kind of text on a bulletin board that is not specifically E-mail, a bulletin of any sort, or a message. Usually they are long files for the user's information. Some examples of general files are: a file containing more information on the bulletin board program, a newspaper article about a controversial issue, and an article that explains how to make your own disk drive.

global scan - When a bulletin board goes through all the messages on all boards to check for new messages that the user has not yet read. This is very useful as it prevents the user from having to go through each board to check for new messages. [See also quickscan].

goodbye - See logoff.

group III FAX - The standard controlling fax communication.

guard time - When the escape sequence is sent to your modem, the guard time is the amount of time that must occur between characters of the escape code, for it to be considered the escape code. Otherwise, it will assume you are entering data that is meant to be sent to the other modem. [See also escape code, data mode, command mode].

guard tone - A tone that is sometimes sent over the phone line for echo suppression. 1800 hertz and 550 hertz are sometimes used.

guest - When a user is just looking at a bulletin board and does not want to receive an account there. The user usually has the same privileges as a new user who has not yet been validated. Many bulletin board programs allow guests. This is a good feature, since the SysOp does not have to validate users who will not be calling the board more than once or twice.

---H---

hacker - [1] A programmer who likes to experiment with computers (this is the type of person who often will not read the documentation to software before using it, so he can figure out how to use it by himself). [2] A person who attempts to abuse the privileges of computer BBS's and other services. His activities may range from getting and exploring an account he is not supposed to have on a mainframe computer to attempting to crash a bulletin board. These people are unwanted by most BBS's. They are often not malicious. The media sometimes confuses them with phreakers. [See also phreaker].

half card - For IBM compatible computers, this is a card that is smaller than normal (about half the size). It does not affect the operation of the modem.

half duplex - This is a mode which allows only one modem at a time to transmit information. When one modem is finished, the other can then start to transmit. [Same as simplex]. [See also duplex].

hand-shaking - The process of establishing an electronic link between two modems. Handshaking lets both modems know information such as the speed they will be using, and whether or not the modems have the same type of error correction capability. [See also feature negotiation].

handle - See alias.

hang - When a bulletin board all of a sudden starts to do nothing. That is, it will not accept calls or even let the SysOp type anything until the computer is reset. This can be caused by a problem with the BBS software, or the computer itself.

hang up - When someone closes a switch which stops a telephone connection. This either happens when someone puts a telephone receiver into its cradle or when the person instructs the modem to hang up.

hardware error control - This is when error control is performed by the modem, not the communications program. [See also error control].

Hayes compatible - Any modem which operates in the same way as the modems developed by Hayes. Most modems up to 2400bps are Hayes compatible.

Hayes AT command set - This is the set of commands used to operate Hayes modems and Hayes compatible modems. Almost all of the commands start with AT.

help file - Many BBS systems will include information on how to run the system in case you are having troubles. Often just pressing "H" or a question mark at the main menu will show you the information, but with some systems you have to find the help file somewhere, occasionally amidst the files to be downloaded.

hertz - A unit of frequency, which equals cycles per second.

high speed - A modem that operates at a high speed. In most cases it is assumed to be at least 9600bps.

host - The computer that is being used to store information from other computers. Every BBS is a host, and so are pay services.

host program - A computer program that allows your computer to accept incoming calls, and let the callers upload or download files. It is limited compared to a BBS. If you want to do anything more, such as record information or print it out, you usually have to do the programming yourself. [Similar to unattended mode].

hot-keys - A term which means that you only have to press one key at a menu, rather than several. You don't have to hit the return key. Usually you can do this while a menu is being sent to your computer (so you don't have to wait for the whole menu to be sent).

HST - High Speed Technology. A high speed protocol developed by US Robotics. It allows for 14400bps one way, and 450bps the other way. The two computers can switch when one has more information to send than the other. It is not compatible with the CCITT protocol.

hyphen - The character -.

Hz. - See hertz.

---I---

IBM graphics - On IBM computers, there is a group of "graphic" characters (such as lines, used to make boxes) that can be shown on the screen. Some BBS's will send these graphic characters if requested. Most non-IBM computers will not recognize these characters. These characters' bytes have their 8th bit set to 1.

ID number - See user number.

idle time - When a computer is not being used. This refers to either a computer running a BBS that is not busy, or a caller that is not sending anything or receiving anything. Some BBS's will hang up a user if there is a certain amount of idle time (such as a minute).

inactivity timer - When this is on, a modem will automatically disconnect from a remote computer after a given amount of time passes without any information sent or received.

incoming - Information that is being sent to your computer.

information - Any data that is sent between computers. Data usually refers to numbers and small pieces of information. Information is usually used for larger things, such as text files. [See also data].

initialize - To set up either hardware or software to work correctly with your system. Many modems have to be initialized each time they are used so they `know' how to act with the communications program. When your software initializes your modem, it may tell the modem to expect 2400 baud and no parity, as well as the fact that you do not want any information to echo on your screen. [See also initialization string].

initialization string - This is the command that your communications program sends to the modem when the program is started. In most cases, it is an AT command just like you would type in. [See also initialization].

interdigit interval - When pulse dialing is used, you need a certain amount of time free of "clicks" so that the phone company knows when each digit is finished. When you are dialing on a rotary phone, you don't need to worry about this because the time it takes to turn the dial is sufficient. A modem that sends pulse codes must wait a specified amount of time before going from one digit to the next in a phone number. A value between 1/2 second a 1 second is usually used.

internal modem - A modem that is `hidden' inside your computer. Outside of your computer you will only see the phone cord. An internal modem can either be on a peripheral card that is placed inside your computer, or it can be built into your computer. [See also external modem].

internal protocol - A file transfer protocol that comes as part of a comm program, and is not separate from it. [See also external protocol].

interrupt - An interrupt, as far as modems and computers are concerned, is an electronic signal that tells the computer that something important is happening. Most modems can be set up by software to send an interrupt every time a character is received by the modem. When operating at fast speeds, this makes sure that the computer doesn't miss characters as it is printing them on the screen or saving them to a disk.

in sequence signaling - Break signals that are sent in the proper order among data, as opposed to expedited signaling (which will send the signal before other data). No data is harmed, it all remains intact. [See also break signal].

---J---

jack - The small plastic box that your phone cord connects to on your wall.

jump - A command used on some BBS's to go from one board or section on a BBS to another.

jumper - This is a piece of plastic and metal that can be moved on an internal modem to change a setting, such as the COM port to be used. [See also selectable COM port].

---K---

K - When K is placed after a number, it means 1024 times that number. If you computer has 640K that means that it has a little more than 640,000 bytes of memory. Often communications software will tell you that you have a certain amount of free memory to use as a buffer.

Kermit protocol - An almost error-free file transfer protocol usually used for text transfers. It was developed at Columbia University. [See also protocol].

keyboard macro - A macro that will allow you to hit one or several keys and have the program act as though you had typed a lot directly from the keyboard. [See also macro].

kill - When referring to a message on a bulletin board, it means deleting that message from the board. Usually you can only delete the messages that you write (unless you are a SysOp).

---L---

LAN - Local Area Network. This is a group of computers that are all connected. Usually, there is one computer that controls all peripherals (such as printers and a hard disk drive). The other computers are linked to the controlling computer, which lets the other computers take turns using the peripherals. [Same as computer network].

LAPB - Link Access Procedure Balanced. This is a form of error control found in X.32 packet switched networks.

LAPM - Link Access Procedure for Modems. A type of error control used by some modems. It is included in the V.42 protocol

(V.42bis also includes it, since V.42bis includes all V.42 error control methods). It is NOT a compression method, even though some modem manufacturers have incorrectly advertised it as such. [See also V.42, error control].

leased line - A telephone line that directly connects two computers. It is usually rented from the telephone company. A leased line doesn't have many of the electronic restrictions that a dialup line has, so data can be sent faster. However, data therefore can only be sent between those two computers. [Compare to dialup line]. [Same as private line].

LED indicators - The lights on external modems that indicate conditions such as speed, RD, DCD, etc.

leech - A person who downloads a lot from a BBS, and does not contribute much to the BBS by uploading programs or using the message bases.

left-brace - The character {. It's not used often.

left-bracket - The character [.

letter - [1] The characters A-Z (uppercase or lowercase) [2] Another term for a message posted on a BBS.

LF - Line Feed. This is a control character (ASCII 10) that is used on some computers and printers to move down one line (on the screen or paper). It is usually used right after a carriage return. [See also return].

LHARC - A program that will extract archives with the extension "LZH". [See also archive, LZH].

line - [1] A row of characters on your screen, for example, many computers have screens with 25 lines. [See also columns]. [2] The connection between your computer and a BBS. Most commonly used in the term "line noise." [3] A phone line connected to a BBS. For example, a BBS might advertise that it has "4 lines," meaning that 4 people can call the BBS and use it at the same time. [Same as node].

line delay - See delay time.

linefeed - See LF.

line noise - This is interference on the telephone lines. It will cause a character or many characters of garbage to appear on your screen. In general, the higher the bps rate of your modem, the more line noise will appear. However, error control protocols strive to eliminate line noise (and get rid of most of it). [See also error control].

link access procedure - See LAPM, LAPB.

local - On a computer that is running a BBS, there are 1 or more phone lines connected to it. However, the SysOp can usually use

the BBS, too, from the keyboard. This is considered a local connection.

local analog loopback - Tests the connection between a modem and the computer. [See also local digital loopback].

local area network - See LAN.

local call - A phone call to a phone number in your local area, which will not incur long distance charges. [See also long distance call].

local digital loopback - Tests the connections between a computer, the modem, the phone line, and the remote computer. [See also local analog loopback].

local echo - This is when a communications program will send information (either that you type or from a file) to your screen, as well as to the other modem. Usually local echo is not used, and the BBS you are connected to will send the information back to you, and only then will the communications program print what you typed on your screen.

local number - The phone number used after a country code, area code and/or a city code. In the United States, it is 7 digits long.

log - A log is a file that keeps track of some kind of use. In a communications program, it might keep track of what BBS's you call. A BBS can keep a user log, which is a file that indicates which users called up and when. [See also user log].

logic bomb - This is part of a software program that will do something malicious. For example, the author of a BBS program might have the program set up so that if he enters his initials in a certain point while the program is running, it will destroy all of the files on the BBS. These are no longer as common as they used to be.

logoff - To leave a BBS. When you choose to logoff, the BBS will usually ask if that's what you really want to do, then it will hangup. It may also ask if you want to leave a note to the SysOp. [Same as exit, quit, goodbye].

logon - The process of connecting to a BBS. The is what occurs after you have called the computer and the phone starts to ring, but before you actually start using the BBS. "Logon" can also include the process of entering your name and password (which is also called sign-on). [See also signon].

long distance call - A telephone call that is outside your local calling area, and that you must pay for. [See also local call].

lowercase - The letters that are normally used, such as in this sentence. The other kind of letters are UPPERCASE. [See also uppercase].

lurk - This is a term used on some CB simulators, which means that the person is leaving his computer for a while (and therefore will not be able to respond to messages).

LZH - This file extension refers to an archive that was compressed with the program LHARC. You need to get the program LHARC from a BBS before you can un-archive the file. [See also archive, unarchive, LHARC].

---M---

macro - A series of instructions or text that can be entered by hitting a couple of keys. For example, a communication program might let you enter your user name and password just by hitting CTRL-N. [See also trigger character].

mainframe - A large computer that many people can use at the same time. Usually, a mainframe computer is owned by a large company, and it has a lot of memory and storage for its users. Some mainframes have phone lines connected to them so that employees (or other authorized people) can use the mainframe from home.

make/break pulse ratio - During pulse dialing, the make/break pulse ratio is the ratio of the time that the phone is off the hook to the time the phone is on the hook. In America and Canada, it should be 39/61.

manual-syncing driver - This is what a BBS uses if the BBS program can not determine directly what the user's bps rate is, and the user must hit the return key several times before the BBS can figure out the user's speed.

mark - When you are looking at the titles of messages to read, some BBS programs will allow you to choose certain ones you want to read. This is called marking.

mark bit - A bit that is set to 1. [See also space bit].

mark parity - This is when the parity bit is always set to a binary 1. [See also parity bit, format].

maximum string length - In V.42bis data compression, this refers to the maximum length of data (in characters) represented by one word. It can range from 6 to 250 characters, although it is usually 32.

menu - A list of options that you can choose from. A BBS might have a menu that lets you choose from reading messages, downloading, or logging off. In reality, there would be many more options.

message - Any text that is left in a message base on a BBS. These can range from questions for other users to answer, to

information on new computer programs, to just about any topic you could imagine.

message base - A group of messages on a BBS pertaining to a certain topic. For example, a BBS might have message bases for general messages, computer-related messages, and social information. Some BBS's have dozens or even hundreds of message bases. [Same as subboard, board].

minicomputer - A scaled-down version of a mainframe. A minicomputer usually has many terminals connected to it, and can run many programs at the same time. It is more powerful than a microcomputer.

MNP - Microcom Networking Protocol. A type of error control and data compression, created by Microcom, that many newer modems use. It is built into the modem, unlike software error correction in file transfer protocols. There are different MNP levels. Levels 1-4 are error control protocols, and level 5 is a data compression protocol that can compress data to about 50% of its original size. A modem with MNP-5 also has MNP-4. MNP 1-4 is also included in the CCITT V.42 error correction system.

MNP direct mode - This is a mode used on modems with the MNP protocols, where the speeds from the modem to the remote modem and to the computer are the same. Also, there is no buffering, and no flow control. [Same as direct mode]. [See also MNP normal mode].

MNP normal mode - This is the more common mode used with modems that have MNP capability, where the speed from the computer to the modem can be higher than the connection between the modem and the remote modem. This mode uses buffering to prevent lost data. [Same as normal mode]. [See also MNP direct mode].

mode - The state that a computer or a program is in. For example, a computer can be in a text mode, and a communications program can be in a chat mode (which operates differently than the normal mode).

modem - MODulator/DEModulator. This is a computer peripheral which allows a computer to communicate over telephone lines. This is the heart of computer telecommunications. The main factor that differentiates modems is their speed, measured in bps.

modem ready - See DSR.

modify - See edit.

modular cord - A standard telephone cord, with a modular plug at either end. [Same as modular line. [See also modular jack, modular plug].

modular jack - The square hole in which you put telephone cord (that has a modular plug). [See also modular cord, modular plug, 42A block].

modular line - See modular cord.

modular plug - The square piece of plastic at the end of a telephone cord. It plugs into a modular jack. [See also modular cord, modular jack].

modulate - When a modem changes information from computer bits into tones that can be transmitted over the phone lines. Different methods of modulation are PSK, FSK, and FDM. [See also demodulate, PSK, FSK, FDM].

modulation scheme - The method that a modem uses to modulate data. [See also PSK, FSK, FDM].

MTA - Message Transfer Agent. This is what moves data across a network under the X.400 electronic mail system. [See also X.400].

multiple-speed - This refers to a modem that can operate at several speeds. Most modems are capable of doing this. While a modem may be listed as having a speed of 2400bps, it most likely also can operate at 1200bps and 300bps.

multiple-state modulation - A modulation scheme that sends more than one bit per baud.

multi-line BBS - A BBS that has more than one line or node. [See also line].

---N---

NAK - This control character (CTRL-U) is sometimes used by communications or BBS programs (usually in file transfers) to indicate that the information it received was bad. NAK stands for Negative AcKnowledgement. [See also ACK].

negotiation scheme - See feature negotiation.

network - A group of BBS's that are "linked" together. This means that the BBS's share messages and sometimes files. Usually the BBS's will call each other late at night to get the messages and files. [See also echomail].

new user - When you use a BBS, usually you will have the status of new user for the first few calls, until the SysOp verifies your account (at which time you will normally be considered a registered user). A new user usually has less privileges, such as not being able to download programs.

news - Some BBS programs will have announcements that are shown when you log on to the BBS. These are often referred to as news, since they often inform you of changes to the BBS. [Same as

system news]. [See also sign-on message].

next - A command in BBS programs that will let you view the next message in the message base.

node - See line.

noise - See line noise.

noise level - See noise power.

noise power - The "loudness" or strength of noise on a phone line. It is measured in -dBm's. [See also signal power].

non-destructive backspace - This is when a communications program will not delete any characters on the screen when the backspace key is pressed. [See also destructive backspace].

non-volatile memory - This is memory that many modems have which is not destroyed when the power is turned off. Using this memory, you can store a certain configuration in the memory, and have the modem automatically use the configuration when you turn it on.

normal mode - See MNP normal mode.

null character - The ASCII character 0, or CTRL-@. This character usually will not be printed on the screen. It was originally used when communications programs were slower and could not receive information as fast as it was sent, so BBS programs would send these characters after every line to slow down the speed at which information had to be received.

null modem - A special connection between two computers that will make the computers think that they are hooked up to a modem, so that the two computers can communicate with each other.

numeric result codes - These are result codes that are printed as numbers, rather than words. [See also result codes, verbal result codes].

---O---

odd parity - This indicates that the parity bit is always set so that the sum of the bits set to 1 in a byte, plus the parity bit, is an odd number. [See also parity, format].

off hook - The state that your telephone is in when you pick it up. In non-computer life, it usually means when the telephone connection is accidentally disconnected, such as "Someone must have left the phone off the hook." A modem that takes the phone "off hook" is taking control of the phone line, and it will usually then dial a phone number for you. When a telephone line

is "off hook," you are not able to receive calls from other people, unless you have call waiting. [See also on hook].

off hook button - This is the button on a real telephone that is depressed when you put down the receiver. It signals the phone company when your phone is off hook, and ready to place calls.

off line - When your computer is not connected to another BBS. [See also on line].

on hook - When your telephone is not being used, and it is ready to ring if someone calls. [See also off hook].

on-line - When your computer is connected to a BBS. For example, some communications programs will keep track of how long you have been on line. This lets you know how long you have been connected to the BBS.

on-line conference - This is when a group of people "get together" and have a conference using their computers. Some of the major on-line services do this. [Same as real-time conference].

on-line games - Any game that is played on a BBS. Sometimes they are played in real time against other players who are using the BBS at the same time, and sometimes they are played by making a move and waiting for their opponent(s) to make their move when they next call. [See also Role Playing Game].

on-line information service - Any on-line service that provides information. Most commercial systems fall into this category. [See also on-line service].

on-line mode - See data mode.

on-line service - While this can refer to any computer that is hooked up to the phone line, it usually means a pay service such as Compuserve or GEnie. [Same as on-line system]. [See also on-line information service].

on-line system - See on-line service.

originate - To call another computer and connect to it. The originating computer is the one that placed the telephone call (as opposed to the BBS, which is the answering computer).

originate-only modems - Some older modems only operate using an originate frequency, which means that if you try calling one, you must change your modem to send an answer tone. This can be done on many modems by typing ATDT, the phone number you want to call, and then the letter R (before hitting return).

originating computer - The computer which dials another computer. This is most likely referring to your computer (unless you have a BBS, or other people are calling your phone number, and you have your computer's modem answer the phone). [See also answering computer].

originate frequency - This is the frequency of the carrier that is used by the modem that places a call to another modem. [See also answer frequency].

originate mode - This is when a modem is ready to place a call, rather than accept an incoming call. [See also answer mode].

---P---

packet - [1] A group of bits sent by a modem that comprise a byte of information. [2] A group of bytes sent by a file transfer protocol.

packet switching network - A telecommunications service that transmits data from one computer to another using packets of data. They usually have telephone numbers in most areas of the country so that users can connect to on-line services without toll charges.

pad - This happens when a file that is being transferred ends in the middle of a block of data. The communications program must add blank data to fill up the block. This is called padding. [See also protocol].

PAD - Packet Assembler/Disassembler. This is a device that disassembles incoming packets, and assembles outgoing packets.

page - [1] (noun) A page is one screen's worth of information. Many BBS's will automatically wait for you to press a key after it has sent you a page of information. [2] (verb) to alert the SysOp that you would like to speak with him. Many BBS's will allow you to do this, and it will make beeping sounds so that the SysOp will know you want to talk to him. [Same as yell]. [See also chat].

PAK - [1] The extension for files archived with the program of the same name. You need the program PAK to un-arc an archive with this extension. [2] The program itself. [See also archive, unarchive].

parallel - This is when a computer sends data one byte (or any number of bits other than one) at a time. This is faster than the alternative, serial. [See also serial].

parallel interface - Any interface that transmits or receives more than one bit at a time. In most cases, 8 bits are transferred at a time. The RS-232C standard involves a parallel interface. [See also serial interface].

parity bit - Most modems have the capability to send an extra bit for every byte sent, which is used to help sense errors. This is called the parity bit. It can be set to no parity, mark parity, space parity, odd parity or even parity. Most BBS's do not use a

parity bit. [See also format, mark, space, odd, even].

password - A special code that only you should know. This code will allow you to gain access to your account on a computer. Different BBS's have different rules as to how long your password can be and what characters can be used. You should not use a password that is easy to guess (such as your name, or "password"), because a hacker might try to gain access to your account by guessing your password.

pause - On most modems, you can send the modem a command that will pause at some point while dialing a number. This can be useful on PBX systems, if you have to wait for a dial tone.

PBX - Private Branch Exchange. This is the telephone system that many offices have, allowing extensions for each telephone, and a connection to the main telephone system.

PC-Pursuit - A packet switching network that allows people to save money on long distance calling, if they use modems.

phase shift keying - See PSK.

phone number - A number identifying a specific phone line. In the United States, a phone number consists of a 3 digit area code and a 7 digit number. If you call BBS's in other countries, there may be a specific country code and city code that is part of the phone number. You can find many of these codes in a phone book. A BBS will usually ask you to tell it your phone number before you can be a registered user.

phreaker - A person who spends a lot of time trying to find out as much as possible about the telephone company, and how it works. They often try to find out ways to make long distance calls for free. Some steal calls from telephone credit card users, some steal calls from the phone company directly, and others don't make "free" long distance calls. They are sometimes confused with hackers. [See also hacker].

pick up - To pick up a carrier is when the 2 modems recognize each other's signals over a phone line. After this point the two computers can communicate.

ping-pong - A 9600bps and 4800bps protocol developed by Hayes. It features fast turnaround.

pins - The ports on the back of your computer and an external modem will have pins. Each pin has a certain function, such as letting the computer know that the modem is online. The pins from a computer's port and the modem are connected by a cable.

PKARC - The program which will make an archive with the extension "ARC". [See also archive, unarchive, ARC].

PKUNZIP - The program which will un-arc a file that has the extension ZIP. [See also unarchive, archive, ZIP].

PKXARC - The program which will un-arc an archive created with PKARC. [See also unarchive, archive, ARC].

PKZIP - The program which will create an archive with the extension "ZIP". It is one of the most popular archive programs. [See also archive, unarchive, ZIP].

pocket modem - An external modem that is small enough to be easily portable. It usually either uses a battery for power, or it can get its power from the phone line.

poll - [verb] The process when a computer checks to see whether a peripheral or another computer has data to send. [noun] See vote.

post - To save a message that you have written on a BBS so that other people can see it. [Same as leave message].

private - When referring to a message, it means that only a specific person or several people that you specify can view the message. [See also public].

private branch exchange - See PBX.

private line - See leased line.

privileged - Some BBS's have a privileged user level, where the user can do more than a regular user. For example, they may be able to download more programs than regular users. [See also user level].

profanity filter - Some BBS's have a special function that will take out specified words (usually swears) from messages that people leave. That way, the BBS will automatically keep itself "clean," even if users try to leave swears in their messages.

prompt - A character or group of characters that are meant to remind the user of a BBS that he needs to enter some information. It might say "What now?" or it might list the name of the message base the user is currently in, or a list of possible commands.

protocol - [1] When referring to file transfers, a protocol is a method of sending and receiving a program. There are many methods available, each with different advantages and disadvantages. [See also upload, download, Xmodem, Ymodem, Zmodem, Kermit]. [2] Protocol is also used to describe the way that hardware error control is managed. [See also error control].

PSK - Phase Shift Keying. In this method of modulation/demodulation, there are two frequencies used (usually 1200 hertz and 2400 hertz). There are 4 different phase angles (0, 90, 180, and 270 degrees), representing dibits 00, 01, 10, and 11. This is usually used for 1200bps transmission. Note that the baud rate using PSK is really 1/2 of the bps rate, since 2 bits are sent at a time instead of one. [See also modulation].

PSTN - Public Switched Telephone Network. This is the regular

phone lines that just about everybody uses.

public - When referring to a message, it means that the message is available for everyone to see. [See also private].

public domain - A program that is in the public domain usually has no copyright, and can be copied legally by anybody. BBS's often have public domain software available for people to download. [See also shareware, freeware, commercial software, bannerware].

public messaging - A fancy term that means to read and/or leave messages in a message base.

public switched telephone network - See PSTN.

pulse dialing - A method that some phones use to dial numbers. It involves a series of "clicks." Most modems support this type of dialing, which is the only type available in some remote areas. The other method of dialing is tone dialing. [See also tone dialing].

---Q---

quickscan - An option used by some bulletin board programs which will let you check several message bases to see if there are any new messages. [See also global scan].

quit - See logoff.

---R---

rack mounted modems - Some multi-line BBS's use rack mounted modems, so that the modems can be easily and safely stored.

raw speed - The speed at which a modem can actually transmit data, before compression or other factors. [See also effective transfer rate].

RD - Receive Data. This is the wire in an RS-232C cable that receives data.

real-time conference - See on-line conference.

receive - To transfer information from another computer to your computer. To receive a file is the same as downloading the file. [See also send].

receive data LED - On external modems, this LED will light up

when the modem is receiving data. [See also LED indicators].

receive level - The "loudness" of the sound that is received by a modem. It is measured in -dBm's. A modem will have a certain range which it can understand, for example, -33dBm to -9dBm. [See also equalization].

receive sensitivity - See carrier detect threshold.

register - A location in memory that stores a value which refers to something specific. This value can be changed. For example, most modems have a register that holds a number which tells the modem how many rings it should wait for before picking up the phone.

registered user - This is the most common user level on most BBS's. It usually allows reasonable usage of the BBS (perhaps it will give you a time limit of 45 minutes per day, and let you download up to 200K of programs per day). [Same as regular user]. [See also user level].

regular user - See registered user.

reliable link - A connection that is "error-free," meaning that an error control protocol is being used. [See also auto-reliable link].

remote - A computer in a different location. For a BBS, the user is at a remote location (since they are connected by the phone line, and not right there). For a user, the BBS is at a remote location.

request to send - See RTS.

reread - After a message is sent to your computer from a BBS, the reread command will send the message again. This can be useful if the message is long, and you miss part of it.

reset - A modem can be reset. This will change any options (such as parity and speed) to the values that they have when the modem is first used. This can be useful if you change some values for the modem and aren't sure what they do, and then you find that the modem won't work. Resetting the modem will fix everything for you.

response format - The way that a modem sends certain information to the computer. It can either be verbal (such as "BUSY" or "NO CARRIER"), or it can be numeric ("7" or "3").

response time - How long it takes for the computer or modem to respond to a certain condition. For example, a carrier detect response time of 10ms means that it takes the modem 10 milliseconds to figure out that there is a carrier.

result codes - These are either numbers or words that the modem sends to the communications program (which will usually print them on the screen for you to see) that indicate how the modem

responded to an action you requested. For example, if you tell the modem to dial a number, it may respond with "CONNECT 1200", which is a result code that means that the computer dialed the number and connected to a computer on the other end. [See also numeric result codes, verbal result codes].

retrain - Some modems have the capability of monitoring the phone line to "see" how good the connection is. If the line quality is poor, these modems can "retrain"--they change their equalization so as to better accommodate the lines. [See also equalization].

retransmit - To transmit information that was previously sent. Whenever an error is encountered, retransmitting the data will fix the problem.

return - ASCII character 13. This is the key marked "RETURN" or "ENTER". It will advance the cursor to the next line. On some printers, it will just move the print head to the left hand side, and the printer then needs a linefeed to move to the next line. [Same as carriage return, <CR>].

reverse - When you are in a message base, you may find this command which will allow you to read messages is backwards order (from newest to oldest messages).

reverse mode - When a modem switches the signals it should send. For example, in reverse mode, a modem that dials another computer will act as though it just received the call. Some modems only let you dial out (they do not accept calls). In order to call one of these modems, you would have to set your modem to reverse mode, and then call the computer.

RI signal - See ring indicator signal.

right brace - The character }.

right bracket - The character].

ring - When someone calls you on the telephone, the sound that your phone makes is called a "ring." Also, when you call someone (or a computer), it will ring before they pick it up. This indicates that the number is not busy, but nobody has picked up the phone yet.

ringback - The sound that you hear over the phone that indicates that the phone is ringing on the other end, and not busy. It sounds a lot like a phone actually ringing.

ringing indicator LED - This is an LED on some external modems that lights up when the phone is ringing. [See also LED indicators].

ring indicator signal - This is the line on an RS-232C cable that indicates that the phone is ringing.

RJ-11 - This is a normal phone jack. Modems usually have 2 jacks like this, one to connect to the phone line, and the other to

connect to a telephone (that you can use when the modem isn't being used).

RPG - See Role Playing Game

Role Playing Game - Some computers don't act as places to leave messages or programs, but instead let you play a game. On these computers, you have a character and call up the computer to move around in a world with other characters (other people who call up), and you interact with them (for example, you may try to kill the character). [Same as RPG]. [See also on-line games].

rotary - A phone that dials with the pulse method. [See also pulse dialing, tone dialing].

RS-232 - The name of a specific type of port on the back of some computers, or peripherals such as modems. It has 9 or 25 pins. [See also RS-232C].

RS-232C - The name of a standard (created by the Electronics Industry Association) for communication between a computer and a serial device. The interface consists of 25 wires, although a variation contains 9 wires. Computers and peripherals which both have an RS-232 port can be connected easily with an RS-232C cable.

running - Working. If a BBS is running, then it is working correctly and people can call it. [See also down].

RTS - Request To Send. This is when the computer tells the modem that it wants to send information to the other computer. It is only used in half duplex mode. [See also flow control, CTS].

---S---

S register - A type of register that modems use. [See also register].

scan - To look through messages or file descriptions to either find new messages or files or look for certain key words within the messages or descriptions.

screen width - The number of characters that a computer can display on one line. On most modern computers, it is 80 columns. [Same as video width]. [See also columns].

script language - Many communications programs allow the user to write a program, or script, which allows them to use the communications program without actually typing anything. It is often used to call BBS's late at night to download programs or look for new messages. This way, the user does not have to be there when the communications takes place.

scripting language - See script language.

sector - A unit to measure storage space. It usually refers to 256 bytes. It is rarely used any more.

security level - Some BBS programs have different user levels, usually numbered, which allow different levels of access. For example, 0 might refer to an unregistered user, 10 a registered user, and 99 for the SysOp. Each has different levels of access on the BBS. [Similar to user level].

selectable COM ports - On internal modems for IBM compatible computers, this allows you to change something on the modem (usually a jumper or DIP switch) to allow you to change which COM port the modem will be connected to. [See also COM port, jumper, DIP switch].

selftest - The ability of a modem to test itself to make sure it is functioning properly.

send - To transfer information from one computer to another. To send a file is called uploading the file. [See also receive].

SendFax(TM) - A modem that can send faxes, but not receive them.

serial - The method used when a computer sends and receives data one bit at a time. Contrast this to parallel. [See also parallel].

serial interface - An interface that transmits only 1 bit at a time. [See also parallel interface].

serial port - A port on a computer that is used to transmit and receive data in a serial fashion (one bit at a time). [See also RS-232C].

service class - The level of MNP protocol that is being used, such as MNP Class 4 or MNP Class 5. [See also MNP].

settings - See format.

set-up - (noun) - Information that a BBS has about your computer. (verb) - To give the information about your computer to a BBS. This information usually includes screen width, whether or not you want hot-keys, and other miscellaneous information.

shareware - Programs that can be distributed freely, but you must pay for these programs if you use them. They usually allow you to try them for a specified period of time and then you must either pay for the program or get rid of it. Many BBS's have shareware programs that you can download without paying the BBS, but you must remember that if you use a shareware program you are supposed to pay for it. [See also public domain].

shell virus - A virus which places itself either before or after a program on a disk or in memory. It can be easy to detect such a virus, since the length of the program will be longer after the

virus hits than it was before. [See also virus].

SIG - Special Interest Group. This is similar to a message base, but it may also contain files. It is generally used on large services, such as CompuServe. [See also SIGop].

SIGop - SIG OPerator. The coordinator of a SIG. This person is responsible for checking messages to make sure that they pertain to the topic of the SIG. [See also SIG].

signal power - The loudness or strength of what a modem sends over the phone line. It is measured in -dBm's. [See also noise power].

sign-off message - A message that is displayed when you log off a BBS. Often the message will include the numbers of other BBS's, and in some cases the BBS will allow you to leave a message for the next user to call the BBS.

sign-on - The procedure of letting a BBS know who you are. This involves giving the computer information such as you user number, name, password, and sometimes even phone number. [See also logon].

sign-on message - A message that is displayed by a BBS after you sign on. Often news about the BBS will go here. On some BBS's you can leave a sign-on message for the next caller. [See also news].

simplex - See half duplex.

smart modem - Originally the brand name of a modem, it refers to a modem which has capabilities which make it 'smart'. Most modems now sold are considered smart. Basically, it means that the modem has many features. [See also dumb modem].

smart terminal - A terminal that is capable of certain editing features. [See also terminal, dumb terminal, terminal emulation].

space bit - A bit set to zero.

space parity - This is when the parity bit is always set as a binary 0. [See also parity bit, format].

special interest group - See SIG.

speed - This refers to the bps rate of a modem. The most common modem speeds are 300bps, 1200bps, 2400bps, and 9600bps. [See also effective transfer rate].

stand-alone modem - See external modem.

stand-alone program - A program, usually that allows you to do file transfers, that is separate from your comm program, but can be called by it.

start bit - This framing bit indicates that the data byte will be following. It is always a binary 0. [See also format, framing bits].

statistics - Any information that a BBS keeps on its users. Some BBS's keep track of how many messages a user posts, how many programs the user uploads or downloads, and even how many times the user calls.

stats - See statistics.

status line - In communications programs, sometimes the bottom line of the screen will contain a status line, which has information such as the speed of the modem, the parity, how long you have been connected to a BBS and other such information.

status lights - See LED indicators.

stop bit - When a modem sends a byte of data, it usually sends one or two framing bits after the data byte, before the next byte is sent. These bit(s) are called stop bits. They are always a binary 1. [See also format, framing bits].

streaming - When a file transfer protocol sends data continuously, without waiting to make sure there are no errors. A streaming protocol should check for errors, but if an error occurs the file transfer should be stopped. A streaming protocol should only be used with modems that have hardware error control. [See also Ymodem-g, protocol]. [Same as full flow].

streaming Ymodem - See Ymodem-g.

STU-III - Secure Telephone Unit, generation III. This is a system used by the government that makes voice and data calls much more secure.

subboard - See message base.

subject - Most BBS's require that you leave a short description about any messages that you post on the BBS. This description is referred to as the subject of the message. [Same as title].

subop - A term used for the operator of a subboard. Some BBS's allow a person besides the SysOp to control a specific message base. This person would be able to kill any messages that he/she felt were inappropriate.

synchronous communication - With synchronous communication, data bytes are not marked with a beginning and end, but instead are sent at a specific interval. When computers send data to modems, it is synchronous communication. When modems send the information they get from the computer, the modem usually will add start and stop bits to identify the bytes. That is asynchronous communication. [See also asynchronous communication].

SysOp - Short for SYStems OPerator. This is the person who is in charge of a BBS. He has the power to change anyone's user level,

delete users, delete or edit messages. Usually this is the same person who paid for the BBS equipment and pays for the phone line. [See also Co-SysOp].

SysOp window - Some BBS programs have an area of the computer screen (on the computer that the BBS runs on, not the user's screen) that gives information about the user who is on-line, such as his password, where he is from and his phone number. This is called the SysOp window, and is for the convenience of the SysOp. [Similar to top of screen display].

system - [1] Your computer. When a BBS asks for your system configuration, it is referring to information about your computer, such as screen width. [2] A BBS.

system files - Any computer files that are used by an operating system, or in the case of BBS's, files that are used by the BBS program that do not get changed.

system news - See news.

---T---

tab - The key on your keyboard that will move the cursor forward about 5 spaces. It is not an ASCII character (it is similar to a function key, since it does not output a single character).

talk mode - See voice mode.

TCM - Trellis Coded Modulation. This is a form of error control used on some modems.

TD - Transmit Data. This is the wire in an RS-232C cable that is used to transmit information.

Telco - Abbreviation for Telephone Company.

telecomm - Short for telecommunications. See telecommunications.

telecommunication(s) - This word has no precise definition, but is frequently used. Its definition ranges from "any form of communication over a distance" to "any communication by electric means" to "two computers 'talking' to each other via modems." Methods of communications that probably are considered telecommunications: BBS's, telephones, TV's and fax machines. The word is used both in singular and plural.

telecommuting - The idea of company employees working from home, rather than their office. At home, they can communicate with the office (and other entities) by modem or voice calls.

Telenet - The packet-switched network that is used for PC-Pursuit, which is operated by U.S. Sprint.

term program - See terminal program.

terminal - A CRT and keyboard that are connected to either a computer or a modem. [See also smart terminal, dumb terminal].

terminal emulation - When a communications program can simulate the operations of a smart terminal.

terminal mode - Some modems have a built in terminal program. On these modems, if that program is running, the modem is said to be in its terminal mode. It also refers to the state where a modem is ready to accept commands, although command mode is the preferred term.

terminal program - A program that allows a person to use a modem. It is generally very limited. A communications program is a more advanced version of a terminal program. Usually a terminal program will simulate a specific brand of terminal. It generally does not support file transfers. [Also called term program].

terminate - To disconnect with another computer. This is sometimes listed as a command in menus on BBS's.

text file - Any information that can be read, and is stored in a computer file. A text file can be any kind of information, such as a description of a computer program.

thread - A group of related messages on a BBS, within the same message base. If a user posts a reply to a message, some BBS's will start a thread. If a message is part of a thread, the BBS will have a command so that you can see the original message, which started the thread.

throughput - See effective transfer rate.

tilde - The character ~.

time limit - Most BBS's have a time limit, where you can only be on the BBS for a certain amount of time. On some BBS's you can only be on for a certain amount of time each time you call, on others there is a limit of time that you can be on the BBS per day.

time out - BBS programs often will disconnect a user if he doesn't type anything for a certain amount of time. Time out occurs when the time limit is reached and the BBS program hangs up on the user. This is done so that users do not tie up the BBS. If a user is connected to the BBS but is not using it, other callers might not be able to use the BBS.

timing signal - A signal sometimes sent by modems over the phone line that lets the receiving modem know when a byte of information starts. It is required in synchronous communication.

title - See subject.

tone dialing - This is a method that a phone or modem can use to dial a phone number. It uses one audible tone per digit to be dialed. [See also pulse dialing].

top of screen display - Some BBS's have this display on the top of the screen of the computer running the BBS. This will show the SysOp certain information about the user who is on-line, such as his phone number, how many programs he has downloaded, etc. [Similar to SysOp window].

touchtone dialing speed - The length of time that your modem sends each touchtone digit over the phone lines. It is the equivalent to the length of time that you hold down the buttons on a phone when you make a call.

transfer - To send a computer program from one computer to another. [See also download, upload, protocol].

transfer protocol - See protocol.

transmission rate - See data transmission rate.

transmission speed - See data transmission rate.

transmit data LED - This is an LED on an external modem that will light when the modem is transmitting data over the phone line. [See also LED indicators].

transmit level - The "loudness" level of the sound leaving a modem to go over the phone lines. It is measured in -dBm's. It should be different at different frequencies, since certain frequencies have more loss over the phone line than others. [See also equalization].

trapdoor - This usually refers to a BBS program (or a mainframe that you call up) that has a special code that can be entered to give you high access. Usually, it is entered as a user name and password when logging on. These are undocumented by the program, and usually were created by the programmers so that they could gain access to any computer running their BBS program. Hackers try to find trapdoors, but they are usually not created by hackers. (Some other kinds of software have trapdoors, such as video games, which might have trapdoors to give you extra lives).

Trellis-coded modulation - See TCM.

trigger character - This is a character that, when pressed, starts a macro. [See also macro].

trojan horse - A trojan horse is a program within another program, usually on a mainframe or a computer running a BBS. The original program looks innocent, but when run it will trigger the trojan horse, which will usually try to gain access to the mainframe computer system or BBS.

TTY - A TeleTYpe machine. It is a keyboard and a printer combined in one unit. It is hooked up to another computer.

TTY mode - This is when a communications program emulates a TTY machine, which only involves printing characters and recognizing the linefeed, carriage return and backspace characters. [See also TTY].

two-wire leased line - See leased line.

Tymnet - A packet-switched network.

type-ahead buffer - Some BBS programs let you type characters to the BBS, even while it is sending information to you. When it is finished sending the information to you, it will then act on the information you sent. The type-ahead buffer refers to the process, and the space in the BBS computer's memory where the characters are held.

---U---

UA - User Agent. It is the program that people use to create and read messages under the X.400 system. [See also X.400].

UART - Universal Asynchronous Receiver/Transmitter. This is a device in a computer or modem that will change serial data (the way data comes in over the phone line) to parallel, and vice versa. [See also serial, parallel, 16550 UART, 8250 UART, 16450 UART].

un-arc - See unarchive.

unarchive - To take out the files from an archive. [Same as unarc]. [See also archive, extract, ARJ, ZIP, ARC, PAK, LZH].

unattended mode - This mode is available on some communications programs. It will let your computer wait for a telephone call from another computer, and will let the person using that computer access your computer (usually to download or upload programs). It is called unattended because you don't have to wait for the person to call, the program will automatically answer when someone calls. [See also attended mode]. [Similar to host program].

underline character - The character _.

underscore character - Any character (although almost always the underline character) that is used for underlining. When this method is used, the text to be underlined will be sent (usually to a printer), and then backspaces will be sent, and then the underscore character will be printed over the text, so it looks like it is underlined.

upload - To send a program from your computer to a BBS. [See also download, protocol].

uppercase - Letters that are used for emphasis, as opposed to regular lowercase letters. CAPITAL letters are the same as uppercase letters. The first word in a sentence is in uppercase. Some older computers were only capable of displaying uppercase characters.

user - A person who uses a BBS. For example, a BBS might claim that it has 500 users, which means that there are 500 different people who have called the BBS.

user level - The level of security which a user has. This usually is in the form of word(s), usually progressing from: New User, Registered User, Privileged User, SysOp Level. [See also security level].

user list - Most BBS programs will allow you to see a list of all its users. It will show the user's name, and often city and state. This is called the user list. Rarely will it show any phone numbers or more detailed information.

user log - A file on a computer running a BBS that lists which users called, what time they called, and sometimes information as to what they did while they were on the BBS.

user name - This is the name that a person uses on a computer system. Sometimes an alias is used, but it is more often the user's real name or a variation of it. [See also alias].

user number - A number that is used by some older BBS programs to keep track of users. On these BBS's, a user would have to remember a specific number as well as his password. Most BBS's now just use the person's user name instead, which is much easier for a user to remember. [Same as account number, ID number].

userfile - A file that a BBS program has that keeps track of all users of the BBS and their statistics.

---V---

V.17 - The CCITT standard for fax transmission at 14,400bps.

V.21 - The international standard, created by CCITT, that controls transmission at 300bps. [See also 103].

V.22 - The international standard for transmission at 1200bps, created by CCITT. [See also 212A].

V.22bis - The international standard, created by CCITT, that controls data transmission at 2400bps.

V.23 - The CCITT protocol for transmission of 1200bps one way, 75bps the other way.

V.24 - This, combined with V.28 is the CCITT standard equivalent to EIA's RS-232C standard. V.24/V.28 has 25 pins, just like the original RS-232C standard. [See also RS-232C].

V.28 - Part of V.24. [See also V.24].

V.29 - The CCITT standard for 9600bps half-duplex communications.

V.32 - The international standard controlling transmission at 9600bps. It was created by CCITT. It has provisions for fall-back, if the line is too noisy.

V.32bis - The international standard for 14,400 bps modems, created by CCITT.

V.42 - A standard error control system created by CCITT that is in use on many 9600bps modems and some 2400bps modems. It includes LAPM, as well as MNP 2-4. [See also error control, V.42 compatible, V.42 compliant].

V.42 compatible - This is a modem that follows all the V.42 specifications, except for LAPM error control (instead it uses MNP). [See also V.42].

V.42 compliant - This is a modem which follows all the V.42 specifications, and uses LAPM error control if possible. Otherwise, it will go to MNP error control. [See also V.42].

V.42bis - A CCITT standard for data compression. It can compress data with about a 3:1 compression ratio, although it can compress up to 4:1 given the right conditions. Any modem with V.42bis also has V.42 error control. [See also data compression].

verbal result codes - These are result codes which are printed as words, rather than numbers. [See also result codes, numeric result codes].

verify - This is when a SysOp makes sure that a new user is who he or she claims to be. The normal procedure is for the SysOp to call up a new user, just to make sure that the phone number he listed is real. This is a way to make sure that the users are less likely to abuse the system. However, most SysOps do not call new users, since it is time consuming. Some SysOps will look at the information the new user left just to make sure it "looks" right (if the new user says his phone number is 555-1212, the SysOp knows it is not real). After verifying the user, the SysOp will usually raise the user's user level.

verified user - Any user who has been verified by the SysOp. It is also used to refer to users who have access better than that of new users.

video width - See screen width.

videotex - The idea of getting information by computer, over the phone lines, and paying for it. It is the computer version of audiotex (900 numbers, voice mail, having computers call you).

virus - Any program which spreads itself secretly. It reproduces within a computer, and also will go to other computers if possible (through file transfers). At a certain point in time, the virus will do something (anything from saying "Boo" to something destructive, such as erasing all files on a hard disk drive). They are often hidden inside legitimate programs that seem to run normally, but contain the virus. It will usually spread to every program you run. Viruses became widespread because BBS's can inadvertently spread virus all across the country. Whenever you download a program, it might have a virus in it. However, there are several programs available which find many viruses and can destroy them.

voice detection - The ability of a modem to detect whether a computer answers the phone, or whether it is a human voice.

voice grade - A telephone line that is designed to transfer human voice. This is the way most phone lines are set up. However, the phone company also has data grade lines, which are supposed to make data communications better. [See also data grade].

voice mail - An addition to some modems. This allows the modem to also answer incoming voice calls, send recorded (voice) messages to the caller, and let them leave a message. [Same as answering machine].

voice mode - Some older modems require the user to manually dial phone numbers through a telephone. When this is done, the modem is in voice mode. When the remote computer picks up the phone, the user must switch his modem from voice mode to data mode. [Same as talk mode]. [See also data mode].

vote - Some BBS's have this feature, which allows the SysOp to find out user's preferences about things ranging from operation of the BBS to political positions. It is similar to a survey in the non-computer world. [Same as poll].

VT100 - A smart terminal, which is emulated by many communications programs. It uses ANSI codes. [See also ANSI].

VT52 - Another smart terminal, which is emulated by some communications programs.

---W---

window - A distinct area of a computer screen that contains information different than the rest of the screen. Sometimes it covers other information 'underneath' the window (in which case it is temporary), or it is permanent and does not contain other information. [See also SysOp window].

word wrap - A function of editors on BBS's (just like that found

in most word processors) which will move a word that won't fit at the very right hand of the screen down to the next line.

worm - A program which embeds itself within another program. Either it tries to find a space in which it won't be noticed, or it will just stick itself anywhere within the main program (which will ruin that program). A worm is almost always destructive. [See also virus].

---X---

X.25 - This is a packet-switching protocol developed by CCITT. It is used to carry large amounts of data at fast speeds over leased phone lines. [See also X.32].

X.25 dialup - See X.32.

X.32 - This is CCITT's 1984 update of X.25, also known as X.25 dialup. [See also X.25].

X.400 - This is the CCITT standard protocol for a global system for the exchange of electronic mail.

X.500 - The CCITT standard for a directory of the users of the X.400 system. [See also X.400].

xfer - Short for transfer. It usually refers to file transfers. [See also upload, download].

Xmodem - A file transfer protocol developed by Ward Christensen around 1977. It is fairly slow by today's standards, but was the first widespread file transfer protocol. It uses blocks of 128 bytes, and after each block is sent, it sends a 1 byte checksum to check for errors. If an error is encountered, the block will be re-sent. Almost every communications program offers this protocol. [Same as Christensen protocol]. [See also protocol].

Xmodem/CRC - The same as Xmodem, but it has a 16-bit CRC instead of the checksum, which makes it more reliable (it catches more errors). [See also protocol].

Xmodem-1K - This is similar to Xmodem/CRC, except it uses blocks of 1024 bytes, rather than 128. It is faster than Xmodem, since it needs to stop less often to check for errors. This is sometimes incorrectly called Ymodem. [See also protocol, Xmodem, Ymodem].

Xoff - The CTRL-S character. This is often used to pause information that is being sent. The information will be continued when an CTRL-Q is received. [See also flow control, Xon].

Xon - The CTRL-Q character. This will sometimes continue paused information. [See also flow control, Xoff].

Xon/Xoff - The flow control method using the Xon and Xoff characters. It is built into the software, not the hardware. [See also Xon, Xoff, flow control].

---Y---

yell - See page (verb).

Ymodem - A file transfer protocol which can transfer more than one file at a time. It transfers both a file and some information about the file (including its length, and the name of the file). It is similar to Xmodem/CRC, except that Ymodem can transfer more than one file at a time. It will use CRC-16 if possible, or else it will use a 1 byte checksum. It will use both 1024 byte blocks and 128 byte blocks. [See also protocol].

Ymodem-g - This is Ymodem changed to provide best results with error-correcting modems. Errors can be discovered by the protocol, since Ymodem-g uses CRC, but if there are any errors in the transmission, the transmission will be aborted. [See also Ymodem, protocol, streaming]. [Same as streaming Ymodem].

---Z---

ZIP - The file extension which refers to archives that were created by the program PKZIP. You need the program PKUNZIP to get the files out of the archive. [See also archive, unarchive, PKZIP, PKUNZIP].

Zmodem - A file transfer protocol which is known for its speed, as well as the ability to transfer information about the files which it sends. It has crash recovery and auto-download features, and can use a 32 bit CRC, which makes it almost error-free. [See also protocol].

TRADEMARKS

CompuServe is a trademark of CompuServe.
GEnie is a servicemark of GE Information Services.
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"What is this, why, and who is this guy?"

I feel that this dictionary fills a major void. In my years of using BBS's, I have never seen such a dictionary. The closest thing I've seen was a text file that had about 40 words listed. These words included "RAM" "ROM" "Microcomputer" "Telex" and a bunch of other words that aren't really that important to understand computer telecommunications. I've seen some books about "modeming" in bookstores, but they tend to be expensive ($15-$49), and I don't recall seeing any dictionaries of terms relating to modems. Also, many terms are easy to confuse and it can be very difficult to find definitions for these terms. I have seen terms used incorrectly in advertisements by modem manufacturers and in many magazine articles. I hope that this dictionary can be used as a good source of reference for confusing terms.

Why do I feel qualified to write a dictionary such as this? I bought my first modem more than seven years ago and have been using computers for twice as long. Not only have I used many different computers and modems, I have seen the days where 1200bps BBS's were rare and most people had 300bps modems. For about a year I ran my own BBS, which was quite successful at the time. While I only had about 150K of storage for messages and files, I was able to get over 500 users in that year. I have also gathered, read, and searched through hundreds of text files, program documentation and magazines, just to help define words and find new words for this dictionary. I have also spoken to representatives of major companies to help find out the truth behind the more confusing terms.

LEGAL STUFF

This dictionary is provided with no warranty of any kind. The author and/or distributor will not be liable for any consequences resulting from the use of this information. This is a field where misconceptions abound. Although to the best of our knowledge all information is accurate, we can not guarantee its accuracy.

NOTES

Note 1: It was difficult to decide what words to include and what words not to include. I tried to include every term relating to computer telecommunications that the average user needs to know, or might come across and be curious about. Some words

(such as PSK) are easily found in manuals for modems, but are hard to find definitions for. I tried to include as many of these as possible.

Note 2: Since there are so many words defined here, and many of them are complex and easily misunderstood, I wouldn't be surprised if there are a couple errors of some sort. I tried to be as careful as I could, but it is possible that there may be some mistakes. If you notice any mistakes, or have suggestions of words to add (or take out), feel free to write to me. I'll correct any mistakes in future versions.

MAKING COPIES OF THIS DICTIONARY

This dictionary is being marketing as shareware (only a $5 registration fee). It is copyrighted. You may not make any changes to it without my permission.

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O Any BBS may have this dictionary available for downloading.

O Any shareware distributors (including CD-ROM developers) may distribute this. I'd really appreciate a note saying that you are doing so.

O If you SELL any communications products, and wish to distribute this dictionary with your product(s), you MUST get my permission first (if you do not, it is considered copyright infringement). Send requests to the address listed below.

O If you wish to QUOTE this dictionary in any media, such as in an article for a computer magazine, you must let me know. Just send a note to the address below.

PAYMENT

I've obviously put in countless hours over the past 4 years creating this dictionary. Just searching through new articles and information to find new words takes hours.

As mentioned above, this dictionary is being marketed as shareware. Feel free to use it for a while, and see if you find that it is helpful. If you find that you benefit from it, you are required to send me $5. For $8 you can also get the latest version shipped to you on an MS-DOS disk (specify 3.5" or 5.25").

I first released this dictionary in 1989, and have been improving it constantly. That shows the commitment I have to this dictionary. Sending in your $5 registers you to use any

future versions of this dictionary, too.

"How do I reach the author?"

I appreciate your input. If you notice an error, or a word that is not included, or have praise/complaints, feel free to write to me. I'm always looking to improve the dictionary. Send any comments/suggestions/notices/payments/etc. to:

R. Scott Perry
178 Morton Street
Newton Centre, MA 02159

Hopefully, there will soon be a BBS to call to get the latest version of the Telecommunications Dictionary, as well as to use as an easy way to contact us.

I hope you enjoy this dictionary!

Notes about the entries

* [Also called <entry>] and [Same as <entry>] mean that there are more than one word for a certain concept. Do not bother looking at <entry>, it will just refer you back to the original entry.

* [See also <entry>] at the end of a definition refers you to more information or an entry that may help you understand the original entry better. Also, a word and it's opposite will often refer to each another.

* [See <entry>] appearing directly after the term indicates that the definition is the same as <entry>, and you should look there.

* BBS is used here generically to denote any service that you can call up with your computer, whether it is a bulletin board, a pay service, or even a mainframe.

* Some entries refer to computers in general, but an understanding of them is sometimes needed to understand other entries.

HISTORY

Telecommunications Dictionary version 0.99:

This was the first version available. It was incomplete, with about 150 words, only covering A-K. But it was nice for people not to have to wait another year to see part of it. It was released in 1989. It was usually in a file called "MODEMDIC".

Telecommunications Dictionary version 1.00:

This was the first real version. It had somewhere around 430 words defined in it. It was released on August 15, 1991. It was sent out originally as "TDIC100" in a ZIP compressed format.

Telecommunications Dictionary version 1.10:

This version had more than 530 words listed. Many words were added, some extra information was added to some old words, and several minor errors were corrected. It was released on August 22, 1991 (I was very busy that week!). It should be called TDIC110.TXT, or if archived, TDIC110.ZIP (or whatever extension).

Telecommunications Dictionary version 1.20:

This version was never completed. It was an interim version. It updated about half the definitions existing in version 1.10, and minor inconsistencies were fixed. Also, a few words were added. Not released to the public.

Telecommunications Dictionary version 1.21:

Another interim version, not released to the public. Last modification in August, 1992.

The Modem Dictionary version 1.25:

An interim version, just before 1.30. The name was changed, since the dictionary is specific to modems, which are just a small portion of telecommunications.

The Modem Dictionary, version 1.30:

This version is a major improvement over the last version available publicly.

Mexico

Monterry Institute of Technology
Universidad de las Americas, Pueblas

Monterrey Institute of Technology

TELNET MTECV2.MTY.ITESM.MX or 131.178.1.5
At the username prompt, type mtycat.

To exit:

1. Select the menu option "Salir del Sistema".

Please note that all instructions are in Spanish. An English interface is supposed to be added soon.

Any comments or suggestions please send them to "cauto@mtecv2.mty.itesm.mx" or "hugo@mtecv1.mty.itesm.mx"

Contact: Hugo Garcia, Director, Central Library, ITESM Campus Monterrey,
Monterrey, N.L. Mexico.

Universidad de las Americas, Pueblas

TELNET BIBES.PUE.UDLAP.MX or 140.148.1.5
At the username prompt, type LIBRARY

To exit, hit the TELNET escape key

Requires VT100 emulation

NASA Databases

Astronomical Data Center
Coastal Zone Color Scanner Browse Facility
COSMIC Online Information Services
ENVIROnet (The Space Environment Information Service)
International CEDAR Data Base
NASA/IPAC Extragalactic Database
NASA Mid-continent regional technology transfer center BBS
NSSDC Online Data and Information Service (NODIS)
NASA Science Internet (NSI) Online Network Data
NASA Spacelink
NSSDC-National Space Science Data Center
Pilot land data system
PDS (Planetary Data System)
Space Data and Computing Division Information Service
Space Physics Analysis Network Information Center SPAN_NIC
Standards and Technology Information System

NASA/IPAC Extragalactic Database

```
TELNET NED.IPAC.CALTECH.EDU or 134.4.10.118
login: ned

   At present NED contains extensive CROSS-IDENTIFICATIONS for over 200,000
 objects -- galaxies, quasars, infrared and radio sources, etc.  NED provides
 POSITIONS, NAMES, and BASIC DATA (e.g. MAGNITUDES, REDSHIFTS), as well as:
    > BIBLIOGRAPHIC REFERENCES:  (a) provided by SIMBAD for 1983 to 1989
        (b) derived by NED for several journals since January 1990,
    > ABSTRACTS: collected by NED from several journals since 1988,
    > NOTES: from major catalogs such as the RC1, MCG, Hubble Atlas, etc.

  This interface assumes that you have a VT100 terminal, or VT100 emulation.
    (VT102, and members of the VT200 or VT300 series will also work)
```

NASA

NSSDC Online Data and Information Service (NODIS)

Telnet NSSDCA.GSFC.NASA.GOV or 128.183.10.4
At username type NODIS

NODIS Main Menu (Choose one option)

0	-	Logoff NODIS account
1	-	Master Directory - NASA & Global Change
2	-	Personnel Information Management System
3	-	Nimbus-7 GRID TOMS Data
4	-	Interplanetary Medium Data (OMNI)
5	-	Request data and/or information from NSSDC
6	-	Geophysical Models
7	-	CANOPUS Newsletter
8	-	International Ultraviolet Explorer Data Request
9	-	CZCS Browse and Order Utility
10	-	Astronomical Data Center (ADC)
11	-	STEP Bulletin Board Service
12	-	Standards and Technology Information System
13	-	Planetary Science & Magellan Project Information

NASA Spacelink

TELNET SPACELINK.MSFC.NASA.GOV or 192.149.89.61

W E L C O M E
to
NASA SPACELINK

A Space-Related Informational Database
Provided by the NASA Educational Affairs Division
Operated by the Marshall Space Flight Center
On a Data General ECLIPSE MV7800 Minicomputer

NASA SPACELINK BACKGROUND

NASA Spacelink runs on a Data General ECLIPSE MV-7800 minicomputer at the NASA George C. Marshall Space Flight Center in Huntsville, Alabama. NASA Spacelink software was developed and donated to NASA by the Data General Corporation. The system has a main memory of 14 megabytes (14 million characters), and disk storage space for 708 megabytes. It runs at 300, 1200 or 2400 baud. Data word format is 8 data bits, no parity, and 1 stop bit. The system was made public in February, 1988.

Initial support for NASA Spacelink was provided by the Educational Affairs Division at NASA Headquarters. The NASA Spacelink data base is maintained by the Public Services and Education Branch of the Marshall Space Flight Center Public Affairs Office. Operational support is provided by the Information Systems Office at the Marshall Center. Information on NASA scientific projects and educational programs is provided to NASA Spacelink by education specialists at NASA Headquarters and the NASA field centers.

While NASA understands that people from a wide variety of backgrounds will use NASA Spacelink, the system is specifically designed for teachers. Unlike bulletin board systems, NASA Spacelink does not provide for interaction between callers. However, it allows teachers and other callers to leave questions and comments for NASA.

Space Physics Analysis Network Information Center

```
Telnet NSSDCA.GSFC.NASA.GOV or 128.183.36.23
Username: SPAN_NIC

                          SPAN_NIC Main Menu

1)  SPAN Information -- History of SPAN; SPAN Administration Staff; and
                        the DECnet Internet
2)  Information about other Network Information Centers (What they are;
    How to Access Them)
3)  Query SPAN Database for NODE information [MENU]
4)  SPAN important NEWS briefs
5)  SPAN INTERmail Addresses -- proper syntax
6)  Using DECnet (SPAN) to Internet (TCP/IP) gateways
7)  DECnet Phase V/OSI Planning
8)  Access SPAN Library of documents NEW DOCUMENTATION INFORMATION
```

NASA Science Internet (NSI) Online Network Aid

```
Telnet NIC.NSI.NASA.GOV or 128.183.112.71
Username: NSINIC
                              == TOP MENU ==

                  [ 1]  --> HOT NEWS <-- (10 APRIL 1992)
                  [ 2]  HOW TO USE THIS SYSTEM
                  [ 3]  Info About the NSI and Other Nets
                  [ 4]  NSI Personnel for Additional Help
                  [ 5]  Help Files and Info
                  [ 6]  Connect to SPAN_NIC
                  [ 7]  Connect to NICOLAS
                  [ 8]  Report A Problem/Leave A Message
```

ENVIROnet (The Space Environment Information Service)

Telnet ENVNET.GSFC.NASA.GOV or 128.183.104.16
Username: environet
Password: henniker

ENVIROnet is a menu-driven, user-friendly, space environoment resource designed to aid experimenters, design and test engineers, and project managers involved with space missions. Acting as a repository for space data collected over the years by NASA and other government research facilities, universities, industry, and the European Space Agency (ESA), information is archived and regularly updated for presentation to the service's users as text, graphics, and tables. In addition to the database, interactive modeling in a user-friendly format is also available as a service.

For more information, please contact Dr. Michael Lauriente (lauriente@envnet.dnet.nasa.gov or 301-286-5690)

PDS (Planetary Data System)

Telnet JPL-PDS.JPL.NASA.GOV or 137.79.104.100
Username: pds_guest
Password: (not required)

The goal of the PDS is to operate and maintain systems that will enable the planetary science community easy access to numerous datasets and associated information from past and active missions. This is being accomplished through joint efforts of six Discipline Nodes staffed by working scientists, as well as the Central Node at the Jet Propulsion Laboratory (JPL). Useful standards and technologies are integrated into the PDS in order to improve the cost-effectiveness of its service.

For more information, please contact the PDS User Support Office (pds_operator@jplpds.jpl.nasa.gov or 818-306-6130)

NSSDC-National Space Science Data Center

```
Telnet NSSDCA.GSFC.NASA.GOV or 128.183.36.23
Username: NODIS

                        NODIS Main Menu

              0   -   Logoff NODIS account
              1   -   Master Directory - NASA & Global Change
              2   -   Personnel Information Management System
              3   -   Nimbus-7 GRID TOMS Data  (OPERATIONAL)
              4   -   Interplanetary Medium Data (OMNI)
              5   -   Request data and/or information from NSSDC
              6   -   Geophysical Models
              7   -   CANOPUS Newsletter
              8   -   International Ultraviolet Explorer Data Request
              9   -   CZCS Browse and Order Utility
              10  -   Astronomical Data Center (ADC)
              11  -   STEP Bulletin Board Service
              12  -   Standards and Technology Information System
              13  -   Planetary Science & Magellan Project Information **NEW**
```

Pilot land data system

```
Telnet PLDSG3.GSFC.NASA.GOV or 128.183.36.16
Enter PLDS at the username prompt

or

Telnet GLIS.CR.USGS.GOV or 152.61.192.54
Enter your last name, GUEST, or EXIT and press Return.
Select vt100 terminal emulation
Select 7 (REMOTE) from main menu
Select 3 from (REMOTE) Menu
Enter PLDS at the username prompt

                            PLDS Main Menu

1)  Learn about PLDS
2)  Read summaries
3)  Read detailed descriptions
4)  Search systemwide inventory--acquire data
5)  Search GSFC inventory--acquire data
6)  Analyze data (TBD)
7)  Use networks and mail
8)  Get information or phone help
9)  Send Comments

Enter:  selection number, HELP, BACK, TOP, or LOGOFF.
```

COSMIC Online Information Services

TELNET COSLINE.COSMIC.UGA.EDU or 128.192.14.11
Login (ENTER for first time browsers):
Needs vt100 emulation

Welcome to COSLINE. This is an information service offered for the benefit of active and prospective customers of NASA's Computer Software Management and Information Center which is operated by the University of Georgia. You do not have to register to use COSLINE, but if you do we will add you to our mailing list so you will receive regular updates on new and updated programs. If you decide to register please select the REGISTRATION option from the UTILITIES pulldown menu.

NASA Mid-continent regional technology transfer center BBS

```
TELNET TECHNOLOGY.COM or 129.162.155.145
login: bbs

This system is intended to contain information related to technology
transfer activities in the mid-continent region. The states of Arkansas,
Colorado,  Iowa,  Kansas,  Missouri, Montana, Nebraska, New Mexico,
North Dakota, Oklahoma, South Dakota, Texas,  Utah, and Wyoming make up
this region. National and international topics are included as well.
The BBS provides an automatic pass-through service to other resources.
Some that are now supported are the Texas Innovation Network (TINS),
NASA Spacelink BBS, the NSF STIS, and a local Wide Area Information
Server (WAIS) interface. Others will be added in the future.

(I)nfo          Get Version and Copyright Information
(B)oards        List boards on system
(S)elect        Select current board
(R)ead          Enter multifunction Read Menu
(N)ew           Read all new messages
(V)isit         Make all messages current
(P)ost          Post a message on current board
(U)sers         List ALL users of this BBS
(T)alk          Enter Talk  Menu
(M)ail          Enter Mail Menu
(L)ink          Link to remote bulletin boards
(W)AIS          Wide Area Information Server interface
(F)iles         Enter File Transfer Menu
(X)yz           Misc. utilities (Change passwd, and term type
(G)oodbye       Leave This BBS

Contact: richard@technology.com -or- dwebb@technology.com
```

Solar-Terrestrial Energy Program Bulletin Board Service

STEP (Solar-Terrestrial Energy Program) is a SCOSTEP-sponsored international program whose main scientific goal is to advance the quantitative understanding of the coupling mechanisms that are responsible for the transfer of energy and mass from one region of the solar-terrestrial system to another.

This STEP Bulletin Board is intended to facilitate communication among STEP participants, and to inform those participants of the goals and activities of STEP overall and of the individual STEP Working Groups and Research Projects.

Readers may read material selected via menu choices, and may also leave comments or other material for inclusion in the BB by selecting the "Comment" option from any screen.

Solar-Terrestrial Energy Program (STEP) Bulletin Board Main Menu

1. STEP Overview
2. STEP Working Group & Panel Organizational Table
3. Working Group Descriptions & Project Specific Bulletins
4. Calendar of Meetings
5. STEP Personnel Directory (PIMS)
6. General News and Information
7. STEP International Newsletter
8. Other

Astronomical Data Center

```
Telnet NSSDCA.GSFC.NASA.GOV or 128.183.10.4
At username type NODIS
Select from NODIS main menu

               Welcome to the Astronomical Data Center (ADC)
             Online Information System for Astronomical Catalogs

This is a system for obtaining information about, and interactively
requesting, any of the ADC's more than 600 astronomical catalogs.
Catalogs are available on: the NASA Science Internet and NSI/DECnet
computer networks;  9-track magnetic tape; microfiche and/or microfilm
and CD-ROM.  Not all catalogs are available in all forms. The Online
System will tell you what is available and how it can be sent to you.

         Please forward any questions, comments, or suggestions to:
                        Astronomical Data Center, Code 933
                        NASA Goddard Space Flight Center
                        Greenbelt, MD 20771 U.S.A.
                        TEL: (301) 286-8310, FTS 888-8310

         For Catalog and Request Inquiries :
                         Ms. Gail L. Schneider
                         NSI/DECnet: NDADSA::GAIL
                         Internet: GAIL@NDADSA.GSFC.NASA.GOV

         For ADC Online System :
                         Mr. Lee E. Brotzman
                         NSI/DECnet : NDADSA::BROTZMAN
                         Internet: BROTZMAN@NDADSA.GSFC.NASA.GOV
```

The International CEDAR Data Base

Telnet NSSDCA.GSFC.NASA.GOV or 128.183.10.4
At username type NODIS
Select from NODIS main menu

The Coupling, Energetics, and Dynamics of Atmospheric Regions (CEDAR) is a program sponsored by the National Science Foundation (NSF) to enhance the capability of ground-based instruments to measure the upper atmosphere and to coordinate instrument and model data for the benefit of the scientific community. The CEDAR Data Base (formerly the Incoherent Scatter Radar Data Base) was formed to collect and disburse ground-based measurements of the upper atmosphere. This is international in scope with both foreign and United States data suppliers and data users. Some data users are students doing theses and this is encouraged to provide more student partusers.

Any who are interested in finding out more about the CEDAR Data Base or in getting any of the documentation described above are encouraged to contact Dr. Barbara Emery, HAO/NCAR, P. O. Box 3000, Boulder, CO 80307, USA. (Phone: (303) 497 1596, FAX: (303) 497-1137, e-mail: emery@ncar.ucar.edu (internet) or 9580::"emery@ncar.ucar.edu" (SPAN)).

Coastal Zone Color Scanner Browse Facility

Telnet NSSDCA.GSFC.NASA.GOV or 128.183.10.4
At username type NODIS
Select from NODIS mainmenu

The Coastal Zone Color Scanner Browse Program was designed to provide a researcher with the ability to quickly search the entire Level-2 CZCS data set and to instantly view the color-coded phytoplankton pigment fields that meet the search criteria. The browse images are displayed at 4km resolution which is generally sufficient to resolve most of the features of interest. If the researcher feels that a selected scene warrants further investigation, the program provides for the generation of an order file which can be sent electronically to the NASA archive where the digital data are copied and sent to the requestor.

Standards and Technology Information System

Telnet NSSDCA.GSFC.NASA.GOV or 128.183.10.4
At username type NODIS
Select from NODIS main menu

This system is an effort by NASA to provide its scientists with a central location from which information about standards and new technology of possible interest can be located.

The NASA Science Data Systems Standards Office (NOST) was established to foster the evolution and development of data system standards for the space and Earth science communities. In particular, NOST's mission is to facilitate recognition, development, adoption, and use of standards by the space and Earth science communities.

Space Data and Computing Division Information Service

```
TELNET DFTNIC.GSFC.NASA.GOV or 128.183.10.3
Username: INFO

Menu:

Space Data and Computing Division Information Service

1)  Space Data & Computing Division (SDCD)
2)  NASA Center for Computational Sciences (NCCS)
3)  National Space Science Data Center (NSSDC)
4)  Science Information System Center (SISC)
5)  Advanced Data Flow Technology Office (ADFTO)
6)  Non-computer Miscellaneous Information
7)  SDCD Information Service (INFO)

---------------------------------------------------------------------------
8)  Make Suggestions, Ask For Help, or Report A Problem
9)  Most Recent Updates To INFO
10) Exit INFO
```

The Netherlands

Tilburg University
University of Groningen
Utrecht University

Utrecht University

```
Telnet RUUT.CC.RUU.NL or 131.211.16.16
At the Request:prompt type brunet
At the Tik letter of keuze in: druk daarna op RETURN
                              ::::
        hit the return key
```

OPAC = GEAC

```
200 Algemene Bibliotheek     - UTR. BIBL. SYSTEEM  -

             E.  Search in English
             N.  Zoek in het Nederlands

Enter letter (and press SEND),

Tik letter of keuze in: druk daarna op RETURN
                              e


200 Algemene Bibliotheek     - UTR. BIBL. SYSTEEM  - INTRODUCTION

          C A T A L O G U E
          -----------------
          Utrecht University Library

          At any point in your use of the system, you can:

               Press f1 for help
               Press f2 for general instruction
               Press f3 to start over and begin again
               Press f4 to back up to previous screen
               Press f5 to end your session
               Press f6 om over te schakelen naar Nederlands
               Press f7 for the list of library locations
```

Tilburg University

```
Telnet KUBLIB.KUB.NL or 137.56.0.56
Username: KUBGIDS
Hit the right arrow key twice to ENGLISH then hit ENTER
Press ENTER again.
Type C for Catalog, then ENTER

To exit, TAB to QUIT on main menu
```

University of Groningen

```
TELNET 129.125.19.10
Username: OPC

At the main menu you can choose between:
Library University of Groningen
Catalogue Netherlands Institute, located Rome
Catalogue of other libraries (e.g. Royal Library in the Hague)

The help status-line shows:
HLP     For Information (Help-mode)
STR     For returning at any time to the main menu (you're now in it)
STP     For quitting use of the OPC (but not quiting the connection)
OVE     For comments to the ICP of Groningen

When choosing option 1 from the main menu you'll first get an
introductory screen saying:

The OPC of the Uni of Groningen contains
- Some books published before 1981
- All books publshed after 1981
- Most of the periodicals
- And all books needed for courses

Below the second line it says:

Hit ENTER when you have selected the right database. If you want a
different database type BES followed by ENTER.

The help status-line down shows a new command:
BES     For switching between the available databases

If you hit RETURN again the next screen will offer you the choice
between the next options:

1.      Word(s) in title
2.      Author
3.      Person's name used as keyword
4.      Etc.

The help status-line shows more commands:

KLE     For making an already made selection (e.g. auteur) smaller by
        using another selection criterion (e.g. only published after
        1990).
GRO     The opposite of the above
IND     For setting the database in INDEX-mode and the opportunity of
browsing
        through it.

Your screen will now give you the results of your request and you may
choose from any of these hits by typing the corresponding number of one
of them for full documentation.

When you're looking for an author as selection-criterion just type the
```

corresponding number and you will be asked to enter a name at the prompt. The same goes for all the other selection-criteria.

Press ENTER and the cursor will move to the command-line. You have now two possibilities. First you could start searching at the previously entered singular selection criterion by just pressing ENTER or secondly you could add a selection criterion (up to 4) to make your hits larger or smaller.

The help status-line down shows new commands:

MRK Marking of a single record
WIS Unmarking of all marked records

Different commands you can encounter are:

KOR Means short presentation of the selected record (only display of title, author, publisher and date of publication)
LEN Information on the status of loaning

Network Information Services

ASK: German Universities' Online Information
BASUN: Information System for the Swedish University Network
CONCISE: COSINE Network's Central Information Service for Europe
DATAPAC Information System
DFN-Informationssytem
INFO und Softserver (Information & Software Server)(Stuttgart)
Internet Resource Guide
Inter-Network Mail Guide
JANET News (Joint Academic Network)(United Kingdom)
JvNCnet Network Information Center On-Line (NICOL)
Merit Net Mail Sites Database
MichNet Online Help System
Network Information Center On-Line Aid System (NICOLAS)
NYSERView (Network Information Interface)
RIPE Network Coordination Centre (NCC)
Usenet News

ASK: German Universities' Online Information Service

```
Telnet ASKHP.ASK.UNI-KARLSRUHE.DE or 192.67.194.33
Login: ask
Password: ask

or

Telnet SUN.NSF.AC.UK
login: janet
At the hostname: prompt type   uk.ac.niss
Select E on NISS menu
Select A on Information menu

login: ask
Password:

 [welcome]          ASK-Software-Informationssystem Version 3.02       11.
3.91

------------------------------------------------------------------------
-
         A       Akademische

            S       Software
                                                 Bei Problemen bitte
                K       Kooperation
                                                  0721 / 608 - 2691
                    S       Software                  anrufen !

                        I       Informations

                            SY      SYstem

------------------------------------------------------------------------
-
 Weiter mit [ENTER]                                  Press [ENTER] to
continue

Hinweis: Bei vielen Computern (vor allem IBM), heisst die Ctrl-Taste 'Strg'

 [ask-main]                    Hauptauswahl                          11.
3.91

 In der Experten-Suche koennen SQL-Kommandos und in der gefuehrten Suche
einfa-
 che logische Verknuepfungen eingeben werden.

------------------------------------------------------------------------
-
                     1:  Suche nach Programmbeschreibungen (gef. Suche)
                     2:  Experten-Suche (SQL-Ausdruecke)
                     3:  Einstellungen veraendern / Setup
                     4:  Handbuch ausgeben
                     5:  NEWS / INFOS
```

```
                    6:  Andere Datenbanken
                            Auswahl:  [ ]

--------------------------------------------------------------------------------
-
 Ctrl-J = Hilfe    ESC = ASK-SISY verlassen
 Ctrl-N = Notiz an Systemverwalter

 Auswahl: [3

 [ask-konf]                      Einstellungen                          11.
3.91

 Sie koennen nun Ihre Systemkonfiguration veraendern.


--------------------------------------------------------------------------------
-
    Benutztes Terminal: [1]               Moegliche Terminaltypen:
                                          1:  Standardeinstellung
                                          2:  ANSI (vt100)
                                          3:  ANSI Color
                                          4:  ANSI Mono

    Dialogsprache:      [1]               Moegliche Dialogsprachen:
                                          1:  Deutsch
                                          2:  English

--------------------------------------------------------------------------------
-
 Ctrl-J = Hilfe    ESC = Zurueck zur Hauptauswahl

 Benutztes Terminal: [2

 [ask-konf]                      Einstellungen                          11.
3.91

 Sie koennen nun Ihre Systemkonfiguration veraendern.


--------------------------------------------------------------------------------
-
    Benutztes Terminal: [2]               Moegliche Terminaltypen:
                                          1:  Standardeinstellung
                                          2:  ANSI (vt100)
                                          3:  ANSI Color
                                          4:  ANSI Mono

    Dialogsprache:      [1]               Moegliche Dialogsprachen:
                                          1:  Deutsch
                                          2:  English

--------------------------------------------------------------------------------
-
 Ctrl-J = Hilfe    ESC = Zurueck zur Hauptauswahl

 Dialogsprache: [2
```

Information about the selected topic. If there are any suggestions for further NEWS, please send us a note.

-
ASK fileserver (12/10/90)

ASK runs a fileserver, accesible by mail. The server is steadily prepared for mail receipt, which is handled without assistance and results in a reply to the sender. Usually ASK personnel is not required.

The ASK-server works -just like LISTSERV- with the wellknown list-concept: Distinct subjects are defined as lists and are accessible for the users.h the following subjects:

Today two lists exist wit
a) Public Domain Software (Name of the list: PDS)

Public Domain Software

This list helps to manage Public Domain Software, contributed by university members. For the sake of convenient transport, the software is available in a compressed form (ARC, UUE) and the user has to uncompress it by himself. Of course, the corresponding transfer-programs are available on the File- server.

ASK-Forum

The Forum "ASK" was installed to give the users the opportunity of keeping well-informed about the ASK. To get new informations about SISY, Fileserver or Software-award, the user has to register once (subscribe). Then he will regularly get contributions, distributed by the forum via mail.

Beside this passive use, the users also have the possibility to send their own contributions like questions, suggestions, comments or criticisms to the Forum. These will then be sent to all other registered users. Sending of own contributions is only possible when the users are subscribed to the Forum. The contributions are collected and saved and are available as monthly notices.

Using the fileserver

Before the description of the mail-commands is given, here is the summary of the possibilities of using the fileserver:

- call for public domain software
- preparation of public domain software
- registering to participation in discussions
- introduction of own contributions
- handling of own discussion-themes with the ASK-Server

The Communication with the fileserver is effected by electronic mail. The address is: c=de; a=dbp; p=uni-karlsruhe; ou=ask; s=fileserv.

Answers to the mail are given mechanically, so a special command-syntax is necessary. Only the real commands, standing in the subjectplace of a mail or in the first line of the "body part" at an empty

BASUN: The Information System for the Swedish University Network

```
Telnet 130.239.1.21
At the Username prompt type INFO
At the Main Menu type 98 for the English version
Go to menu item 2, for keyboard instructions

                          Welcom to BASUN!

                  BASUN - The information system for SUNET

     1. General information about BASUN  7. Electronic Mail
     2. Help, What key should I use?     8. Gateway between DECnet and TCP/IP
     3. General information about SUNET  9. The Fax Gateway of SUNET
     4. DECnet in SUNET                 10. Archive on BASUN
     5. The IP Network in SUNET
     6. EARN/BITNET

    98. Byt spr}k till Svenska
    99  Opinions about BASUN. How do you like BASUN? Choose 99 to
        learn how to send opinions!

91-09-10            Some help for the beginner
```

```
The data base consists of menu pages (for example the main menu) and
information pages. You normally get a page through av menu selection.
A page can have continuation pages which you can page through.

Here is a description of the most common functions and we start by
describing how to end a session with BASUN.

Function:                          Press:

End session and quit               PF1 and ".", or [ctrl] Z
Make a menu selection              Number and [return] or [enter]
Return to previous menu            PF3
Next page                          [return] or -] (right arrow)
Previous page                      [-- (left arrow)

If you dont have a VT100 emulating terminal (or a computer emulating
a VT100 terminal) you should read the next page to learn about PF3.

Function keys

PF1, PF2 and PF3 are functions of a VT100 terminal. We have choosen
VT100 as the default terminal for BASUN as most users have a terminal
or computer that behave like a VT100 terminal. You should look into
the manual of your terminal program to find out how to use these
function keys if your computer don't have keys marked PF1, PF2 and PF3.

If your terminal or computer don't know anything about VT100 you can
use the special functions by typing the following:

For PF1 you type [esc]OP, for PF2 you type [esc]OQ and for PF3 you
type [esc]OR. [esc] means that you should press the key that is
labeled Esc or Escape.
```

Here follows a description of some "advanced" functions.
Every page in the data base has a unique page number. There exist a function that displays that page number. If you know the page number you can directly jump to that page. With the same function you can also do keyword searching. A page can have one or more keywords. The pages with information about computers connected to DECnet, TCP/IP and EARN/BITNET have the name of the computers as keywords. That means that you directly can see that page through a keyword search.

Function:	Press:
Display page number	PF1 and 4
Search for a page number or search for a keyword	PF1 and 7
Further help	PF1 and PF2

CONCISE: COSINE Network's Central Information Service for Europe

```
TELNET CONCISE.IXI.CH or 130.59.2.16
Trying...130.59.2.16
Login: concise
Password: concise

or

TELNET CONCISE.FUNET.FI or 128.214.6.181
Login: concise
Password: concise

CONCISE is the COSINE Network's Central Information Service for Europe.

CONCISE provides information about the COSINE project, networks,
conferences, networking products, special interest groups, projects
databases, directories, Email services and other networked services in
Europe.

Top (CONCISE main menu)
------------------------------------------------------------------------

ITEM-ID     ---ITEM---     ---SUBJECT-----------------------------------
    437     a-info-a       Information Gathering - Can YOU help?
     24     cosine         The COSINE project
     77     events         Conferences, meetings and exhibitions
     30     guides         User Guides and Manuals for CONCISE
      1     help           HELP on CONCISE
     87     map            Map of CONCISE information
     23     networks       European networks and networking organisations
    501     new-jul        What's New in CONCISE in July
    481     new-jun        What's New in CONCISE in June
     71     products       Networking and OSI products
     69     projects       Academic and research projects
    272     rare           RARE Association of networks for European research
     22     services       Networked Services
     73     sigs           Special Interest Groups
```

DFN-Informationssystem

```
Telnet CADMUS2.DFN.DE or 192.76.176.2
login: infosys
Password: (hit RETURN)
At the first * type english
At the second * type help

DFN-informationsystem, based in Germany, contains documents about
international networks

Listing of documents:
1.    Enter name of the document.
2.    If the document does not fit one screen-page, you can continue
      reading by giving the plus mark (+).

Further information you get by giving

      OVERVIEW   List of all fields for which documents exsist
      CONTENTS   Alphabetic list of all documents
      COMMANDS   Operating instructions for this program
      LATEST     New or modified documents
      ERRORS     Known errors of this system
      HINTS      Hints
```

INFO und SOFTSERVER

```
                    Information and Software Server
                         Universitaet Stuttgart

Telnet RUSMV1.RUS.UNI-STUTTGART.DE or 129.69.1.12

                                    *

           ******  I N F O - und  S O F T S E R V E R  ******

                         (rusinfo oder rusmv1)

                Rechenzentrum der Universitaet Stuttgart

                                 INFO              SOFT
                login            infoserv          softserv

login: infoserv
       Welcome to the Information and Software Server
Terminal Types:
===============
I9 == IBM 3101-10
MT == Citoh 80
MU == Citoh fast vt100
Mq == pseudo teletype
Mu == Sun Microsystems Workstation console
X5 == tektronix 4024/4025/4027
Xa == tektronix 4012
Xs == tektronix 4110 series
d0 == dec vt100
da == dec vt200
db == dec vt300
h2 == hp 2621
h4 == hp45
h5 == hewlett-packard
h6 == hp 2626
hb == hp 264x series
su == unknown
sx == any ansi terminal with pessimistic assumptions

Please enter 2-char terminal type (? for this list,?? for longer list): d0
Terminal is set to "dec vt100"
```

Internet Resource Guide

This database is available at CARL
Select menu item 65

SELECTED DATABASE: Internet Resource

The Internet Resource Guide - Copyright 1990 BBN Systems and Technologies Corp. - is compiled by the NSF Network Service Center (nnsc@nnsc.nsf.net). Information on computational resources, library catalogs, archives, and other resources available via the Internet are supplied by members of the Internet community. This work is supported through the Univ. Center for Atmospheric Research and the National Science Foundation. Neither UCAR, NSF, NNSC, nor BBN is responsible for the accuracy of these listings.
.....

Also searchable at think.com
and at Appalachian State University VideoText System

JANET News

Joint Academic Network (United Kingdom)

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
At the hostname: prompt type    uk.ac.janet.news
At the user prompt type    news

Welcome to the JANET News Facility

If you have any comments or suggestions about this
News facility please mail them to POSTMASTER@JANET.NEWS
They will then be forwarded to the appropriate person for comment

The following files of information are available :-

Filename  Last modified   Filename  Last modified   Filename  Last modified
ADDRESS    10 Jul 1991    CHEST      19 Apr 1991    CONTACTS   10 Dec 1991
CTISS      19 Apr 1991    DISTLIST   26 Nov 1991    DOCUMENT   05 Sep 1991
DODAG      26 Nov 1991    ETHER      10 Dec 1991    EUROKOM    12 Jul 1989
EYP        22 Nov 1990    FAULTS     27 Apr 1987    GATEWAYS   22 Sep 1991
HELP       18 Mar 1988    HUMBUL     11 Jul 1988    INDEX      29 Oct 1991
INFOSERV   25 Jun 1989    IXI        03 Dec 1991    JANET      23 May 1989
JIPS       29 Oct 1991    LIBRARY    04 Dec 1991    LINKDATA   02 Nov 1989
LINKSTAT   22 Feb 1989    LISTS      07 Nov 1991    MAILHINT   06 Nov 1990
MAILINDX   17 Aug 1988    MAILSYS    07 Nov 1991    NETWNEWS   18 Dec 1991
NISS       29 Jan 1991    NOC        17 Dec 1991    NRS        24 Dec 1991
NRSHELP    29 Sep 1989    NRSINFO    25 Mar 1988    OSITRANS   17 Feb 1988
PROJECTS   18 Feb 1988    RAINBOW    14 Mar 1990    SITES      05 Jul 1991
STARTER    22 Sep 1991    STATHELP   04 Apr 1989    STATS      19 Dec 1991
TRANSFER   23 Oct 1990    USERGRPS   13 Sep 1991    WORLDDC    19 Mar 1990
X500       07 Sep 1988

Please enter name of file to be examined, QUIT or STOP - index

Filename              Contents
--------              --------
ADDRESS               List of Janet addresses in date order.
CHEST                 Information about CHEST (Combined Higher
                      Education Software Team)
CONF                  Information on conferences/workshops
CONTACTS              Networking Contacts for each Janet site
                      (where known)
CTISS                 Information about CTISS (Computers in Teaching
                      Initiative Support Service)
DISTLIST              List of known distribution lists on JANET.
DOCUMENT              This file contains known document sources on JANET,
                      aswell as some documentation. The 'Beginners Guide
                      to Janet' can be found in this catalogue.
DODAG                 Technical Aspects of the Use of Internet Protocols
                      to Support UK Academic Community Networking
                      Interim Report of the JNT DoD Advisory Group
ETHER                 Information on Ether components.
EUROKOM               Mail access to Eurokom.
EYP                   Brief guide to BT's Electronic Yellow Pages.
FAULTS                Procedure to be taken when reporting a fault
```

	with JANET.
GATEWAYS	Information about the Network Executive supported Gateways on JANET - EAN, EARN and PSS.
HELP	HELP file.
HUMBUL	Informatiom about how to access the Humanities bulletin boards.
INFOSERV	Information about information sources.
IXI	Information concerning the IXI network, connecting the COSINE member countries.
JANET	General information about JANET.
JIPS	Information about the JANET IP Service
LIBRARY	Library News - directory of Library mail addresses and information about the Janet Library User Group.
LINKDATA	This directory contains the data for each link.
LINKSTAT	This directory shows the link status for each site for the specified period.
LISTS	This contains the latest version of the 'lists of lists' distributed by Neil Todd (GID).
MAILHINT	Instructions on how to file transfer version 7 of 'Hints for getting Mail through various gateways to and from JANET' from this machine.
MAILINDX	This index contains a list of mail related documents which may be of interest to the UK Academic Community. It is maintained by Steve Kille (steve@ucl.c).
MAILSYS	Details of external mail systems.
NETWNEWS	Copies of Network News.
NISS	Information about NISS (National Information on Software and Services)
NOC	Information about the Network Operation Centres for JANET.
NRS	This contains a list of the NRS names with their DTE addresses and YBTS substrings for NIFTP, MAIL, JTMP, X29 and TS29 access.
NRSHELP	Latest information about the status of the NRS.
NRSINFO	Information for the NRS Technical Administrators.
OSITRANS	The 'Transition to OSI Standards' report
PROJECTS	Information about IT programmes.
RAINBOW	Information about 'Rainbow' products.
SITES	Information about Sites on JANET.
STARTER	Information about the JANET Starter Pack for new sites. Includes the ascii text for the JANET Starter Card.
STATHELP	Information on the Janet PSE Statistics
STATS	Statistics on the Janet Packet Switching Exchanges
TRANSFER	This tells the user how to transfer a file from the JANET News machine.
USERGRPS	Copies of the minutes of the various Janet Regional User Groups.
WORLDDC	Information on the World Data Centre C1 at the Rutherford Appleton Laboratory.
X500	Copy of letter to Computer Centre Directors announcing the formation of a Directory Group.

JvNCnet Network Information Center On-Line (NICOL)

```
Telnet NISC.JVNC.NET or 128.121.50.7
login: nicol

 Welcome to the JvNCnet Network Information Center On-Line (NICOL)
 NICOL is designed for use by members of the JvNCnet community as
 well as the rest of the Internet community.

    Basic Help Information
    About NICOL
    Internet Resources
    JvNCnet Information
    MC(2)--Meckler's Electronic Publishing Service
    Exit NICOL

|-------------------------------------------------------------------------|
|   JvNCnet does its best to provide up-to-date information on            |
|   NICOL. However, occasionally information in NICOL may turn            |
|   out to be outdated and/or incomplete. In order to help us             |
|   help you, please make us aware of any info which may be               |
|   incomplete or outdated. The NICOL phone number is:                    |
|       609-258-2405.  E-mail: nisc@nisc.jvnc.net.                        |
|-------------------------------------------------------------------------|

  NICOL is a user-friendly menu-driven application designed to
  provide information on JvNCnet, its members, and other Internet
  activities.  If you have any suggestion of what should be included
  in this application, please feel free to let the JvNCnet Information
  Services Group know.
```

MichNet Online Help System

```
Telnet HERMES.MERIT.EDU or 35.1.48.159
At the Which Host? prompt, type HELP

                        MichNet Online Help System

              Select from one of the following for further detail:

              a)  MICHNET information  (contacts, policies)
              b)  Network RESOURCES  (hosts, services, information sources)
              c)  ACCESS information  (dial-in numbers, Internet access)
              d)  ANNOUNCEMENTS  (recent or upcoming network changes)
                          updated: Jan 06, 1992

              ?)  HELP
              x)  EXIT from help server

:             enter selection:
          Thank you for using the MichNet help server.  Please send
          comments to: info@merit.edu / info@merit.bitnet or enter
          MICHNET-SUGGEST at the "Which Host?" prompt.
```

Network Information Center On-Line Aid System (NICOLAS)

```
Telnet DFTNIC.GSFC.NASA.GOV or 128.183.10.3
Username: DFTNIC

                          === NICOLAS TOP MENU ===

                       [ 1]  Information About NICOLAS
                       [ 2]  REPORT A PROBLEM
                       [ 3]  'HOW TO' FILES
                       [ 4]  FILE TRANSFERS
                       [ 5]  REMOTE LOGINS
                       [ 6]  ELECTRONIC MAIL
                       [ 7]  Network Yellow Pages
                       [ 8]  3COM/XNS LAN Information
                       [ 9]  Misc. Networking Resources
                       [10]  News and Notices
```

NYSERView (Network Information Interface)

```
TELNET NYSERNET.ORG or 192.77.173.2
login: nysrview
Password: nysrview

                        Welcome to NYSERView!
                   An interface to useful network information.

               1)      General Information About NYSERView
               2)      Connect to Internet Resources
               3)      Read About Internet Resources

               99)     Quit
```

RIPE Network Coordination Centre (NCC)

Reseaux IP Europeens

TELNET WAIS.RIPE.NET or 192.87.45.1

RIPE Network Coordination Centre (NCC)
Information Services (Pilot) Menu

1 - About RIPE and the RIPE NCC
2 - Browse through the NCC Document Store (Gopher)
3 - Keyword Search of the NCC Document Store (WAIS)
4 - Search the RIPE Database (whois)
5 - World Wide Gopher
9 - Send Mail to the NCC
q - Quit

RIPE (Reseaux IP Europeens) is a collaborative organisation open to all European Internet service providers. The objective of RIPE is to ensure the necessary administrative and technical coordination to allow the operation of a pan-European IP network. RIPE does not operate a network of its own. RIPE is the IP activity of RARE.

RIPE has been functioning since 1989. Currently more than 60 organisations participate in the work. The result of the RIPE coordination effort is that the individual end-user is presented on his desk-top with a uniform IP service irrespective of the particular network his or her workstation is attached to. Today more than 170.000 computers throughout Europe are reachable via networks coordinated by RIPE. The total number of systems reachable worldwide is estimated at more than 800.000.

Usenet News

Read and write access to Usenet News is available at many sites.

I**would suggest accessing the Cleveland Freenet and typing "go** usenet" at the "Your choice" prompt. You must be a registered Freenet use to access this service.

You may also read and write Usenet News on:

BBS at UNC
NYX Bulletin Board
Halcyon BBS
Youngstown Free-Net

Merit Net Mail Sites Database

```
TELNET HERMES.MERIT.EDU or 35.1.48.160
Which Host? netmailsites

This database is able to list both Bitnet and Internet addresses for a
particular site. Queries are limited to three per session.

At the prompt, enter the name or partial name of an institution, place,
or computer.  Type HELP for assistance.

Press RETURN to stop, 3 remaining queries.
:Enter the name of a site   ->
```

Inter-Network Mail Guide

```
TELNET 192.134.69.8 1643

inmgq> help

INMG Query Commands:

dump                dump a stripped version of the INMG file (long)
from [netid...]     list known connections from networks
help                list available commands
how net1 net2       explain how to send mail from net1 to net2
network [netid...]  list information about networks
networks            list known networks
quit                exit from this program
to [netid...]       list known connections to networks
version             show version of INMG file and query utility

inmgq> networks
aol applelink att bitnet bix bmug cgnet compuserve connect easynet envoy fax
fidonet geonet gold-400 greennet gsfcmail ibm internet keylink mci mfenet
nasamail nsi omnet packet peacenet sinet sprintmail thenet

Questions to John J. Chew   poslfit@utcs.utoronto.ca
```

DATAPAC Information System

```
TELNET HERMES.MERIT.EDU or 35.1.48.160
Which Host? datapacinfo

The DIS keeps you up on all the latest Datapac news and information free
of charge.
If you need Datapac assistance,  simply call us on our Datapac Customer
Assistance hotline 1-800-267-6574   or   613-781-6798.
We operate Monday to Friday from 8:00 a.m. to 5:00 p.m. Eastern Time.

  1  DATAPAC NEWS *** GOOD NEWS PRICE ALERT!!  SEE HILIGHTS ***
  2  DATAPAC OVERVIEW AND DOCUMENTATION
  3  DATAPAC PUBLIC IN-DIAL TELEPHONE NUMBERS
  4  DATAPAC OUT-DIAL PORT ADDRESSES (E.G. PC TO PC)
  5  DATAPAC SERVING AREA TELEPHONE EXCHANGE (NXX) LIST
  6  DATAPAC INTERNATIONAL
  7  DATAPAC RATES/BILLING
  8  DATAPAC NETWORK MESSAGES
  9  SOFTWARE AND HARDWARE VENDORS
 10  DATAPAC APPLICATIONS
 11  DATAPAC TROUBLE REPORTING TELEPHONE NUMBERS
 12  ********   NEW PRICING EFFECTIVE JUNE 8/92   ***************
```

Norway

BIBSYS

BIBSYS

BIBSYS contains records of 11 research libraries in Norway. There is a $75 flat fee for an account on this system. Write BIBSYS, N-7055 Dragvoll, Norway for more information.

TELNET ABIBSYS.BIBSYS.UNIT.NO or 129.241.1.68
Press RETURN
At the "Enter Terminal Type" prompt, type vt100

To exit, type SLUTT

New Zealand

Massey University
University of Canterbury
University of Otago
Victoria University of Wellington

Victoria University of Wellington

TELNET LIBRARY.VUW.AC.NZ or 130.192.2.90,91,92,93
Press RETURN when told to
At the LOGON prompt, enter OPAC

OPAC = DYNIX

To exit: Select 13 on main menu, then enter LATER

University of Canterbury

Telnet CANTVA.CANTERBURY.AC.NZ or 132.181.30.3
At Username: prompt, type OPAC
When the CONNECTED message appears, enter RETURN to continue.

OPAC = URICA

To exit type QUIT at the Main Menu.

University of Otago

TELNET LIBCAT.OTAGO.AC.NZ or 139.80.64.6
login: libcat

OPAC = DYNIX

To exit, type 12 on main menu, then hit the Telnet escape key

Massey University

```
TELNET LIBSERVER.MASSEY.AC.NZ or 130.123.64.102
Username> type any character and press RETURN
Local_19> c mu-library

To exit, hit the Telnet escape key
```

Help files for on-line catalogs

BLCMP
BUCAT
CATS
CLSI
DOBIS/LIBIS
DRA
DYNIX
GEAC
GEAC ADVANCE
GvB
INLEX
INNOPAC
LIBERTAS
LS/2000
MULTILIS
NOTIS
OCLC
PALS
UNICORN
URICA
UTCAT
VTLS
Z39.58

Using BLCMP

BLCMP is an easy to use menu driven system.

Author Search:	Select A off the menu. Then enter the author's name at the : prompt.
Title Search:	Select T off the menu. Then enter the title at the : prompt.
Subject Search:	Select S off of the menu. Enter the subject at the : prompt.
Keyword Search:	Select K off the menu and enter the keyword at the : prompt.

Type H at any time for help.

Using BuCAT

Enter HELP at any time for help.

To search author, title, and subject indexes, enter FIND and any word or phrase, e.g.

```
find united nations
```

To restrict a search to a particular index, specify the index, e.g.

```
f s=united nations
```

You can combine words or phrases using symbols for the boolean operators "and" (symbols "&", "/") "or" (symbol "|"), and "not" (symbol "~"). For example,

```
find united nations & peace
f united nations / war
```

Note: This appendix written by Mr. Mitchell of Brandon University.

Using CATS

Describing CATS presents an interesting problem. Every CATS system has its own site specific menuing system that is different than every other CATS system. In addtion, all of them are extremely easy to use. For these reasons, no instructions are provided in this guide

Using DRA Altas

Author searches: To search for a particular author, use the a= search command followed by the author's name.

Example: a=Haley Alex

Subject searches: To search for a particular subject, use the s= search command followed by the subject.

Example: s=Stars

Title searches: To search for a particular title, use the t= search command followed by the title.

Example: t=Winds of War

Call Number search: To search for a particular call number, use the c= command.

Example: c=tr897.5

ISBN search: To search for a ISBN, use the i= command.

Example: i=1558511431

ISSN search: To search for a ISSN, use the n= command.

Example: n=0010-0285

LCCN search: To search for a LCCN, use the l= command.

Example: l=90012345

Music Publishers search: To search for a Music Publishers #, use the r= command.

Example: r=CD 80096 telarc

Keyword search: Type k. Some DRA sites use the Z39.58 standard for the keyword search. See the section on "Using Z39.58". Z39.58

Help: Type ??.

Using Dynix

The Dynix library package is an entirely different product from the Dynix Operating System that is used on Sequent Computer.

Title searches: If the exact title is known, select the "Title Alphabetical list" option on the menu. If the exact title is not known, select the "Title Words" option.

Author searches: Choose the appropriate number from the main menu.

Subject searches: Choose the appropriate number from the main menu.

Keyword searches: Choose the appropriate number from the main menu. Some systems will look for terms in the subject field, some in the title field, as indicated on the menu.

Call number search: Choose the appropriate number from the main menu.

Using GEAC

Title searches: To search for a particular title, use the TIL search command followed by the title.

Example: TIL Tao of Programming

Author searches: To search for a particular autho, use the AUT search command followed by the name of the author.

Example: AUT Clancy

Subject searches: To search for a particular subject, use the SUB search command followed by the subject.

Example: SUB Sidewalks

Keyword searches: To search for a particular keyword, use the KEY search command followed by a string.

Example: KEY Alligators

Help: To see help, type HELP.

Previous Screen: To see previously displayed screens, type BAC.

Next Screen: The next screen is usually displayed by typing FOR.

Picking an item: On screens where a list of items appears, a particular item can be selected by typing the number to the right of item.

Geac Advance

This file has not yet been written

INLEX

```
Use the following instructions to search:

Title search              ti=
Author search             au=
Subject search            su=
Call Number search        ca=

To display titles, type dt=[line number].

HELP

For specific HELP, enter HE=  and the desired command: HE=AU means Author
help.
                                    -----
      INSTRUCTIONAL COMMANDS, which can be used at any time, are:
HElp.........HE    Bulletin Brd...BB    EXit...........EX
INstructions...IN
                                    -----
      SEARCH COMMANDS, used to initiate a specific search, are:
AUthor........AU    SUbject........SU    TItle.........TI    CAll #
search..CA
                                    -----
      DISPLAY COMMANDS, used following a SEARCH command, are:
Disp Titles...DT    Disp Call #....DC    Next Page......NP    Prev
Page......PP
Step Back.....SB    Disp Full Rec..DF    First Page.....FP    Last
Page......LP
                                    -----
                        For further HELP, enter HE=HE
                                    -----
HELP HELP

HELP: You can enter HE or HE=__ (specific command) at any time for
assistance.

DISPLAYS: Upper  - displays the information you requested in your last
command
          Middle - displays the most useful commands for your next step
          Lower  - displays search history and prompts you to enter a command
                                      ---
CURSOR ARROW:  > points to the index entry which satisfies or most nearly
  matches the search request.  This is usually positioned in the middle of
the
  listing to allow browsing adjacent entries.  When a line number other than
  the one indicated is chosen for display, the arrow relocates.

INVALID COMMAND:  if a command entered is invalid or inappropriate at that
  place in a search, the system prompts again for the entry of a command.
                                      ---
TO PROCEED: enter RD to ReDisplay your previous place in CatLink.
```

Using INNOPAC

INNOPAC is very easy to use. Just press the letter or number next to the item that you want. There is no need to press the ENTER or RETURN key when choosing one of the menu options. For example:

Title searches: To search for a particular title, select T on the main menu.

Author searches: To search for a particular author, select A on the main menu.

Subject searches: To search for a particular subject, select S on the main menu.

Keyword searches: Either "k" or "w" (varies from system to system) as listed on the menu.

Other search options: Different INNOPAC libraries have added additional search options, such as Medical Subject Headings, Call Number, SuDocs numbers, Reserve Lists, etc.

Popular options available when looking at any one record include:

S > Show items with the SAME SUBJECT

Z > Show items nearby on the shelf

Using Libertas

Describing Libertas presents an interesting problem. Every Libertas system has its own site specific menuing system that is different than every other Libertas system. In addtion, all of them are extremely easy to use. For these reasons, no instructions are provided in this guide.

Using LS/2000

LS/2000 SEARCHING STYLES

The LS/2000 system offers two searching styles:

Keyword - Use this style when you are unsure of the exact term, author, name, or title that you wish to search.

Enter a word or phrase and press RETURN

Heading - Use this style when you are sure of how the library describes the author, title, or subject that you are searching.

Enter the number of the search you want to use, and when prompted, enter as much of the BEGINNING of the heading as you are sure of.

LS/2000 HOW TO ENTER SEARCH TERMS

For a specific TOPIC

- you are unsure of library terminology for the topic	Enter a KEY WORD you know
- you are certain of the library's subject heading	When prompted, enter the first word(s) of subject heading

For an AUTHOR
When prompted enter the author's name Last, First

For an ORGANIZATION or GOVERNMENT AGENCY or CONFERENCE
When prompted, enter the first word or words of the organization or conference name

For a TITLE
When prompted, enter the first word or words of the title

LS/2000 SEARCHING HINTS

- Press RETURN after each entry. This lets the LS/2000 system know that you are ready for it to begin work.

- Less is better than more. The system will always show you all entries that begin with what you enter. So if you enter "book" you will see any entries that begin with "Book" or "Books".

- The "^" key will take you one step backward in your search.

- When a list ends with "more", you may

  - Press RETURN to see the next part of the list
  - Enter "/B" to see the previous list.

Using NOTIS

Title searches: To search for a particular title, use the t= search command followed by the title.
Example: t=foundation

Author searches: To search for a particular author, use the a= search command followed by the author's name.
Example: a=asimov

Subject searches: To search for a particular subject, use the s= search command followed by the subject.
Example: s=tennis

Keyword searches: To search for a particular keyword, use the k= search command followed by a string.
Example: k=cry wolf

You may use the logical operator (AND, OR, NOT) and parenthesis to group the operators.
Also, $ is a wildcard character.
Examples: k=car and fast
k=computer and not ibm
k=comp$ and (toy or game)

Help: On most screens, help can be seen by the h command.

Picking an item: On screens where a list of items appears, a particular item can be selected by typing the number to the right of item.

Using PALS

Title search: Use the TI command followed by up to four title words.

Example: TI Foundation and Earth

Author search: Use the AU command followed by Last, First, and Middle name(s) with no punctuation.

Example: AU Donaldson Stephen

Combination search: Use the CO command followed by Author Lastname and Title Firstword.

Example: CO Cook Black

Subject search: Use the SU command followed by 4 word heading.

Example: SU New Guinea

Call number search: Use the CA command followed by the call number.

Example: CA QA76.8.I294 1988

Type HELP for help.

Using UNICORN

This file is in the process of being written.

URICA

URICA is a menu-driven system and fairly easy to use. However there are a couple of things to note about the interface. First, to get help, hit the \ key.

To exit from a menu and back up to the last menu, you use the . key.

Using UTCAT

You should be at the UT Library Online Catalog -- Search Choices Menu. From this menu, you may type 1 or 2 letter search commands and the word(s) you want to search for. After your search command is typed in, hit the keypad ENTER key.

AUTHOR searches: To search for a particular author, you use the A (Author) search command followed by the author's name.

Example: a mowat, farley

To see the index of authors, you use the AI (Author Index) search command followed by the first author you wish to see.

Example: ai mowat, farley

TITLE searches: To search for a particular title, you use the T (Title) search command followed by the title of the book.

Example: t never cry wolf

To see the index of titles, you can use the TI (Title Index) search command followed by the first title you wish to see.

Example: ti never cry wolf

To search for certain keywords in a title, you can use the TK (Title Keyword) search command.

Example: tk wolf cry

SUBJECT searches: To search by subject, you can use the S (Subject) search command.

Example: s wolves

Also, from the Search Choices Menu, you can type 3 letter commands followed by Keypad Enter or their equivalent PF keys.

BACk (PF1) To page back and review up to 10 screens of results.
REPeat (PF2) To repeat the last search typed in.
INDex (PF3) To move from brief or full records to the corresponding index.
EXPlain (PF4) To view general information about the Online Catalog.
NEWs (PF5) To view current information about Online Catalog developments.
HELp (PF6) To see context sensitive help.
MENu (PF7) To move back to the Search Choices Menu.
STOp (PF8) To exit from the Online Catalog.
COMment Send comments to library staff.

Finally, if a list of items is on the screen, you can type the number of

the item you wish to see.

Please note that some terminal packages remap the keypad ENTER key to other keys. For example, in Procomm the equivalent to Keypad ENTER is Shift-F10. Keypad ENTER is equivalent to ESC O M.

Using VTLS

Advanced User Search System:

Author searches: To search for a particular author, use the A/ search command followed by the author's name.

Example: A/Hemingway, Ernest

Title searches: To search for a particular title, use the T/ search command followed by the title. Omit any leading articles such as THE, A, AN, LA, ...

Example: T/Sun also rises

Subject searches: To search for a particular subject, use the S/ search command followed by the subject.

Example: S/Metals

Keyword searches: To search for a keyword, use the W/ search command followed by the subject.

Example: W/Computers

Boolean Keyword: To search for keywords with boolean operators, use the B/ search command followed by a keyword, then an operator, and then the second keyword.

Example: B/Ocean and Island
B/Dog or Cat

Help: To see help, type /HELP.

Previous Screen: To see previously displayed screens, type PS.

Next Screen: The next screen is usually displayed by typing NS.

Novice User Search System

The Novice User Search System can be accessed at any time by typing ?. This novice mode is an easy to use menu driven method of searching. In addition, the novice mode also offers training on using the Advanced User Search System. Advanced User Search System commands may be typed in at any novice level prompt.

Using Z39.58

Z39.58 is a standard from NISO known as the Common Command Language standard. I have just received the latest draft of the standard and will add to this section in the near future. Basic searches are in the form:

```
FIND [index name] [search terms]
```

The following are common index names:

au	author search
ti	title search
to	topic search (Dartmouth only)
su	subject search (Harvard only)

Examples:

```
FIND AU Twain
FIND TI Dune
FIND SU Space
```

The DISPLAY command will display the results.

Type HELP for help.

Using GvB

This file has not been written yet.

Using MultiLIS

MultiLIS is menu/prompt driven and is not difficult to use. Use the PF1 key to return to the previous menu/screen. Press the HELP key or KeyPad7 key for context-sensitive help. Status and error messages are usually displayed in the lower right-hand corner of the screen. Press the RETURN key to acknowledge these messages.

Title searches: Type one or more words from the title (order doesn't matter).

MultiLIS will display an individual record (if only one record is found), or a list of titles.

Example:
dead zone
pet sematar*
christine;

Author searches: Always type the author's last name first.

MultiLIS will display an individual record (if only one record is found) or an alphabetically arranged list of authors.

Example:
king stephen
king, stephen
king s

Subject searches: Type one or more words which describe the subject (order doesn't matter). MultiLIS will display an individual record (if only one record is found) or a list of subject headings containing the words you used.

Example:
american horror tales
horror film
horror tales;

When searching by author, subject, organizations and conferences, series, uniform title, or publisher, MultiLIS will usually display a list of items which match your search. To see the TITLES listed, type the number or range of numbers. Note that once you have selected items from this display, you cannot return to this display without redoing the search.

Example: 1,5-8,12

To see the detailed RECORD for a title, type the number for the title you want.

Function Keys

Help:	HELP key or KeyPad7
New search or Exit:	PF1
Previous screen or record:	PF2
Next screen or record:	PF3
Print record:	PF4

Limit by date or language:	PF5 or KeyPad5 (Available when a list of titles is displayed)
Display search history:	PF2 or KeyPad2 (Available ONLY at the searching screen)

DOBIS/LIBIS

In process

Using CLSI

This file has not yet been written

OCLC

There are five different types of search available:

Keyword (in subject headings and/or title),	[Press `K' then `RETURN']
Author/Title (either one or both),	[Press `A' then `RETURN']
Classmark,	[Press `C' then `RETURN']
LBN (Library Book Number),	[Press `L' then `RETURN']
ISBN (International Standard Book Number),	[Press `I' then `RETURN']

To leave this system at any stage, press the `menu' key (escape) and type `Q' followed by the `return' key or its equivalent. If this is the first time you have used this system, please press the `menu' key and type `H' followed by `return' for further information.

Miscellaneous Telnet-accessible systems

American Mathematical Society's e-MATH
American Philosophical Association
ASSET: Asset Source for Software Engineering Technology
BIRON System: ESRC's Archive online catalogue & subject index
CERCnet: Concurrent Engineering Research Center Info Network
CHAT: Conversational Hypertext Access Technology
CONTEL DUAT System (Flight Plan Filing)
Cooperative Extension Management System
Cornell National Supercomputer Facility (CNSFINFO)
E.T.Net at The National Library of Medicine
FEDIX: On-line Information System for Colleges, Universities
and other Research Organizations
FDA (Food & Drug Administration) Electronic Bulletin Board
GC EduNET
Geographic Name Server
Ham Radio Call Book
Higher Education National Software Archive (Lancaster U)
Higher Education National Software Archive (U of Kent)
HPCwire: high-performance computing industry service
Imperial College Centre for Computing Services
ISAAC: Information System for Advanced Academic Computing
LIBERTY HIGH: Information about University admission
Libsearch: automatic connection to library databases
Mailbase Full-Screen Service (United Kingdom)
Meckler's Electronic Publishing Service
MicroMuse at M.I.T.
MOLIS: Minority On-Line Information Service
National Information on Software and Services NISS
NISSPAC
NIX - heNsa/micros Information eXchange (United Kingdom)
NOAA-Space Environment Services Center
NRAO/Socorro Information System
Ocean Information Center (University of Delaware)
PENpages at Penn State (Agricultural information)
PINE Mailer Demonstration (University of Washington)
QUERRI: Questions on University Extension Regional Resource Inf
Southwest Research Institute, Div. Instrumentation & Space Sci.
STIS: NSF's Science & Technology Information System
SWITCHinfo Reader (Swiss Academic & Research Network)
Technology Resources in Education: Electronic Info Service
UK TeX Archive at Aston University
US Naval Observatory, Washington DC. Automated Data Service
Washington & Lee University, Law Library Guest Site
Weather Underground
ZIB Electronic Library, Germany

American Mathematical Society's e-MATH

```
Telnet 130.44.1.100
login: e-math
Password: e-math
TERM = (vt100) vt100

        This is the American Mathematical Society's e-MATH
   system for electronic communication and information delivery

                                e-MATH SERVICES

 [0] EXIT                                  [7] WELCOME MESSAGE
 [1] DIRECTORY INFORMATION (CML)           [8] SUGGESTION BOX
 [2] PROFESSIONAL OPPORTUNITIES            [9] MATH REVIEWS AUTHOR LOOKUP
 [3] SOFTWARE                              [10] AMS MEETINGS
 [4] DOCUMENT DELIVERY                     [11] BULLETIN OF THE AMS
 [5] MATH REVIEWS CLASSIFICATION SCHEME    [12] DIRECTORY OF LISTS
 [6] MATH REVIEWS SUBMISSION               [13] HELP
```

American Philosophical Association : The Electronic Agora

```
Telnet ATL.CALSTATE.EDU or 130.150.102.33
login: apa

           California State University Advanced Technology Laboratory
                            Bulletin Board System
                            Copyright  (c)  1988
                         California State University
                           Office of the Chancellor
                             All rights reserved
              This system was made possible by a grant from AT&T.
------------------------------------------------------------------------------
-
        American Philosophical Association: The Electronic Agora
------------------------------------------------------------------------------
-
            [1]  Purpose
            [2]  News: To and from the National Office
            [3]  Philosophical Societies
            [4]  Grants, Fellowships, and Academic Positions
            [5]  Philosophical Calendar
            [6]  E-mail Addresses of the Membership
            [7]  Directories and Computer Resources
            [8]  Committee on Computer Use in Philosophy
            [9]  News from the Divisions
```

ASSET: Asset Source for Software Engineering Technology

Telnet SOURCE.ASSET.COM or 192.131.125.10
login: starsbbs

PURPOSE

Asset Source for Software Engineering Technology, ASSET, is a United States Department of Defense project to promote the reuse of computer software and software-related products. ASSET, being developed by IBM and its subcontractor, SAIC, is organized under the Defense Advanced Research Projects Agency's (DARPA's) Software Technology for Adaptable, Reliable Systems (STARS) program which was chartered for the purpose of achieving dramatic improvements in software productivity while continuing to make incremental improvements in quality and reliability.

ASSET strives to be the national clearinghouse for software reuse sources and information. ASSET will provide the following products and services:

Reuse Network and Distribution
* Catalogs of reusable assets
    * Public domain
    * Government
    * Commercial
* Library of reusable components
* Message board
* Schedule of reuse conferences
* Brokerage services for reusable assets

Reuse Technology Information Exchange
* Software reuse newsletter
* Training and workshops in reuse
* Software reuse consulting
* Telephone customer support

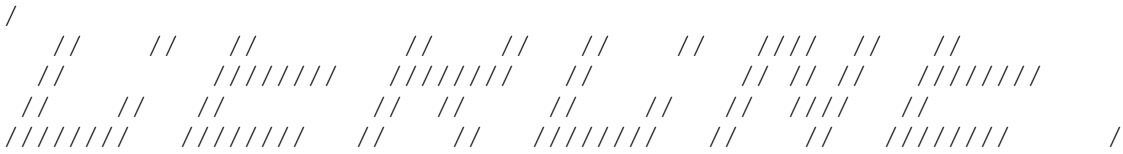
Reuse Library Expertise and Consulting
* Library management mechanisms
* Component certification criteria
* Domain analysis methods
* Cataloging procedures
* Searching techniques
* Library interface standards

CERCnet

Concurrent Engineering Research Center Information Network

Telnet BABCOCK.CERC.WVU.WVNET.EDU or 129.71.14.1
login: cercnet

W E L C O M E T O



Your 24 Hour, 7 Days a Week Information Exchange Network

Concurrent Engineering Research Center Information Network
CERCnet

Concurrent Engineering Research Center (CERC)
West Virginia University
Morgantown, WV 26505

This work has been sponsored by the Defense Advanced Research Projects Agency (DARPA), under Contract No. MDA972-88-C-0047 for the DARPA Initiative in Concurrent Engineering (DICE).

CERCnet is a free, on-line subscription service providing access to a text retrieval system which includes full conferencing/Email, bulletin board and CE
abstracts/biographical information.

CERCnet is located in the Concurrent Engineering Research Center (CERC) at West Virginia University in Morgantown, West Virginia. CERC's mission is to promote and facilitate the adoption of concurrent engineering technology by U.S. industrial users and suppliers. The Center has a strong education and training mission and serves as an important vehicle for transferring this technology to U.S. industry and the Department of Defense.

Please direct all questions, comments or CERCnet registration via E-mail jrs@cerc.wvu.wvnet.edu, or by calling 304-293-7226 or writing to: Concurrent Engineering Research Center, Drawer 2000, West Virginia University, Morgantown, WV 26506, Attention: CERCnet.

The system administrators for CERCnet are Bart Spearen and Ken Yarina. They can be contacted through the CERCnet system by sending a message in the feedback conference or by calling 1-800-331-6026. They will answer any of your questions and will assist you in logging on to the CERCnet system.

CHAT: Conversational Hypertext Access Technology

Government of Canada, Dept. of Communications

```
Telnet DEBRA.DOC.CA or 192.16.212.15
login: chat
                                CHAT
             Conversational Hypertext Access Technology
        Copyright (C) 1989,1990,1991  Dept. of Communications
              Government of Canada, All Rights Reserved

Welcome to the CHAT natural language information system.  CHAT is an
information retrieval technology developed by Communications Canada. Please
note that your interactions with CHAT are being recorded.  This data will be
used to evaluate the performance of CHAT, and fine-tune the information
files.
You will have a chance to leave comments at the end of your session.

For information about CHAT, download the file /pub/chat/info.page from
debra.doc.ca using ftp (user name "anonymous"), or contact Andrew Patrick:
 (613) 990-4675, andrew@debra.doc.ca (Internet, BITNET, UUCP).
There are information files available on the following topics:
 - AIDS (Acquired Immune Deficiency Syndrome)
 - the UNIX C Shell (csh)
 - the Canadian Department of Communications (DOC)
```

CONTEL DUAT System (Flight Plan Filing)

```
Telnet DUATS.CONTEL.COM or 131.131.7.106

  You are using Contel DUATS as a VISITOR.  As such you are not
  permitted access to Flight Plan Filing capabilities nor will
  your session be recorded for SAR purposes.  In order to utilize
  these features, you MUST use a valid airmen's certificate.  Call
  1-800-345-3828 if you are having difficulty registering as a
  pilot.
  o  Select functions from each menu by entering the
     number of the desired function followed by a RETURN.
  o  Enter a 'Q' at any prompt to QUIT current function.
  o  Enter a '!' at any prompt to escape to Encode/Decode.
  o  Enter a '$' at any prompt to escape to Golden Eagle.
  o  Enter a '#' at any menu prompt to enter Quick Path.
  o  Items in [brackets] are defaults.  Pressing RETURN accepts
     the default value.  Alternate values may be entered.
  o  Enter a '?' at any menu for general menu help.
  o  Enter a '?' followed by a menu selection number (e.g. ?4)
     for specific menu item help.
  ------------------------------------------------------------------
  ** SPECIAL: Canadian weather data may be incomplete. You should **
  ** validate all Canadian briefings until further notice.        **

              DUAT Main Menu
    Weather Briefing                1
    Encode                          2
    Decode                          3
    Modify Screen Width/Length      4
    Golden Eagle Services (tm)      5
    Quick Path Reference List       6
    Extended Decode                 7
    FAA/NWS Contractions            8
```

Cornell National Supercomputer Facility (CNSFINFO)

```
TELNET INFO.TC.CORNELL.EDU or 128.84.201.1
eagle login: info

Cnsfinfo is the online information system of the Theory Center's
Cornell National Supercomputer Facility (CNSF).

Welcome to Eagle

About.cnsfinfo
Copyright.Notice
Events
Forms
HotTips.and.News
IBM.3090.Information
Languages.and.Libraries
Mass.Storage,.Tapes.and.File.Transfer
Migration.Guide
NQS.Batch.Processing
Networks.and.Access.Information
Policies
RS6000.Information
Software
Technical.Reports
Tutor
Visualization

Report problems by calling (607) 254-8686 and asking for a consultant,
or mailing to consult@eagle.tc.cornell.edu.
```

E.T.Net at The National Library of Medicine

```
Telnet ETNET.NLM.NIH.GOV or 130.14.1.27
Login  etnet
                          Welcome to E.T.Net
                                 from
                     The National Library of Medicine

The current list of conferences on E.T.Net is:

*  general - for general discussion on computers in health sciences education
*  cai - computer assisted instruction in all forms
*  avline - a subset of the NLM's AVLINE database
*  hardware - computers, peripherals, etc.
*  shareware - a place to exchange health sciences shareware
*  users_guide - an online tutorial for new users of ETNet
*  digital_images - computing in radiology
*  archive - online archive of ETNet Volume 1
*  nucare - research in nursing care

All new users are urged to read the 'users_guide' conference once.
If confused at any time, type 'HELP'
To end your session and logoff, type 'BYE'

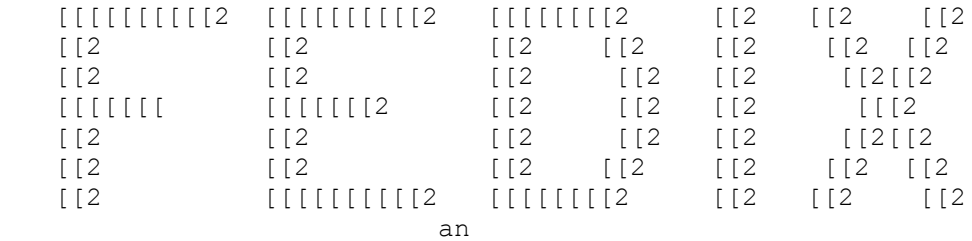
                    Michael D'Alessandro & Michael Ackerman

Please send your comments to:
     E.T.Net
     The Learning Center for Interactive Technology
     Educational Technology Branch
     Lister Hill National Center for Biomedical Communications
     The National Library of Medicine
     8600 Rockville Pike
     Bethesda, MD 20894
     Phone:     (301) 496-0508 -- Ask for Dr. Susan Sparks
     FAX:       (301) 480-3035
     E-mail:    sandro@lhc.
```

FEDIX: On-line Information System for Colleges, Universities and other Research Organizations

Telnet FEDIX.FIE.COM or 192.111.228.1
login: fedix

Welcome to -



an

ON-LINE INFORMATION SYSTEM FOR COLLEGES, UNIVERSITIES,
and
Other Research Organizations

FEDIX is an on-line information service that links the higher education community and the federal government to facilitate research, education, and services. The system provides accurate and timely federal agency information to colleges, universities, and other research organizations.

FEDIX provides daily information updates on:

- Federal EDUCATION and RESEARCH PROGRAMS (including descriptions, eligibility, funding, deadlines).
- SCHOLARSHIPS, FELLOWSHIPS, and GRANTS
- Available used government RESEARCH EQUIPMENT
- New funding for specific research and education activities from the COMMERCE BUSINESS DAILY, FEDERAL REGISTER, and other sources.
- MINORITY ASSISTANCE research and education programs
- NEWS & CURRENT EVENTS within participating agencies
- GENERAL INFORMATION such as agency history, budget, organizational structure, mission statement, etc.

PARTICIPATING AGENCIES

Currently FEDIX provides information on 10 federal agencies. The Department of Energy (DOE), Office of Naval Research (ONR), National Aeronautics and Space Administration (NASA), Air Force Office of Scientific Research (AFOSR), and Federal Aviation Administration (FAA) are providing comprehensive education- and research-related agency information, while the National Science Foundation (NSF), Department of Housing and Urban Development (HUD), Department of Commerce (DOC), Department of Education (DOEd) and National Security Agency (NSA) are providing minority assistance information, exclusively. Additional government agencies are expected to join FEDIX in the future.

MOLIS, the Minority On-Line Information Service, complements FEDIX by providing current information about Black and Hispanic colleges and universities. Data Line: 301-258-5016 or 800-626-6547 . Office: 301-975-0103.

```
:                          FEDIX                          HELPLINE   :
:                 On-Line Information Service         (301) 975-0103 :

:                        FEDIX MAIN MENU                              :
:                                                                     :
:    1 - COMPREHENSIVE AGENCY INFORMATION      7 - Mail               :
:    2 - MINORITY PROGRAM INFORMATION          8 - Announcements      :
:    3 - Search Programs (Cross-Agency)        9 - System Updates     :
:    4 - Procurements, Notices and News       10 - What is FEDIX?     :
:    5 - Utility Menu                                                 :
:    6 - Downloadable Files                                           :
:                                                                     :
:                         0 - Logoff                                  :
```

FDA (Food & Drug Administration)

Electronic Bulletin Board

TELNET FDABBS.FDA.GOV or 150.148.8.48
login: bbs

TOPICS	DESCRIPTION
NEWS	News releases
ENFORCE	Enforcement Report
APPROVALS	Drug and Device Product Approvals list
CDRH	Centers for Devices and Radiological Health Bulletins
BULLETIN	Text from Drug Bulletin
AIDS	Current Information on AIDS
CONSUMER	FDA Consumer magazine index and selected articles
SUBJ-REG	FDA Federal Register Summaries by Subject
ANSWERS	Summaries of FDA information
INDEX	Index of News Releases and Answers
DATE-REG	FDA Federal Register Summaries by Publication Date
CONGRESS	Text of Testimony at FDA Congressional Hearings
SPEECH	Speeches Given by FDA Commissioner and Deputy
VETNEWS	Veterinary Medicine News
MEETINGS	Upcoming FDA Meetings
IMPORT	Import Alerts
MANUAL	On-Line User's Manual

GC EduNET

TELNET GCEDUNET.PEACHNET.EDU or 131.144.54.52

Welcome to GC EduNET!

GC EduNET is a computer network for educators and those interested in education. We welcome your input, ideas, and suggestions.

GC EduNET is being revised on a daily basis. Please check under SYSTEM NEWS in the ABOUT GC EDUNET section for the latest revisions.

Main Menu

1. About GC EduNet
2. CNN Curriculum Guides
3. Quality Core Curriculum
4. Organizations
5. Conferences
6. Latebreaking News
7. Libraries

Geographic Name Server

```
Telnet 141.212.99.9 3000

Geographic Name Server, Copyright 1989, 1990 Merit Inc.  All rights reserved.
>>> NEW VERSION!!! <<< Use "help" or "?" for details.

New version: Wed Mar 14 10:33:50 EST 1990

Change summary:
1) ZIP code queries now supported
2) ed(1)-style regular expression queries now supported
3) Query and session timeouts now enabled
4) Better query parsing, error messages
5) Response lines now terminated with CRLF instead of just LF

NOTE: This server is intended for use with clients which interpret
the raw protocol.  However, you may also use the server directly
if you don't have the clients.  There are currently four clients:
1) A user agent which pretty-prints the raw protocol and optionally
   computes distance and azimuth between any two cities,
2) A filter for producing input files for Brian Reid's netmap program,
3) A US map browser which uses the X Window System,
3) A prototype X-based network browsing tool.

Data came primarily from the US Geodetic Survey and the US Postal
Service. Coverage includes all US cities, counties, and states, as well
as some US mountains, rivers, lakes, national parks, etc. A few
international cities have also been included. Unfortunately, some minor
inaccuracies remain.  Merit Inc. is not responsible for maintaining this
data.

Queries should generally look like the last line of a postal address, as
in "Ann Arbor, MI 48103".

All these queries will also work:
1) ed(1)-style regular expression, like "[Bb]os.*n$"
2) A city name alone, like "Ann Arbor"
3) A ZIP or ZIP+4 code alone, like this: "46556", "48103-2112"
   NOTE: only the first 5 digits in a ZIP+4 code are used.
4) As in 1) or 2) but with a state name or abbreviation, like
   this: "Ann Arbor, MI", "Los Angeles, California"
5) As above but with optional nation name or abbreviation, like
   "Toronto, , Canada".  NOTE:  there are currently very few
   foreign cities.

Punctuation, white space, and upper/lower case are ignored.
Any reasonable state/nation abbreviations are recognized.

Here are more example queries:

"Ann Arbor, Mich" "48103" "annarbor,mi" "Paris,,France"
"Mammoth Cave National Park" "mount mckinley" "lake michigan"

If a query fails, try expanding abbreviations (e.g. change "Mt."
to "Mount", etc.
```

Interpret server replies as follows:

0 [city name]
1 [county FIPS code] [county name]
2 [state/province abbreviation] [state/province name]
3 [nation abbreviation] [nation name]
A [telephone area code]
E [elevation in feet above mean sea level]
F [feature code] [feature name]
L [latitude DD MM SS X] [longitude DDD MM SS X]
P [1980 census population]
R [remark]
T [time zone]
Z [postal ("ZIP") code]

To exit the server, enter "stop", "end", "quit", "bye",
"exit", "logout", "logoff", or control-D.

Direct questions or comments to Tom Libert, libert@eecs.umich.edu,
or phone (313) 936-3000. Please let me know if you write new clients.

Ham Radio Call Book

```
TELNET 128.235.1.10 2000

or

TELNET 128.205.32.2 2000

Callbook v1.2  Software written by bowen@cs.buffalo.edu.  Please send bug
reports for this installation to cdp@hertz.njit.edu.  Callsign data as of
mid 1992.  There are no US club callsigns listed.  Type 'help' for help
>>help
Available commands:
     call [filters] callsign   - lookup callsign
     city [filters] city       - lookup city
     help [command]            - get help on command
     info                      - get info about server
     more rows                 - set number of terminal rows
     name [filters] surname    - lookup last name
     quit                      - exit the server
     set name|data|raw|addr    - set the display mode
     zip [filters] zipcode     - lookup zip code

Available regular expression filters:
     -c   filter by callsign
     -f   filter by first name
     -l   filter by last name
     -a   filter by street address
     -z   filter by zip code
     -t   filter by town
     -s   filter by state (or province)
>> quit
```

Higher Education National Software Archive

at Lancaster University

TELNET MICROS.HENSA.AC.UK or 148.88.64.2
login: hensa
Password: hensa

From July 1992, the NPDSA service run at Lancaster University has been joined by the UNIX archive run at the University of Kent to form a new service: the Higher Education National Software Archive (HENSA), which is available to the whole of the Higher Education community.

At Lancaster, the service will be known as HENSA/micros, and will continue to carry the same range of material as before. The University of Kent operation will be known as HENSA/unix, and will carry general UNIX software.

Indexes
----

micros/amiga/dos/index	Amiga	micros/atari/tos/index	Atari ST
micros/bbc/index	BBC Micro	micros/misc/index	Miscellaneous
micros/ibmpc/dos/index	IBM PC DOS	micros/ibmpc/dv/index	IBM PC DesqView
micros/ibmpc/win/index	IBM PC Windows	micros/ibmpc/os2/index	IBM PC OS2
micros/mac/finder/index	Macintosh	micros/mac/hyper/index	Mac Hypercard
kermit/index.pfx	Kermit	tools/index	Mainframe tools
cti/biology/index	CTI biology	x/index	X-Windows
misc/rfc/index.txt	RFC documents	micros/arch/riscos/index	Archimedes

basics	Where things are, what to do, etc
commands	The commands you can use
cti	The Computers in Teaching Initiative
e-mail	Contacting us by Electronic Mail
ftp	How to get files by FTP
kermit	Information specific to Kermit software
micros	Information specific to microcomputer software
newsletters	Electronic Mail newsletters
nix	The HENSA/micros conferencing system
server	The mail server interface to the HENSA/micros
terminals	Online access to our system

Higher Education National Software Archive

at the University of Kent at Canterbury

TELNET UNIX.HENSA.AC.UK or 129.12.21.7
login: archive

This is the HENSA software location interface. It enables you to interactively explore the UKC software archive to locate software you want. You can list files with this interface but you can not use it to transfer files. Once you have located the package you want you should use FTP to ship the files you want.

The interface will be familiar to UNIX users - it has commands like ls, cd, pwd and cat which act similarly to their UNIX equivalents. If you don't know what these commands do you can use the help command to get more information (e.g. `help ls' will tell you what the ls command does).

ISAAC: Information System for Advanced Academic Computing

```
Telnet ISAAC.ENGR.WASHINGTON.EDU or 128.95.32.61
Use vt100 terminal emulation

+-----------------------------------------+
|   ###   #####    ###      ###      #####  |
|   ###  ##       ## ##    ## ##   ##       |        Information System
|   ###   ####   ##   ##  ##   ##  ##       |               for
|   ###      ##  #######  #######  ##       |    Advanced Academic Computing
|   ###  #####   ##   ##  ##   ##    #####  |
+-----------------------------------------+
   NOTE: If you are not an ISAAC subscriber, you may register on-line
         by typing "register" in lower case as your access code.
         Contact the ISAAC office if you have questions: (206) 543-5604
         or e-mail isaac@isaac.engr.washington.edu
*****************************************************************************
**
*
*
* Welcome to ISAAC!  ISAAC is funded by IBM and operates at the University
*
* of Washington.  The goal of ISAAC is to provide IBM users with information
*
* about computer technology for instruction and research in higher education.
*
*
*
*****************************************************************************
**
                        I S A A C  -  M a i n  M e n u
-----------------------------------------------------------------------------
---
          Move the cursor to a desired service below and press [Enter].
          Choose "ABOUT ISAAC" for more information about this system.
-----------------------------------------------------------------------------
---

                    FORUMS      - Ongoing user discussions
                    DATABASES   - Reference information
                    UTILITIES   - System tools
                    ABOUT ISAAC - Detailed ISAAC information
```

LIBERTY HIGH: Information about University admission

```
Telnet NYSERNET.ORG or 192.77.173.2
login: librtyhi
Password: librtyhi
                              Welcome to
                            LIBERTY HIGH

          LIBERTY HIGH is part of the "Bridging the Gap"
            Project, a Collaborative Partnership among
            5 High Schools, 4 Universities, & NYSERNet

             1)      Information
             2)      Admissions
             3)      Ask Liberty-Hi
             99)     Exit "LIBERTY HIGH"

        Welcome to LIBERTY HIGH!

        AND thank you for participating in this initial effort to 'Bridge
        the Gap' between high school and college.

        Two activities are available here.
                1. You can get information about admission to:
                        Cornell
                        New York University
                        SUNY Binghamton
                        University of Rochester

                2. You can 'Ask Liberty-Hi' about things that are on
                your mind--Why is the sky blue? Or, how can I help a
                friend who is abusing alcohol?  We'll do our best to
                provide good answers to most questions in a timely
                fashion.  Just one thing: homework questions are off-
                limits.

        Like most new ventures, we'll very likely have some problems
        as we go along here.  But we'll do our best to fix things, so stay
        involved and help pioneer this new path to college.
```

Mailbase Full-Screen Service (United Kingdom)

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.ncl.langate
At the Newcastle WAN/LAN Gateway
       Enter host-name or NSAP-LSAP address:prompt, enter ncl.mailbase

At the login prompt, enter  guest
At the password prompt, enter mailbase

At the Terminal Type -> prompt, enter  vt100
              ---                              ---
              ---   Mailbase Full-Screen Service  ---
              ---                              ---
                      **   September 1991   **

Mailbase is the JANET electronic mail based group information exchange
service  which allows groups of users to manage their  own  discussion
lists and to share information.  The full-screen service allows simple
on-line  browsing of the publicly-available  part of this information.
The copyright for the information stored is held either by the authors
or by the NISP Project.

To quit if you have problems:  Press "Control" and "C" together.

This full-screen interface to Mailbase uses "Ingres Forms". These will
be shown on the next screen.

To make a query you will need to:
o    Position the cursor over the data which you want to access
o    Select a command from the menu line by either:
          Using the function key shown next to the command name
     Or if your terminal does not have "function keys":
          Use the "menu" key (often the "ESC" key") to move the cursor
               to the command line at the bottom of the screen.
          Type the command name (or the unique first letter(s) of its
               name) on the command line.

The  key mappings for your particular terminal may be seen by choosing
the "Help" menu item followed by  the  "Keys"  menu  item.   Note  the
settings for:  the  "menu" key (usually the ESC key)
               "cursor up", "cursor down", "forward a page"

Help  is  available  at  all stages.
For a quick exit if you have problems:  Press "Control" and "C" together.
```

Meckler's Electronic Publishing Service

```
TELNET NISC.JVNC.NET or 128.121.50.7
Login: nicol
You must have vt100 terminal emulation to use the system

 Welcome to the JvNCnet Network Information Center On-Line (NICOL)
 NICOL is designed for use by members of the JvNCnet community as
 well as the rest of the Internet community.

    Basic Help Information
    About NICOL
    Internet Resources
    JvNCnet Information
    MC(2)--Meckler's Electronic Publishing Service
    Exit NICOL

 Welcome to Meckler Corporation's MC(2): Electronic Publication
                        Services

    About Meckler's MC(2) Service
    Meckler Info. Tech. Pub.: Complete Catalog
    Catalog Order Form
    Meckler Conference Programs
    CD-ROM Librarian Index: 1986 - 1990
    Computers in Libraries Index: 1985 - 1990
    CD-ROM Librarian: May 1991
    Questionnaire
    Prior menu
```

MicroMuse at M.I.T.

```
Telnet MICHAEL.AI.MIT.EDU or 18.43.0.177
login: guest
TERM = (vt100)
---- World MicroMuse ----
================================================================================
 .----.    .----. .--.      Welcome! MicroMUSE is our vision of the 24th
 `-. . \  / . .-' `--'      century, a blend of high technology and social
   | |\ \/ /| |             consciousness with emphasis on education, concern
   | | \  / | |  .---.    .---. .---.----.  .---.      for the environment,
   | |  \/  | |  `-. |   / ___ \`-.   __  | / ___ \     and communication. Our
   | |      | |    | |  | |   `-' | |  `-'| |   | |    charter is available
   | |      | |    | |  | |___,-, | |     | |___| |    by anonymous ftp to
 .-' `-.  .-' `-..-' `-. \      /.-' `-.    \     /     michael.ai.mit.edu
 `-----'  `-----'`-----'  `---' `-----'     `---'      (18.43.0.177) in the
                                .----.    .----.     file
mud/tinymuse/charter.
* Commands available:          `-. . \  / . .-'     Visitors and colonists
                                 | |\ \/ /| |       are encouraged to read
it.
* connect [name] [password]     | | \  / | | .---.  .---.  .----.   .---.
* connect guest                 | |  \/  | | `-. |  | .-' /  ___|  / ___ \
* WHO                           | |      | |   | |  | |   \ `--.  |  ____.'
* QUIT                          | |      | |   | |__| |    `--. \ | |____
                               .-' `-.  .-' `-.  \     /   .---' |  \     |
          - At M.I.T. -        `-----'  `-----'   `---'    |____/    `----'
================================================================================
For info on a new character, connect as guest and type: help register
================================================================================

A complete list of MUDs/Muses/MOOs is available via anonymous ftp from
caisr2.caisr.cwru.edu  in the /pub/mud directory.
```

MOLIS: Minority on-line Information Service

```
Telnet FEDIX.FIE.COM or 192.111.228.1
login: molis

                              M O L I S

                  THE MINORITY ON-LINE INFORMATION SERVICE
                                DESIGNED TO
              PROVIDE THE LATEST INFORMATION ON BLACK AND HISPANIC
              COLLEGES' AND UNIVERSITIES' MISSIONS, STRENGTHS AND
                            EMERGING CAPABILITIES

Note:  The collection of data is ongoing, and the database will be updated
as additional institutional information becomes available.  All information
appearing in the database has been reviewed and approved by participating
institutions.

                                    MOLIS                        HELPLINE
 MENU[MAIN]                 ON-LINE INFORMATION SERVICE         (301) 975-0103

                                  MAIN MENU

              1 - Minority Institutional Information       [MI]
              2 - Scholarships/Fellowships                 [SC]
              3 - Annual Federal Plans of Assistance
                  to HBCUs                                 [AF]
              4 - Mail
              0 - Exit System (Logoff)
```

NIX - heNsa/micros Information eXchange (United Kingdom)

```
TELNET MICROS.HENSA.AC.UK or 148.88.64.2
login: hensa
Password: hensa

At the -> prompt, enter  nix
Username: guest

Conferences

00visit_me
micros.amiga.dos.applications
micros.amiga.dos.programming
micros.amiga.hardware
micros.archimedes.hardware
micros.archimedes.riscos.applications
micros.archimedes.riscos.programming
micros.atari.hardware
micros.atari.tos.applications
micros.atari.tos.programming
micros.ibmpc.dos.applications
micros.ibmpc.dos.programming
micros.ibmpc.hardware
micros.ibmpc.os2.applications
micros.ibmpc.os2.programming
micros.ibmpc.windows.applications
micros.ibmpc.windows.programming
micros.mac.applications
micros.mac.hardware
micros.mac.programming
npdsa.general.problems
npdsa.general.suggestions
npdsa.software.amiga.dos
npdsa.software.archimedes.riscos
npdsa.software.atari.tos
npdsa.software.bbc.general
npdsa.software.ibmpc.desqview
npdsa.software.ibmpc.dos
npdsa.software.ibmpc.os2
npdsa.software.ibmpc.windows
npdsa.software.mac.finder
npdsa.software.mac.hypercard
npdsa.software.x.general
```

NOAA-Space Environment Services Center

```
TELNET 132.163.224.10
Username: SEL

ENTER: TYPE READ.ME for full file information
ENTER: TYPE HELP for Brief file information
ENTER: LOGOUT or LO to exit the system

You may TYPE the following types of files:

Type of Information      Syntax              Example

Solar Forecast  (SGARF) DDMMMYY_FORECAST.TEXT
Region Report   (SRS)   DDMMMYY_REGION.TEXT
Activity Report (SGAS)  DDMMMYY_ACTIVITY.TEXT
Coronal Report  (SCDR)  DDMMMYY_SCDR.TEXT
Daily flare Listing   [MAX91]DDMMMYY_EVENTS.LIST
GOES plots            [MAX91]DDMMMYY_XROP.PLOT
```

The OCEAN Information Center

```
TELNET DELOCN.UDEL.EDU or 128.175.24.1
Username: INFO

                          Welcome to
                        O C E A N I C
                   The OCEAN Information Center
                         incorporating
                            SONIC
             The SPAN::OCEAN Network Information Center

                   Created and Maintained by
                   The University of Delaware
                   College of Marine Studies
                       Lewes, Delaware

OCEANIC - Ocean Network Information Center
0  What's NEW in OCEANIC?
1  WOCE Information  (menu)
2  Data Directories (menu)
3  Browse Products  (menu)
4  User and Network Directories (menu)
5  Research Ship Schedules and Information  (menu)
6  Message to OCEANIC  (1 screen)
```

PENpages at Penn State

TELNET PSUPEN.PSU.EDU or 128.118.36.5
Username: PNOTPA

PENpages is a computer-based information service available seven days a week. Information is entered into PENpages by Penn State experts and many cooperators including the College of Health & Human Development, Pennsylvania Department of Agriculture and Rutgers, the State University of New Jersey. PENpages is housed at University Park with access points in each Pennsylvania county. There are no subscription fees charged for the use of PENpages.

PINE Mailer Demonstration (University of Washington)

```
Telnet DEMO.CAC.WASHINGTON.EDU or 128.95.112.1
login: pinedemo

Here, an almost full-featured version of the Pine mailer is available for
your evaluation.  Mail can be sent from this account, but only if it is
addressed solely to this account:
        pinedemo@cac.washington.edu

       PINE 3.05       MAIN MENU       Folder:(CLOSED)  0 Messages

      ?   HELP         - Get help using Pine
      C   COMPOSE      - Compose and send a message
      I   MAIL INDEX   - Read mail in current folder
      F   FOLDERS      - Open a different mail folder
      A   ADDRESSES    - Update your address book
      O   OTHER        - Use other functions
      Q   QUIT         - Exit the Pine mail program

Note: In Pine 3.0 we are encouraging folks to use the MAIL INDEX to read
mail instead of VIEW MAIL, so it is no longer on the main menu. Once in
the mail index, it is available as usual as the "V" command.
```

Southwest Research Institute

Division of Instrumentation and Space Sciences
Data Display and Analysis System

```
Telnet ESPSUN.SPACE.SWRI.EDU or 129.162.150.99
login: sddas

                        > > S  D  D  A  S < <
           Welcome to the Data Display and Analysis System
             Division of Instrumentation & Space Sciences
                     Southwest Research Institute
               Your rubout character is the DELETE key
     >> BE SURE CAPS LOCK IS OFF, this system is case sensitive <<
           Control c (CTRL-C) aborts the current operation
```

National Science Foundation

Science & Technology Information System

```
Telnet STIS.NSF.GOV or 128.150.195.40
login: public

Science and Technology Information System

Type up to eight letters as your personal ID, and then Enter.
User ID . . . . . .          (Example: jsmith)


 Enter  ?=Help  ESC=Exit
```

US Naval Observatory, Washington, DC

Automated Data Service

```
Telnet TYCHO.USNO.NAVY.MIL or 192.5.41.239
login: ads

                    -- AUTOMATED DATA SERVICE --
          US NAVAL OBSERVATORY -- WASHINGTON, D.C. 20392-5100

COMMAND EXPLANATION
======= ================================================
aust    Australian HF time signals, schedule to change
tco     Table of Contents
exp     General Explanations
internetHow to TELNET to the ADS over the Internet
note    Cautionary notice
nav     Sources of navigational information
gps     Global Positioning System Information
loran   LORAN Information
omega   OMEGA information
series  USNO Time Service Publications
transit TRANSIT Satellite information
astro   Astronomical Data and date utilities
info    General Time and Time Scales information
tv      TV time transfer information
ptti    PTTI Conference and other information
soft    Software utilities
vlf     VLF data
goes    GOES data
gpsftp  Instructions on using FTP for gps and loran data
```

Washington & Lee University, Law Library Guest Site

```
Telnet LIBERTY.UC.WLU.EDU or 137.113.10.35
login: lawlib
Use vt100 terminal emulation
Type X to exit

        TEXTFILES                              SERVICES

A  All textfiles                       M  Mail files
B                                      N
C  Legal research                      O  Set user options
D  E-mail & Listserver textfiles       P
E  Documents research                  Q
F  Internet textfiles/Library Info     R  Direct connect to TELNET sites
G  Bibliographies                      S  Hytelnet connect to TELNET sites
H                                      T  Archie Service
I  Computer program textfiles          U  World Wide Web System (WWW)
J                                      V  Gopher System
K  W&L site--Instructions              W  Wide Area Information System (WAIS)
L  W&L site--File descriptions
                                       X  LOGOUT OF SYSTEM
                                       Y  Message to System Operator
                                          John Doyle doylej@liberty.uc.wlu.edu

'R' OPTION MAIN MENU--Gives alphabetical menu of all scripted telnet sites--
 menu can be restricted by type/location --SysOp is automatically notified
 of script failures, will attempt to fix (This service is still in
production)
```

Weather Underground (University of Michigan)

```
TELNET 141.212.196.177 3000

or

TELNET HERMES.MERIT.EDU or 35.1.48.150
"Which Host?": um-weather

                          University of Michigan
                            WEATHER UNDERGROUND

                    College of Engineering, University of Michigan
                    Ann Arbor, Michigan  48109-2143
                    comments: sdm@madlab.sprl.umich.edu

   With Help from:  The UNIDATA Project,
                    University Corporation for Atmospheric Research
                    Boulder, Colorado  80307-3000

   Data Source:     Zephyr Weather Information Service (508-898-3511)

   NOTE:----------> The WEATHER UNDERGROUND is intended solely for
                    educational purposes.  Commercial users should
                    contact Zephyr for information on how to obtain
                    their own data feed.

                WEATHER UNDERGROUND MAIN MENU
               ******************************
               1) Forecast for a U.S. city
               2) Canadian forecasts
               3) Current weather observations
               4) Ski conditions
               5) Long-range forecasts
               6) Latest earthquake report
               7) Severe weather
               8) Hurricane advisories
               9) National Weather Summary
               X) Exit program
               C) Change scrolling to screen
               ?) Help and information
```

ZIB Electronic Library, Germany

```
Telnet ELIB.ZIB-BERLIN.DE or 130.73.108.11
login: elib

     This is RELEASE 2.1 of eLib, making available:
  1. a new "path" down to NetLib software and documents along eLib menus
  2. a set of 17 libraries with over 1000 items classified by GAMS-index
  3. including a new CodeLib of ZIB with 229 items, accessible freely now
  4. a hot link to NetLib containing over 6500 routines and documents
  5. a hot link to Reduce Network Library including over 400 info items
  6. an index to NA-Net contributions with searchable topics

    1  General
                        : Help Information and General Introduction
    2  Checkin Menu     : Get an eLib User Name and a Password - Self
Register
    3  GAMS Index       : Access to Software - by Problem Oriented Structure
    4  Library Index    : Access to Software - Sorted by Classified Libraries
    5  Module Index     : Access to Software - Sorted by Classified Modules
    6  NetLib Menu      : A "hot link" to the Famous NetLib
    7  RedLib Menu      : A "hot link" to the Reduce Network Library
    8  eLib Menu        : Send Command and Pre-Filetransfer
    9  NA-Net Index     : Refers to NA-Digest from NetLib's Na-Net File Store
   10  Computeralgebra  : Access to Catalogs of FG "Computeralgebra" of GI,
                          GAMM and DMV
   11  Reports Index    : Access to Scientific and Technical Reports Catalog
   12  Abstracts Index  : Access to Abstracts of Scientific and Tech Reports
   13  Message  Menu    : Write a Message to eLib's System Administration
   14  Editmenu         : Edit Text in Scratch File
   15  Setup Menu       : Adapt Your Terminal to Your Local Needs
```

NRAO/Socorro Information System

National Radio Astronomy Observatory

```
TELNET ZIA.AOC.NRAO.EDU or 146.88.1.4
login: vlais

             Welcome to the NRAO/Socorro Information System
                     TOP or MAIN Section Directory

              GEN      General Information
              SCHED    Official VLA, VLBA and VLBI NUG Schedules
              SUBVLBA  Subset of VLBA Info. for Observers/Observing
              VLA      VLA Specific Information
              VLBA     VLBA Specific Information
              INTRO    Brief Introduction to this system (Infosys)
              MAILIT   How to e-mail information to yourself
              HELP     Description of Internal commands
```

Libsearch: automatic connection to library databases

```
TELNET PL122A.EECS.LEHIGH.EDU or 128.180.5.52
login: tb06
Password:jia.fu
PL122a% cd /scratch/china.primitive/expect/test/thesis

# --- Creators

Terrence Brannon        (brannon@jove.cs.caltech.edu)
Janne Himanka           (shem@phoenix.oulu.fi)

# --- Description

Libsearch does all of the following

        o Automatic connection to library databases
        o Automatic translation from Libsearch's generic query language to
          the syntax of the particular library database
        o Automatic Logout

It beautifies and exploits the fact that everything in Tcl is a string.

# --- To Try it Out

-*-     1
telnet to pl122a.eecs.lehigh.edu
login as tb06 with password jia.fu
cd to /scratch/china.primitive/expect/test/thesis

-*-     2
from the shell type

libsearch NAME KEY SPECIFIC

where NAME is (quotes required):
        "Aberdeen University"
        "Aberystwth University"
        "Bar-Ilan University"
        "Ben-Gurion University"
        "Haifa University"
        "Hebrew University"
        "Lehigh University"
        "Technion"
        "Tel Aviv University"
        "Weizmann Institute of Science"
        "Arizona State University"
        "Aston University"
        "Athabasca University"
        "Helsinki University Libraries"
        "Finnish National Bibliography"
        "Karolinska Institutet"

Instead of entering the entire name, you can enter a regular expression, BUT
DO NOT FORGET THE DOT. Ie, if you want to enter "Aberdeen University" you can
enter "Aberdeen.*" but NOT "Aber*"
```

where KEY is (no quotes required)
        author
        title
        subject

In some cases you may be able to enter other keys such as issn, isbn but for this demo, all extras like that are ignored.

where SPECIFIC is (play it safe and use quotes)
        whatever you are looking for

Example: Search Athabasca University for books by the author John Steinbeck

libsearch "Athabasca University " author "Steinbeck, John"
or
libsearch "Athaba.*" author "Steinbeck, John"

Example: Search Aberdeen Univerisity for the subject peace

libsearch "Aberdeen University" subject peace
libsearch "Aberdeen.*" subject peace

-*-   3
After connection and the initial automatic query of the database from your commandline specification, you are left in an interactive mode where you may type commands in by hand if you wish. There are a number of predefined commands that you can access by doing the following:

Type +

you will receive a prompt like this:

expect0.1>

at this prompt you can type any of these commands:

1) author XXX ; return
2) title YYY ; return
3) subject ZZZ ; return
4) eval $logout ; return

The first three issue another search command to the library database.
The last one logs you out.

--- How to Obtain

Currently not available on any ftp sites.
Email brannon@jove.cs.caltech.edu

--- Requirements

        Local installation will require the latest versions of:

        o Tcl   "/anonymous@ftp.uu.net:/pub/languages/tcl"
        o Extended Tcl "/anonymous@ftp.uu.net:/pub/languages/tcl"
        o Expect   "/anonymous@durer.cme.nist.gov:/pub/expect"

--- To be added

Whatever is suggested

o When logging out, tell what site you have just left
o AutoScrolling should be part of the syntax file
--

Terrence Brannon (brannon@jove.cs.caltech.edu)
medical biology by way of atomic physics and esoteric religion

Technology Resources in Education: Electronic Information Service

California State University

```
TELNET EIS.CALSTATE.EDU or 130.150.102.33
login: guest
Password:guest
Select 1 for vt100
```

MAIN MENU

[a] Overview of the California Technology Project
[b] Request an Account
[c] Change Your Password
[d] Access CTP Electronic Services
[e] CTP Acknowledgements
[f] News
[q] Quit this TRIE Session and Log-Out

TRIE SERVICES

[a] Overview of Services
[b] CTP Bulletin Boards
[c] Computer Conferencing
[d] Databases
[e] Electronic Mail
[f] Outside Services
[g] CNN Guides
[h] EIS Bulletin Boards
[i] FTP Services
[p] Previous Menu
[m] Main Menu
[q] Quit this TRIE Session and Log-Out

THE BIRON SYSTEM:

THE ESRC's ARCHIVE ONLINE CATALOGUE
AND SUBJECT INDEX

TELNET 155.245.10.133
login: biron
Password:norib

How does BIRON work?

Searches based on topics

The BIRON system prompts you to type in a topic for which you are seeking data. Your term is matched against a list of several thousand descriptive terms arranged in associated groups. If an exact match is found, you are told how many datasets have been indexed with the matching term and are offered other associated terms which might assist in focussing your search. If no exact match is found, lists of similarly spelled words are offered for your selection and the process of matching begins there. You may list the dataset titles retrieved on matching your term, or simply save the group which has been retrieved while you make further selections of topics. When you have selected all the topics you require, you have the option to make a combined search using boolean operators.

Searches based on bibliographic and methodological data

You may not be interested in topic-based searches, but may know of a particular research project for which you require the data; or you may wish to know what data the Archive has which employs certain research methodologies. The BIRON system allows you to type in the names of persons or organisations associated with particular datasets, titles or part-titles, dates and geographical areas of data collection, and will match these with information which we hold about the data. Similarly, particular methodologies are recorded and may be used in retrieval. Spatial units, where relevant, are also included in the databases and may be used as search terms.

Combination topic and bibliographic searches

Topic and bibliographic searches may be combined.

What information is retrieved from the system?

At the end of the search, if the search is successful, you will have, on screen, a list of one or more dataset titles. You may then view all the information which we have recorded about that dataset. The information includes a list of indexing terms showing all the topics covered by the data and a catalogue record giving the Archive number, the title, access conditions, data processing codes, the names of principal investigators, data collectors, sponsors and depositors, and an abstract detailing the main purposes of the research and main variables. Dates, geographical areas, populations, data collection methodology are also displayed.

Some ESRC Data Archive Data Holdings
Catalogued in the BIRON System

Large Scale and Continuous Longitudinal Studies

Over three thousand datasets, the Archive's entire holdings, are recorded in the BIRON system. These include the following large scale continuous and longitudinal studies:

- General Household Survey
- Family Expenditure Survey
- Census of Great Britain
- National Readership Survey
- Financial Expectations
- National Child Development Study
- Workplace Industrial Relations Survey
- British Election Studies
- Euro-barometers
- NOP National Political Surveys
- Gallup Political Polls
- Opinion Research Centre Polls
- Mori Political Polls
- National Labour Force Survey
- CSO Macro-Economic Time Series Data Bank
- Juvos Unemployment Statistics
- National Food Survey
- British Social Attitudes Survey
- Agricultural Census
- British Crime Survey
- Vital Statistics for Wards in England and Wales
- National Survey of Countryside Recreation
- New Earnings Survey
- National Health Service Patient Re-registrations
- Public Lending Right Loans Data
- Building Societies Mortgages Survey
- Farm Business Survey
- DTI Company Accounts Data
- Exstat Company Accounts
- Survey of Personal Incomes

Some Topic Covered in the Catalogue

Data held in the Archive cover most areas of social and economic life. They include:

Agriculture and Rural Life
Child Development and Child Rearing
Computer Programs, Teaching Packages and Reference Sources
Earth Sciences
Economic Behaviour
Education
Elites and Leadership
Ethnic Minorities, Race Relations and Immigration
Government Structures, National Characteristics and Policies
Health, Health Services and Medical Care
Housing, Environment and Town Planning
Industrial Relations
International Systems, Linkages, Relationships and Events
Language and Linguistics

Management and Organisation Studies
Mass Political Behaviour and Attitudes
Media Studies
Population Studies and Censuses
Plant and Animal Distribution and Conservation
Religion
Social Structure and Social Stratification
Social Welfare: Use and Provision of Social Services
Social Issues and Values

QUERRI

Questions on University Extension Regional Resource Information

TELNET ISN.RDNS.IASTATE.EDU or 129.186.99.6
DIAL: querri

Questions on University Extension Regional Resource Information
Sponsored by
Extension Services
North Central States

A data base maintained by the
North Central Region Educational Materials Project

* *
* Online access to bibliographic information *
* More than 12,000 NCR Extension resources *
* Modem or INTERNET *
* No registration or user fees *
* Determines availability of NCR Extension resources *
* Located at Iowa State University *
* *

TITLES with ABSTRACTS
Resources produced by NCR Extension specialists

WRITTEN and AUDIO-VISUAL Extension materials
Over 800 videotapes

NOT full text

* *
* ALL PROGRAM AREAS: *
* Agriculture *
* Home Economics *
* 4-H and Youth *
* Community Resource Development *
* *
* *
* QUERRI was developed by: *
*
* Sorrel Brown, coordinator, NCREMP *
* Mark Flannery, consulting programmer *
* Pam Patterson, office assistant, NCREMP *
*
* *

QUERRI is maintained & supported by
The North Central Region Educational Materials Project (NCREMP)

University of Illinois *
Purdue University (Indiana) *
Iowa State University *
Kansas State University *
Michigan State University *
University of Minnesota *
University of Missouri *
Lincoln University (Missouri)
University of Nebraska
North Dakota State University
The Ohio State University
South Dakota State University
University of Wisconsin

ACCURACY OF DATA BASE

If information in Q U E R R I is not accurate or up-to-date:

1) the availability of a resource has not been reported to NCREMP by a participating institution,
or
2) keywords used do not adequately describe titles.

If you notice oversights or errors,
please report them to the NCREMP office.

B-10 Curtiss Hall
Iowa State University
Ames, Iowa 50011

If a search request is related to an unknown topic for which few references have been produced by Extension (e.g. bioethics), contact NCREMP for alternative sources of information:

INTERNET: J2.NCR@ISUMVS.IASTATE.EDU
BITNET: J2.NCR@ISUMVS
FAX: 515 294-4517

The NCREMP office does NOT produce or distribute the actual resource.
Production and sales are handled by the producing institution.
QUERRI provides only BIBLIOGRAPHIC DETAILS
&
How to ORDER COPIES

SWITCHinfo Reader

```
                  Swiss Academic & Research Network

This is a reader for the FTP Archive on nic.switch.ch

TELNET NIC.SWITCH.CH or 130.59.1.40
Login: info
                       SWITCHinfo Reader for vt100 v0.1
h=help
Directory:/
 1 0CHANGES                                          3250  92/08/20 14:33
 2 0HIERARCHY                                       46888  92/08/24 05:12
 3 0README                                           1421  92/08/20 14:18
 4 0THIS_SITE_IS_IN_EUROPE                             80  91/03/13 14:51
 5 [contact_point]                                    512  92/08/02 22:50
 6 [database]                                         512  92/02/06 15:44
 7 [docs]                                            1024  92/07/08 10:57
 8 [e-mail]                                           512  92/06/25 00:51
 9 [file_server]                                      512  92/03/26 02:53
10 [info_service]                                     512  92/08/23 23:10
11 ls-lR                                           856369  92/08/24 05:14
12 ls-lR.Z                                         261735  92/08/24 05:14
13 [mirror]                                          512  92/08/23 23:21
14 [network]                                         512  92/03/26 10:02
15 [news-archive]                                    512  92/06/06 06:45
16 [registry]                                        512  92/06/24 13:29
17 [software]                                        512  92/08/24 00:08
18 [standard]                                        512      7 08 08 58

                  Information about SWITCHinfo Reader
                  -----------------------------------
        Organization: SWITCH, Swiss Academic and Research Network
        Host:         nic.switch.ch (Sun 4/490)
        Written in:   curseperl
        Author:       Marcel Wiget (hb9rwm)
                      wiget@switch.ch
```

UK TeX Archive at Aston University

```
TELNET TEX.AC.UK or 134.151.40.18
Username: PUBLIC
Password: PUBLIC

     (This service is brought to you through the generosity of)
       (Fifth Party Ltd & Second User Systems Ltd [Hardware])
           (and the Digital Equipment Company [Software])

The TeX Archive is maintained by a team of volunteers scattered around
Europe.
                          **** NEWS ****

Since the UK TeX Archive is now connected to the Internet, PUBLIC
account browsers can now use the  FTP  command to send files back to
their home sites.

We have now installed TGV's MultiNet product, which is vastly superior
to the implementation formerly used, which was DEC's UCX v1.3.  Help is
available in the usual fashion; just type the command
$ HELP ftp
to get details; alternatively, type HELP at the FTP> prompt.

Other VMS sites also running MultiNet, or a compatible product, such as
Matt Madison's CRUX extension to the CMU/Tek TCP/IP product, will be
pleased to find that MultiNet FTP automagically negotiates transfer of
VMS files with all their structure intact.  Users sending to Unix
systems should still select ASCII or BINARY as appropriate, to ensure
that record-length counts are not included in the bitstream sent to
their home site.

Your current default directory is the root of the UK TeX Archive. The
usual VMS commands are available for moving around the structure, but so
also is the Unix-like  `cd'  command; this can be used with a standard
VMS directory specification or with Unix-like relative movements (e.g.
cd drivers/dvidis).

MAIL is not available, neither is any facility for logging on to any
other machine.  Many VMS commands have been curtailed or disabled in
this account; the HELP files have been updated to reflect this usage.

For transferring files back to your own site, use TRANSFER over X25
lines. Kermit is available for those calling via a modem and dial-up
line; it is specifically disabled for X25 transfer, because of the
extreme degradation of service that this causes to other users.

For transferring multiple files, with wild card specification, use the
SEND command; see HELP SEND for further details.

Internet FTP is available for sites directly connected to the Internet.

Any problems, please contact SYSTEM@Uk.Ac.TeX.. Good Luck!! Brian HK
```

National Information on Software and Services NISS

```
Telnet SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.niss

     The
             |**|  |*|   |*|  |******|  |******|
             |*|*| |*|   |*|  |*|____   |*|____
             |*||*||*|   |*|  |******|  |******|
             |*| |*|*|   |*|   ____|*|   ____|*|
             |*|  |**|   |*|  |******|  |******|   Gateway

           A :) NISSBB  - The NISS Bulletin Board
           B :) NISSPAC - The NISS Public Access Collections
           U :) Information Services in the UK
           E :) Information Services in Europe
           S :) Information Services in the USA
           T :) Information Services on Trial
           H :) Help Information / NEWS
         X,Q :) Logoff the Gateway
```

NISSPAC

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.niss.pac
At the . prompt, enter LOGON NISSCAT

To exit, use the TELNET escape key.

  National Information on Software and Services Public Access Collections

All data collections copyright Southampton University. NISSPAC documentation
and the NISS Thesaurus are available from the NISS Bulletin Board, section B.

  National Information on Software and Services Public Access Collections

         ******** N I S S P A C   S Y S T E M   M E N U ********

   --- You may select from the following services: ----------------------
   |                                                                     |
   |     1- Help                                                         |
   |     2- General Information                                          |
   |     3- NISSPAC News  (last update: 11/10/90)                        |
   |     4- The NISS Software and Datasets Catalogue                     |
   |     5- The VAX/VMS Applications Software Directory                  |
   |     6- The IBM Study Contracts Database                             |
   |     7- The CHEST Directory                                          |
   |     99- Exit & logoff                                               |
   ----------------------------------------------------------------------
                         INTRODUCING NISSPAC

NISSPAC is a database service provided for the higher education
community by NISS (National Information on Software and Services).

The idea behind NISSPAC is to provide a common interface to a variety of
text based data collections. At present, these consist of the NISS
Software and Datasets Catalogue, VAX Applications Software Directory,
IBM Study Contracts dataset and the CHEST Directory.

While every effort is being made to maintain a similar mode of use with
each of the data collections, some variations arise due to differences
in the nature and structure of the data.

Selecting a service from the NISSPAC menu results in a 'Main Menu'
display for that particular service. Full details regarding content,
purpose and method of use can be obtained at the Main Menu stage.

After using a particular service, the user may elect to exit the system
and logoff, or return to the NISSPAC Menu to select another service.
```

Imperial College Centre for Computing Services

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.ic.cc.news

                    CENTRE FOR COMPUTING SERVICES
                 ON-LINE NEWS AND INFORMATION SERVICE
                             Main Menu

a.  Guide to On-line News
b.  News (b1 amended
     1.9.92, b2 27.8.92)
c.  CCS Events (C1 amended
     24.8.92 and C2 20.8.92)
d.  CCS Services (d1b, d2a amended
     2.9.92. d2c 2.7.92,
     d3d1 7.8.92)
e.  CCS Starters (amended
     6.4.92)
f.  Software Changes (f1
     amended 30.7.92)
g.  Software Bargains (g1
     amended 1.9.92)
h.  CCS Hardware (h4 amended
     1.9.92)
i.  CCS Software (amended 4.6.92)
j.  Computer Shop (j1a-e and j3
     amended 5.6.92, j4d 8.6.92
     j5 9.6.92, j2 12.6.92)
m.  Main Menu
```

Cooperative Extension Management System

```
TELNET HERMES.ECN.PURDUE.EDU or 128.46.157.183
login: cerf
Password: purdue

                Cooperative Extension Management System
                            Prepared by
                          Philip Peleties
                  Agricultural Communication Service
                          Purdue University
                        W. Lafayette, IN 47907

Cooperative Extension Management System (CEMS) Menu
==================================================
  1- Use the Publication Database CERF
  2- Use the batch version of CERF
  3- Send a request to Information Server Almanac
  4- INFO 92
  5- Gopher
  6- Swais
  7- QUERRI
  8- PENpages
  9- CARL (Colorado Alliance of Research Libraries)
  h- Help
  q- Quit

* 1. Cooperative Extension Reference File (CERF) (interactive): (cerf_help)

        Database which allows you to search for extension material (such as
        publications, films, slides, videos) based on a number of keywords.
        It is capable of operating in interactive menu-driven mode, or in
        batch mode.

* 2. CERF (batch): (cerf_batch_help)

        Originally developed to be accessed through electronic mail, this
        facility allows you to receive through electronic mail a listing of
        the CERF database matches.

* 3. Information Server Almanac: (alm_help)

        Almanac is an information server designed to answer requests received
        through electronic mail. Almanac allows you to retrieve reports,
        newsletters, journals, articles, publications, sounds, and graphic
        images.
        This service is cost-free to electronic mail users and offers
        documents in many types of electronic publishing formats.

* 4. Library databases, student information, and White Pages: (libtel_help)
        A versatile facility allowing you to access:

                @ University library databases throughout the world
                @ Student/Faculty information for U.S. Universities
                @ Internet White Pages database which provides you with
                  information regarding Internet users
```

@ A variety of other database and information servers
@ Bulletin Boards

* 5. Internet Client/Server Gopher: (gopher_help)

* 6. Simple Wide Area Information Server (SWAIS): (swais_help)

* 7. Questions on University Extension Regional Resource Information (QUERRI): (querri_help)

* 8. PENpages: (penpages_help)

* 9. CARL (Colorado Alliance of Research Libraries): (carl_help)

HPCwire

Free service for the high-performance computing industry

TELNET HPCWIRE.ANS.NET or 147.225.1.51
login: hpcwire

Topic Outline

What's NEW	New system features, listings, updates
About HPCwire	User guide, tips, hints, masthead
Daily News	News, Technocomments, feature stories
General Information	Internet info, software, calendar, misc
Job Bank	Help & employment wanted
Newsletters	Supercomputer centers, industry experts
Openline	Forums, MPP debate, compilers, VISION
Partnerships	Joint research opportunities
Research Register	Key research projects, profiles
Trade Show	Now open! Info on products & services
User Surveys	Your feedback about the service

INDIVIDUAL ACCESS TO INTERNET

February 12, 1993

Compiled by James Milles
Saint Louis University Law Library
millesjg@sluvca.slu.edu
(314) 658-2759

Available via anonymous ftp
 Host: liberty.uc.wlu.edu
 Directory: /pub/lawlib
 File: internet.access

With thanks to all the people who helped me gather this information: Daniel P.
Dern, Steve Foote, Czeslaw Jan Grycz, Walter Henry, Hae-young Rieh Hwang, Peter Kaminski, Ethan Katsh, Larry Landwehr, Don Lanier, Kristen Lofquist, Jay
Marme', Mary Shearer, Ellen Sleeter, Patricia G. Smith, and Ermel Stepp.

PART I Public Dialup Internet Access List (PDIAL)

PART II NETWORK PROVIDER REFERRAL LIST, NSF Network Service Center (NNSC)

PART III LIMITED REFERRAL LIST, Network Providers for Low-Volume Users, NSF Network Service Center (NNSC)

PART IV internet-access-providers-us.txt

PART V nixpub long listing--Open Access UNIX (*NIX) Sites

==========

PART I

==========

The Public Dialup Internet Access List (PDIAL)

==========

File PDIAL010.TXT -- 9 February 1993

A list of public access service providers offering dialup access to outgoing Internet connections such as FTP and telnet.

Copyright 1992-1993 Peter Kaminski.
May be distributed but not sold -- see notice at the end of this document.

Contents:

-1- Summary: Providers With Wide Area Access

-2- Summary: Area Codes For US/Canada Dialins
-3- Summary: Phone Prefixes For International Dialins
-4- What *Is* The Internet?
-5- What The PDIAL Is
-6- List of Providers
-7- How People Can Get The PDIAL (This List)
-8- Appendix A: Finding Public Data Network (PDN) Access Numbers
-9- Copyright and Distribution Of The PDIAL; Other Notices

Subject headers below are formatted so this list may be read as a digest by USENET newsreaders that support digests.

Example commands: rn, "control-G" skips to next section; nn, "G%" presents as a digest. Sections may also be located by searching for the desired section number string (e.g. "-1-") from the list above.

From: PDIAL -1-
Subject: Summary: Providers With Wide Area Access

PDN delphi, holonet, michnet, portal, psi-gds, psilink, well, world
800 class, cns, crl, dial-n-cerf-usa, jvnc, OARnet

"PDN" means the provider is accessible through a public data network (check the listings below for which network); note that many PDNs listed offer access outside North America as well as within North America. Check with the provider or the PDN for more details.

"800" means the provider is accessible via a "toll-free" US phone number. The phone company will not charge for the call, but the service provider will add a relatively large surcharge to cover the high cost of the 800 service. Other long-distance options are generally cheaper.

From: PDIAL -2-
Subject: Summary: Area Codes for US/Canada Dialins

If you are not local to any of these providers, it's still likely you are able to access those providers available through a public data network (PDN). Check the section above for providers with wide area access.

201 jvnc-tiger
202 express, grebyn
203 jvnc-tiger
206 eskimo, halcyon
212 mindvox, panix
213 dial-n-cerf, netcom
214 metronet
215 jvnc-tiger, PREPnet
216 OARnet, wariat
301 express, grebyn
303 cns, csn
310 dial-n-cerf, netcom

312 ddsw1
313 michnet, msen
401 anomaly, ids, jvnc-tiger
408 a2i, netcom, portal
410 express
412 PREPnet, telerama
415 crl, dial-n-cerf, netcom, portal, well
419 OARnet
508 anomaly, nearnet
510 dial-n-cerf, holonet, netcom
513 OARnet
514 CAM.ORG
516 jvnc-tiger
517 michnet
603 nearnet
609 jvnc-tiger
614 OARnet
616 michnet
617 delphi, nearnet, world
619 cyber, dial-n-cerf, netcom
703 express, grebyn
704 rock-concert
707 crl
708 ddsw1
713 sugar
714 dial-n-cerf
717 PREPnet
718 mindvox, panix
719 cns, csn, oldcolo
814 PREPnet
815 ddsw1
818 dial-n-cerf, netcom
906 michnet
908 jvnc-tiger
916 netcom
919 rock-concert

These are area codes local to the dialups, although some prefixes in the area codes listed may not be local to the dialups. Check your phone book or with your phone company.

Most providers listed here are also accessible by packet-switched data services such as PC Pursuit ($30/month for 30 hours off-peak 2400 bps access -- call 800-736-1130 for more information), traditional long distance services, and of course telnet.

From: PDIAL -3-
Subject: Summary: Phone Prefixes for International Dialins

If you are not local to any of these providers, there is still a chance you are able to access those providers available through a public data network (PDN). Check the section above for providers with wide area access, and send email to them to ask about availability.

+61 2 connect.com.au

+61 3 connect.com.au
+44 (0)81 ibmpcug

From: PDIAL -4-
Subject: What *Is* The Internet?

The Internet is a global cooperative network of university, corporate, government, and private computers, all communicating with each other by means of something called TCP/IP (Transmission Control Protocol/Internet Protocol). Computers directly on the Internet can exchange data quickly and easily with any other computer on the Internet to download files, send email, provide remote logins, etc.

Users can download files from publicly accessible archive sites ("anonymous FTP"); login into remote computers (telnet or rlogin); chat in real-time with other users around the world (Internet Relay Chat); or use the newest information retrieval tools to find a staggering variety of information (Wide Area Information Servers, Gopher, World Wide Web).

Computers directly on the Internet also exchange email directly and very quickly; email is usually delivered in seconds between Internet sites.

Sometimes the Internet is confused with other related networks or types of networking.

First, there are other ways to be "connected to the Internet" without being directly connected as a TCP/IP node. Some computers connect via UUCP or other means at regular intervals to an Internet site to exchange email and USENET newsgroups, for instance. Such a site can provide email (though not as quickly as a directly connected systems) and USENET access, but not Internet downloads, remote logins, etc.

"email" (or "Internet email", "netmail") can be exchanged with a wide variety of systems connected directly and indirectly to the Internet. The email may travel solely over the Internet, or it may traverse other networks and systems.

"USENET" is the collection of computers all over the world that exchange USENET news -- thousands of "newsgroups" (like forums, or echos) on a wide range of topics. The newsgroup articles are distributed all over the world to USENET sites that wish to carry them (sometimes over the Internet, sometimes not), where people read and respond to them.

The "NSFNET" is one of the backbones of the Internet in the US. It is funded by the NSF, which restricts traffic over the NSFNET to "open research and education in and among US research and instructional institutions, plus research arms of for-profit firms when engaged in open scholarly communication and research." Your Internet provider can give you more details about acceptable use, and alternatives should you need to use the Internet in other ways.

From: PDIAL -5-
Subject: What The PDIAL Is

This is a list of Internet service providers offering public access dialins and outgoing Internet access (ftp, telnet, etc.). Most of them provide email and USENET news and other services as well.

If one of these systems is not accessible to you and you need email or USENET access, but *don't* need ftp or telnet, you have many more public access systems from which to choose. Public access systems without ftp or telnet are *not* listed in this list, however. See the nixpub (alt.bbs, comp.misc) list and other BBS lists.

Some of these providers offer time-shared access to a shell or BBS program on a computer connected directly to the Internet, through which you can FTP or telnet to other systems on the Internet. Usually other services are provided as well. Generally, you need only a modem and terminal or terminal emulator to access these systems. Check for "shell", "bbs", or "menu" on the "services" line.

Other providers connect you directly to the Internet via SLIP or PPP when you dial in. For these you need a computer system capable of running the software to interface with the Internet, e.g., a Unix machine, PC, or Mac. Check for "SLIP", or "PPP" on the services line.

While I have included all sites for which I have complete information, this list is surely incomplete. Please send any additions or corrections to "kaminski@netcom.com".

From: PDIAL -6-
Subject: List of Providers

Fees are for personal dialup accounts with outgoing Internet access; most sites have other classes of service with other rate structures as well. Most support email and netnews along with the listed services.

"Long distance: provided by user" means you need to use services such as PC Pursuit, direct dial long distance or other long distance services.

```
<< a2i >>
name ----------> a2i communications
dialup --------> 408-293-9010 (v.32, v.32 bis) or 408-293-9020 (PEP) 'guest'
area codes ----> 408
local access --> CA: Campbell, Los Altos, Los Gatos, Moutain View, San Jose,
                 Santa Clara, Saratoga, Sunnyvale
long distance -> provided by user
services ------> shell, ftp, telnet, feeds
fees ----------> $20/month or $45/3 months or $72/6 months
email ---------> info@rahul.net
voice ---------> n/a
ftp more info -> ftp.rahul.net:/pub/BLURB

<< anomaly >>
name ----------> Anomaly - Rhode Island's Gateway To The Internet
dialup --------> 401-331-3706 (v.32) or 401-455-0347 (PEP)
area codes ----> 401, 508
```

```
local access --> RI: Providence/Seekonk Zone
long distance -> provided by user
services ------> shell, ftp, telnet, SLIP
fees ----------> Commercial: $125/6 months or $200/year; Educational: $75/6
                 months or $125/year
email ---------> info@anomaly.sbs.risc.net
voice ---------> 401-273-4669
ftp more info -> anomaly.sbs.risc.net:/anomaly.info/access.zip

<< CAM.ORG >>
name ----------> Communications Accessibles Montreal
dialup --------> 514-281-5601 (v.32 bis, HST) 514-738-3664 (PEP),
                 514-923-2103 (ZyXeL 19.2K) 514-466-0592 (v.32)
area codes ----> 514
local access --> QC: Montreal, Laval, South-Shore, West-Island
long distance -> provided by user
services ------> shell, ftp, telnet, feeds, SLIP, PPP, FAX gateway
fees ----------> $25/month Cdn.
email ---------> info@CAM.ORG
voice ---------> 514-923-2102
ftp more info -> n/a

<< class >>
name ----------> Cooperative Library Agency for Systems and Services
dialup --------> contact for number; NOTE: CLASS serves libraries/information
                 distributors only
area codes ----> 800
local access --> anywhere (800) service is available
long distance -> included
services ------> ftp, telnet, gopher, wais, hytelnet
fees ----------> $10.50/hour + $150/year for first account + $50/year each
                 additional account + $135/year CLASS membership
email ---------> class@class.org
voice ---------> 800-488-4559
fax -----------> 408-453-5379
ftp more info -> n/a

<< cns >>
name ----------> Community News Service
dialup --------> 719-520-1700 id 'new', passwd 'newuser'
area codes ----> 303, 719, 800
local access --> CO: Colorado Springs, Denver; continental US/800
long distance -> 800 or provided by user
services ------> UNIX shell, email, ftp, telnet, irc, USENET, Clarinet,
gopher
fees ----------> $1/hour; $10/month minimum + $35 signup
email ---------> klaus@cscns.com
voice ---------> 719-579-9120
ftp more info -> n/a

<< connect.com.au >>
name ----------> connect.com.au pty ltd
dialup --------> contact for number
area codes ----> +61 3, +61 2
local access --> Australia: Melbourne, Sydney
long distance -> provided by user
services ------> SLIP, PPP, ISDN, UUCP, ftp, telnet, NTP, FTPmail
```

```
fees ----------> AUS$2000/year (1 hour/day), 10% discount for AUUG members;
                 other billing negotiable
email ---------> connect@connect.com.au
voice ---------> +61 3 5282239
fax -----------> +61 3 5285887
ftp more info -> ftp.connect.com.au

<< crl >>
name ----------> CR Laboratories Dialup Internet Access
dialup --------> 415-389-UNIX
area codes ----> 415, 707, 800
local access --> CA: San Francisco Bay Area; continental US/800
long distance -> 800 or provided by user
services ------> shell, ftp, telnet, feeds, SLIP, WAIS
fees ----------> $19.50/month + $15.00 signup
email ---------> info@crl.com
voice ---------> 415-381-2800
ftp more info -> n/a

<< csn >>
name ----------> Colorado SuperNet
dialup --------> contact for number
area codes ----> 303, 719
local access --> CO: Ft. Collins, Boulder/Denver, Colorado Springs
long distance -> provided by user; NOTE: CSN serves Colorado only
services ------> shell, ftp, telnet, irc, wais, gopher, email-to-fax, feeds,
                 SLIP
fees ----------> $1/hour off-peak, $2/hour peak ($250 max/month) + $20 signup
email ---------> info@csn.org
voice ---------> 303-273-3471
fax -----------> 303-273-3475
ftp more info -> csn.org:/CSN/reports/DialinInfo
off-peak ------> midnight to 6am

<< cyber >>
name ----------> The Cyberspace Station
dialup --------> (619) 634-1376 'guest'
area codes ----> 619
local access --> CA: San Diego
long distance -> provided by user
services ------> shell, ftp, telnet, irc
fees ----------> $15/month + $10 startup or $60 for six months
email ---------> help@cyber.net
voice ---------->
ftp more info -> n/a

<< ddsw1 >>
name ----------> 'ddsw1', MCSNet
dialup --------> (312) 248-0900 V.32bis/V.32, 248-6295 (PEP), follow prompts
area codes ----> 312, 708, 815
local access --> IL: Chicago
long distance -> provided by user
services ------> shell, ftp, telnet, feeds, email, irc, gopher
fees ----------> $25/month or $65/3 months
email ---------> info@ddsw1.mcs.com
voice ---------> n/a
ftp more info -> n/a
```

```
<< delphi >>
name ----------> DELPHI
dialup --------> (800) 365-4636 'JOINDELPHI password:INTERNETSIG'
area codes ----> 617, PDN
local access --> MA: Boston; KS: Kansas City
long distance -> Sprintnet or Tymnet: $9/hour weekday business hours, no
                 charge nights and weekends
services ------> ftp, telnet, feeds, user groups, wire services, member
                 conferencing
fees ----------> $10/month for 4 hours or $20/month for 20 hours + $3/month
                 for Internet services
email ---------> walthowe@delphi.com
voice ---------> 800-544-4005
ftp more info -> n/a

<< dial-n-cerf >>
name ----------> DIAL n' CERF or DIAL n' CERF AYC
dialup --------> contact for number
area codes ----> 213, 310, 415, 510, 619, 714, 818
local access --> CA: Los Angeles, Oakland, San Diego, Irvine, Pasadena, Palo
                 Alto
long distance -> provided by user
services ------> shell, menu, irc, ftp, hytelnet, gopher, WAIS, WWW, terminal
                 service, SLIP
fees ----------> $5/hour ($3/hour on weekend) + $20/month + $50 startup OR
                 $250/month flat for AYC
email ---------> help@cerf.net
voice ---------> 800-876-2373 or 619-455-3900
ftp more info -> nic.cerf.net:/cerfnet/dial-n-cerf/
off-peak ------> Weekend: 5pm Friday to 5pm Sunday

<< dial-n-cerf-usa >>
name ----------> DIAL n' CERF USA
dialup --------> contact for number
area codes ----> 800
local access --> anywhere (800) service is available
long distance -> included
services ------> shell, menu, irc, ftp, hytelnet, gopher, WAIS, WWW, terminal
                 service, SLIP
fees ----------> $10/hour ($8/hour on weekend) + $20/month
email ---------> help@cerf.net
voice ---------> 800-876-2373 or 619-455-3900
ftp more info -> nic.cerf.net:/cerfnet/dial-n-cerf/
off-peak ------> Weekend: 5pm Friday to 5pm Sunday

<< eskimo >>
name ----------> Eskimo North
dialup --------> 206-367-3837 300-2400 bps, 206-362-6731 for 9600/14.4k,
                 206-742-1150 World Blazer
area codes ----> 206
local access --> WA: Seattle, Everett
long distance -> provided by user
services ------> shell, ftp, telnet
fees ----------> $10/month or $96/year
email ---------> nanook@eskimo.com
voice ---------> 206-367-7457
```

```
ftp more info -> n/a

<< express >>
name ----------> Express Access - Online Communications Service
dialup --------> 301-220-0462, 410-766-1855 'new'
area codes ----> 202, 301, 410, 703
local access --> Northern VA, Baltimore MD, Washington DC
long distance -> provided by user
services ------> shell, ftp, telnet, irc
fees ----------> $25/month or $250/year
email ---------> info@digex.com
voice ---------> 301-220-2020
ftp more info -> n/a

<< grebyn >>
name ----------> Grebyn Corporation
dialup --------> 703-281-7997, 'apply'
area codes ----> 202, 301, 703
local access --> Northern VA, Southern MD, Washington DC
long distance -> provided by user
services ------> shell, ftp, telnet
fees ----------> $30/month
email ---------> info@grebyn.com
voice ---------> 703-281-2194
ftp more info -> n/a

<< halcyon >>
name ----------> Halcyon
dialup --------> (206) 382-6245 'new', 8N1
area codes ----> 206
local access --> Seattle, WA
long distance -> provided by user
services ------> shell, telnet, ftp, bbs, irc, gopher, hytelnet
fees ----------> $200/year, or $60/quarter + $10 start-up
email ---------> info@halcyon.com
voice ---------> 206-955-1050
ftp more info -> halcyon.com:~/pub/waffle/info

<< holonet >>
name ----------> HoloNet
dialup --------> (510) 704-1058
area codes ----> 510, PDN
local access --> Berkeley, CA
long distance -> [per hour, off-peak/peak] Bay Area: $0.50/$0.95; PSINet A:
                 $0.95/$1.95; PSINet B: $2.50/$6.00; Tymnet: $3.75/$7.50
services ------> ftp, telnet, irc, games
fees ----------> $2/hour off-peak, $4/hour peak; $6/month or $60/year minimum
email ---------> info@holonet.net
voice ---------> 510-704-0160
ftp more info -> holonet.net:/info/
off-peak ------> 5pm to 8am + weekends and holidays

<< ibmpcug >>
name ----------> UK PC User Group
dialup --------> +44 (0)81 863 6646
area codes ----> +44 (0)81
local access --> London, England
```

long distance -> provided by user
services ------> ftp, telnet, bbs, irc, feeds
fees ----------> GBPounds 15.50/month or 160/year + 10 startup (no time
charges)
email ---------> info@ibmpcug.co.uk
voice ---------> +44 (0)81 863 6646
ftp more info -> n/a

<< ids >>
name ----------> The IDS World Network
dialup --------> (401) 884-9002, (401) 785-1067
area codes ----> 401
local access --> East Greenwich, RI; northern RI
long distance -> provided by user
services ------> ftp, telnet, SLIP, feeds, bbs
fees ----------> $10/month or $50/half year or $100/year
email ---------> sysadmin@ids.net
voice ---------> 401-884-7856
ftp more info -> ids.net:/ids.net

<< jvnc-tiger >>
name ----------> The John von Neumann Computer Network - Dialin' Tiger
dialup --------> contact for number
area codes ----> 201, 203, 215, 401, 516, 609, 908
local access --> Princeton & Newark, NJ; Philadelphia, PA; Garden City, NY;
Bridgeport, New Haven, & Storrs, CT; Providence, RI
long distance -> provided by user
services ------> ftp, telnet, SLIP, feeds, optional shell
fees ----------> $99/month + $99 startup (PC or Mac SLIP software included --
shell is additional $21/month)
email ---------> info@jvnc.net
voice ---------> (800) 35-TIGER, (609) 258-2400
ftp more info -> n/a

<< jvnc >>
name ----------> The John von Neumann Computer Network - Tiger Mail & Dialin'
Terminal
dialup --------> contact for number
area codes ----> 800
local access --> anywhere (800) service is available
long distance -> included
services ------> email and newsfeed or terminal access only
fees ----------> $19/month + $10/hour + $36 startup (PC or Mac SLIP software
included)
email ---------> info@jvnc.net
voice ---------> (800) 35-TIGER, (609) 258-2400
ftp more info -> n/a

<< metronet >>
name ----------> Texas Metronet
dialup --------> 214-705-2902 9600bps, 214-705-2917 2400bps, 'info/info' or
'signup/signup'
area codes ----> 214
local access --> TX: Dallas
long distance -> provided by user
services ------> shell, ftp, telnet, feeds, SLIP
fees ----------> $10-$50/month + $20-$30 startup

email ---------> srl@metronet.com / 73157.1323@compuserve.com /
GEnie:S.LINEBARG
voice ---------> 214-401-2800
fax -----------> 214-401-2802 (8am-5pm CST weekdays)
ftp more info -> n/a

<< michnet >>
name ----------> Merit Network, Inc. -- MichNet project
dialup --------> contact for number or telnet hermes.merit.edu and type
'help' at 'Which host?' prompt
area codes ----> 313, 517, 616, 906, PDN
local access --> Michigan; Boston, MA; Wash. DC
long distance -> SprintNet, Autonet, Michigan Bell packet-switch network
services ------> telnet, SLIP, PPP, outbound SprintNet, Autonet and Ann Arbor
dialout
fees ----------> $35/month + $40 signup ($10/month for K-12 & libraries in
Michigan)
email ---------> info@merit.edu
voice ---------> 313-764-9430
ftp more info -> nic.merit.edu:/

<< mindvox >>
name ----------> MindVOX
dialup --------> (212) 988-5030 'mindvox' 'guest'
area codes ----> 212, 718
local access --> NY: New York City
long distance -> provided by user
services ------> conferencing system ftp, telnet, irc, gopher, hytelnet,
Archives, BBS
fees ----------> $15-$20/month. No startup.
email ---------> info@phantom.com
voice ---------> 212-988-5987
ftp more info -> n/a

<< msen >>
name ----------> MSen
dialup --------> contact for number
area codes ----> 313
local access --> All of SE Michigan (313)
long distance -> provided by user
services ------> shell, WAIS, gopher, telnet, ftp, SLIP
fees ----------> $5/month + $2/hr or $20/mo for 20 hr
email ---------> info@msen.com
voice ---------> 313-998-4562
fax -----------> 313-998-4563
ftp more info -> ftp.msen.com:/pub/vendor/msen

<< nearnet >>
name ----------> NEARnet
dialup --------> contact for numbers
area codes ----> 508, 603, 617
local access --> Boston, MA; Nashua, NH
long distance -> provided by user
services ------> SLIP, email, feeds, dns
fees ----------> $250/month
email ---------> nearnet-join@nic.near.net
voice ---------> 617-873-8730

```
ftp more info -> nic.near.net:/docs

<< netcom >>
name ----------> Netcom Online Communication Services
dialup --------> (310) 842-8835, (408) 241-9760, (408) 459-9851, (415)
                 328-9940, (415) 985-5650, (510) 426-6860, (510) 865-9004,
                 (619) 234-0524, (916) 965-1371 'guest'
area codes ----> 213, 310, 408, 415, 510, 619, 818, 916
local access --> CA: San Francisco Bay Area, Santa Cruz, Los Angeles, San
                 Diego, Sacramento
long distance -> provided by user
services ------> shell, ftp, telnet, irc, WAIS, gopher, SLIP/PPP, feeds, dns
fees ----------> $19.50/month + $15.00 signup
email ---------> info@netcom.com
voice ---------> 408-554-UNIX
ftp more info -> n/a

<< OARnet >>
name ----------> OARnet
dialup --------> send e-mail to nic@oar.net
area codes ----> 614, 513, 419, 216, 800
local access --> OH: Columbus, Cincinnati, Cleveland, Dayton
long distance -> 800 service
services ------> email, ftp, telnet, newsfeed
fees ----------> $4.00/hr to $330.00/month; call for code or send email
email ---------> nic@oar.net
voice ---------> 614-292-8100
fax -----------> 614-292-7168
ftp more info -> n/a

<< oldcolo >>
name ----------> Old Colorado City Communications
dialup --------> 719-632-4111 'newuser'
area codes ----> 719
local access --> CO: Colorado Springs
long distance -> provided by user
services ------> shell, ftp, telnet, AKCS, home of the NAPLPS conference
fees ----------> $25/month
email ---------> dave@oldcolo.com / thefox@oldcolo.com
voice ---------> 719-632-4848, 719-593-7575 or 719-636-2040
fax -----------> 719-593-7521
ftp more info -> n/a

<< panix >>
name ----------> PANIX Public Accss Unix
dialup --------> (212) 787-3100 'newuser'
area codes ----> 212, 718
local access --> New York City, NY
long distance -> provided by user
services ------> shell, ftp, telnet, gopher, wais, irc, feeds
fees ----------> $19/month or $208/year + $40 signup
email ---------> alexis@panix.com, jsb@panix.com
voice ---------> 212-877-4854 [Alexis Rosen], 212-691-1526 [Jim Baumbach]
ftp more info -> n/a

<< portal >>
name ----------> The Portal System
```

```
dialup --------> (408) 973-8091 high-speed, (408) 725-0561 2400bps; 'info'
area codes ----> 408, 415, PDN
local access --> CA: Cupertino, Mountain View, San Jose
long distance -> SprintNet: $2.50/hour off-peak, $7-$10/hour peak; Tymnet:
                 $2.50/hour off-peak, $13/hour peak
services ------> shell, ftp, telnet, IRC, UUCP, feeds, bbs
fees ----------> $19.95/month + $19.95 signup
email ---------> cs@cup.portal.com, info@portal.com
voice ---------> 408-973-9111
ftp more info -> n/a
off-peak ------> 6pm to 7am + weekends and holidays

<< PREPnet >>
name ----------> PREPnet
dialup --------> contact for numbers
area codes ----> 215, 412, 717, 814
local access --> PA: Philadelphia, Pittsburgh, Harrisburg
long distance -> provided by user
services ------> SLIP, terminal service, telnet, ftp
fees ----------> $1,000/year membership.  Equipment-$325 onetime fee plus
                 $40/month
email ---------> prepnet@cmu.edu
voice ---------> 412-268-7870
fax -----------> 412-268-7875
ftp more info -> ftp.prepnet.com:/prepnet/general/

<< psi-gds >>
name ----------> PSI's Global Dialup Service (GDS)
dialup --------> send email to numbers-info@psi.com
area codes ----> PDN
local access -->
long distance -> included
services ------> telnet, rlogin
fees ----------> $39/month + $39 startup
email ---------> all-info@psi.com, gds-info@psi.com
voice ---------> 703-620-6651
fax -----------> 703-620-4586
ftp more info -> ftp.psi.com:/

<< psilink >>
name ----------> PSILink -  Personal Internet Access
dialup --------> send email to numbers-info@psi.com
area codes ----> PDN
local access -->
long distance -> included
services ------> email and newsfeed, ftp
fees ----------> $29/month + $19 startup (PSILink software included)
email ---------> all-info@psi.com, psilink-info@psi.com
voice ---------> 703-620-6651
fax -----------> 703-620-4586
ftp more info -> ftp.psi.com:/

<< rock-concert >>
name ----------> Rock CONCERT Net
dialup --------> contact for number
area codes ----> 704, 919
local access --> NC: Asheville, Chapel Hill, Charlotte, Durham, Greensboro,
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                Greenville, Raleigh, Winston-Salem, Research Triangle Park
long distance -> provided by user
services ------> shell, ftp, telnet, irc, gopher, wais, feeds, SLIP
fees ----------> $30/month + $50 signup
email ---------> info@concert.net
voice ---------> 919-248-1999
ftp more info -> ftp.concert.net

<< sugar >>
name ----------> NeoSoft's Sugar Land Unix
dialup --------> 713-684-5900
area codes ----> 713
local access --> TX: Houston metro area
long distance -> provided by user
services ------> bbs, shell, ftp, telnet, irc, feeds, UUCP
fees ----------> $29.95/month
email ---------> info@NeoSoft.com
voice ---------> 713-438-4964
ftp more info -> n/a

<< telerama >>
name ----------> Telerama BBS
dialup --------> (412) 481-5302 'new'
area codes ----> 412
local access --> PA: Pittsburgh
long distance -> provided by user
services ------> shell, ftp, telnet, feeds, menu, bbs
fees ----------> $6/month for 10 hours, 60 cents/hour thereafter. No startup.
email ---------> info@telerama.pgh.pa.us
voice ---------> 412-481-3505
ftp more info -> telerama.pgh.pa.us:/info/general.info

<< well >>
name ----------> The Whole Earth 'Lectronic Link
dialup --------> (415) 332-6106 'newuser'
area codes ----> 415, PDN
local access --> Sausalito, CA
long distance -> Compuserve Packet Network: $4/hour
services ------> shell, ftp, telnet, bbs
fees ----------> $15.00/month + $2.00/hr
email ---------> info@well.sf.ca.us
voice ---------> 415-332-4335
ftp more info -> n/a

<< wariat >>
name ----------> APK- Public Access UNI* Site
dialup --------> 216-481-9436 (2400), 216-481-9425 (V.32bis, SuperPEP)
area codes ----> 216
local access --> OH: Cleveland
long distance -> provided by user
services ------> shell, ftp, telnet, irc, gopher, feeds, BBS(Uniboard1.10)
fees ----------> $35/monthly, $200/6months,  $20 signup
email ---------> zbig@wariat.org
voice ---------> 216-481-9428
ftp more info -> n/a

<< world >>
```

name ----------> The World
dialup --------> (617) 739-9753 'new'
area codes ----> 617, PDN
local access --> Boston, MA
long distance -> Compuserve Packet Network: $5.60/hour
services ------> shell, ftp, telnet, irc
fees ----------> $5.00/month + $2.00/hr or $20/month for 20 hours
email ---------> office@world.std.com
voice ---------> 617-739-0202
ftp more info -> world.std.com:/world-info/basic.info

From: PDIAL -7-
Subject: How People Can Get The PDIAL (This List)

USENET: The PDIAL list is posted semi-regularly to
alt.internet.access.wanted,
alt.bbs.lists, ba.internet, and news.answers.

EMAIL:

  From the Information Deli archive server (most up-to-date):
    To receive the current edition of the PDIAL, send email with the subject "Send PDIAL" to "info-deli-server@netcom.com". To subscribe to a list which receives future editions as they are published, send email with the subject "Subscribe PDIAL" to "info-deli-server@netcom.com". To receive both the most recent and future editions, send both messages.

  From the news.answers FAQ archive:
    Send email with the message "send usenet/news.answers/pdial" to "mail-server@pit-manager.mit.edu". For help, send the message "help" to "mail-server@pit-manager.mit.edu".

FTP ARCHIVE SITES (PDIAL and other useful information):

  Information Deli FTP site:
    ftp.netcom.com:/pub/info-deli/public-access/pdial [192.100.81.100]

  As part of a collection of public access lists:
    VFL.Paramax.COM:/pub/pubnet/pdial [128.126.220.104]
    (used to be GVL.Unisys.COM)

  From the Merit Network Information Center Internet information archive:
    nic.merit.edu:/internet/pdial [35.1.1.48]

  As part of an Internet access compilation file:
    liberty.uc.wlu.edu:/pub/lawlib/internet.access [137.113.10.35]

  As part of the news.answers FAQ archive:
    pit-manager.mit.edu:/pub/usenet/news.answers/pdial [18.172.1.27]

From: PDIAL -8-
Subject: Appendix A: Finding Public Data Network (PDN) Access Numbers

Here's how to get local access numbers or information for the various PDNs. Generally, you can contact the site you're calling for help, too.

IMPORTANT NOTE: Unless noted otherwise, set your modem to 7E1 (7 data bits, even parity, 1 stop bit) when dialing to look up access numbers by modem as instructed below.

BT Tymnet

For information and local access numbers, call 800-937-2862 (voice) or 215-666-1770 (voice).

To look up access numbers by modem, dial a local access number, hit <cr> and 'a', and enter "information" at the "please log in:" prompt.

Compuserve Packet Network

You do NOT have to be a Compuserve member to use the CPN to dial other services.

For information and local access numbers, call 800-848-8199 (voice).

To look up access numbers by modem, dial a local access number, hit <cr> and enter "PHONES" at the "Host Name:" prompt.

PC Pursuit (SprintNet)

PC Pursuit may be used to call a modem in any of 44 major metro areas in the US from local access numbers around the country. As such, it can be used to access most of the providers listed in the PDIAL (those with no other PDN access or even those which are accessible by other PDNs).

For information and registration, call 800-736-1130 (voice) or 800-877-2006 (data). More information is also available on the PC Pursuit support BBS (see below).

To look up access numbers by modem, dial 800-546-1000, hit <cr><cr><cr> at 1200 baud or '@'<cr><cr> at 2400 baud. Enter "MAIL" at the "@" prompt, then "PHONES" at the "USER NAME:" prompt, and "PHONES" at the "PASSWORD:" prompt.

The PC Pursuit support BBS provides a great deal of information about PC Pursuit, including rates, terms and conditions, outdial numbers, etc.

To access the PC Pursuit support BBS, dial a local access number and hit <cr><cr><cr> at 1200 baud or '@'<cr><cr> at 2400 baud. Change modem parameters to 8N1, and enter "C PURSUIT" at the "@" prompt.

PSINet

For information, call 800-82PSI82 (voice) or 703-620-6651 (voice), or
send email to "all-info@psi.com". For a list of local access numbers
send email to "numbers-info@psi.com".

From: PDIAL -9-
Subject: Copyright and Distribution Of The PDIAL; Other Notices

This Document Copyright 1992-1993 Peter Kaminski.

This document may be distributed in its entirety by any means, and a
fee may be charged for its distribution, but it may not be sold
without prior permission.

I make no representations about the suitability or accuracy of this
document for any purpose. It is provided "as is" without express or
implied warranty.

UPDATES AND CORRECTIONS: Send new or updated entries in the format
used here to "kaminski@netcom.com". Also include an email address to
which I can send requests for more information.

--
Peter Kaminski | Internet: kaminski@netcom.com
The Information Deli | CIS: 71053,2155
"connecting people" | AMIX: PKAMINSKI

To get the Public Dialup Internet Access List, send email with the
subject "Send PDIAL" to "info-deli-server@netcom.com".

End of PDIAL
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PART II

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Available via anonymous FTP
 Host: nnsc.nsf.net
 Directory: nsfnet
 File: referral-list

Available via e-mail
 E-mail to: info-server@nnsc.nsf.net
 Message text: request: nsfnet
               topic: referral-list
               request: end

****

*
NSF Network Service Center (NNSC) Hotline: 617/873-3400
10 Moulton Street Email: nnsc@nnsc.nsf.net
Cambridge, MA 02138 Info-Server requests to: info-server@nnsc.nsf.net
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NETWORK PROVIDER REFERRAL LIST
NSF Network Service Center (NNSC)
28 January 1993

The NSF Network Service Center (NNSC) often receives the initial calls from sites wishing to connect to the Internet. The NNSC refers such callers to the appropriate contacts for any networks which might be able to serve them. The current list of contacts used by NNSC for this purpose follows. If you have any updates or corrections to this information, please send a message to nnsc@nnsc.nsf.net.

Network Service Area
Contact Name Phone Number Mail Address

Providers Based in the United States of America

Alternet US and International
UUNET (800) 4UUNET3 alternet-info@uunet.uu.net

ANS US and International
Joel Maloff (313) 663-7610 info@ans.net

BARRNet Northern/Central California (CA)
Paul Baer (415) 723-7520 info@nic.barrnet.net

CERFnet Western US and International
CERFnet Hotline (800) 876-2373 help@cerf.net
(619) 455-3900

CICnet Midwest US (MN, WI, IA, IN, IL, MI, OH)
John Hankins (313) 998-6102 hankins@cic.net

CO Supernet Colorado (CO)
Ken Harmon (303) 273-3471 kharmon@csn.org

CONCERT North Carolina (NC)
Joe Ragland (919) 248-1404 jrr@concert.net

International Connections Manager (ICM) International
Robert Collet (703) 904-2230 rcollet@icm1.icp.net

INet Indiana (IN)
Dick Ellis (812) 855-4240 ellis@ucs.indiana.edu

JVNCnet US and International
 Sergio Heker (800) 35TIGER market@jvnc.net
        Allison Pihl

Los Nettos Los Angeles Area (CA)
 Ann Westine Cooper (310) 822-1511 los-nettos-request@isi.edu

MichNet/Merit Michigan (MI)
 Jeff Ogden (313) 764-9430 jogden@merit.edu

MIDnet Mid US (NE, OK, AR, MO, IA, KS, SD)
 Dale Finkelson (402) 472-5032 dmf@westie.unl.edu

MRnet Minnesota (MN)
 Dennis Fazio (612) 342-2570 dfazio@mr.net

MSEN   Michigan (MI)
 Owen Medd (313) 998-4562 info@msen.com

NEARnet Northeastern US (ME NH VT CT RI MA)
 John Curran (617) 873-8730 nearnet-join@nic.near.net

netILLINOIS Illinois (IL)
 Joel L. Hartman (309) 677-3100 joel@bradley.bradley.edu

NevadaNet Nevada (NV)
 Don Zitter (702) 784-6133 zitter@nevada.edu

NorthwestNet Northwestern US (WA OR ID MT ND WY AK)
 Eric Hood (206) 562-3000 ehood@nwnet.net

NYSERnet New York (NY)
 Jim Luckett (315) 443-4120 info@nysernet.org

OARnet Ohio (OH)
 Alison Brown (614) 292-8100 alison@oar.net

PACCOM Hawaii (HI) and Australia, Japan, Korea, New Zealand, Hong Kong
 Torben Nielsen (808) 956-3499 torben@hawaii.edu

PREPnet Pennsylvania (PA)
 Thomas Bajzek (412) 268-7870 twb+@andrew.cmu.edu

PSCNET Eastern US (PA, OH, WV)
 Eugene Hastings (412) 268-4960 pscnet-admin@psc.edu

PSINet US and International
 PSI, Inc. (800) 82PSI82 info@psi.com
   (703) 620-6651

SDSCnet San Diego Area (CA)
 Paul Love (619) 534-5043 loveep@sds.sdsc.edu

Sesquinet Texas (TX)
 Farrell Gerbode (713) 527-4988 farrell@rice.edu

SprintLink   US and International

Bob Doyle (703) 904-2230 bdoyle@icm1.icp.net

SURAnet Southeastern US (WV, VA, SC, NC, TN, KY, LA, MS, AL, GA, FL)
(Wash.DC, MD, DE)
Deborah J. Nunn (301) 982-4600 marketing@sura.net

THEnet Texas (TX)
William Green (512) 471-3241 green@utexas.edu

VERnet Virginia (VA)
James Jokl (804) 924-0616 jaj@virginia.edu

Westnet Western US (AZ, CO, ID, NM, UT, WY)
Pat Burns (303) 491-7260 pburns@yuma.acns.colostate.edu

WiscNet Wisconsin (WI)
Tad Pinkerton (608) 262-8874 tad@cs.wisc.edu

WVNET West Virginia (WV)
Harper Grimm (304) 293-5192 cc011041@wvnvms.wvnet.edu

Providers Based in Canada

ARnet Alberta
Walter Neilson (403) 450-5188 neilson@TITAN.arc.ab.ca

BCnet British Columbia
Mike Patterson (604) 822-3932 Mike_Patterson@mtsg.ubc.ca

MBnet Manitoba
Gerry Miller (204) 474-8230 miller@ccm.UManitoba.ca

NB*net New Brunswick
David MacNeil (506) 453-4573 DGM@unb.ca

NLnet Newfoundland and Labrador
Wilf Bussey (709) 737-8329 wilf@kean.ucs.mun.ca

NSTN Nova Scotia
Michael Martineau (902) 468-NSTN martinea@hawk.nstn.ns.ca

ONet Ontario
Andy Bjerring (519) 661-2151 bjerring@uwovax.uwo.ca

PEINet Prince Edward Island
Jim Hancock (902) 566-0450 hancock@upei.ca

RISQ Quebec
Bernard Turcotte (514) 340-5700 turcotte@crim.ca

SASK#net Saskatchewan
Dean C. Jones (306) 966-4860 jonesdc@admin.usask.ca

Other Providers

AARNet Australia
 AARNet Support +61 6 249 3385 aarnet@aarnet.edu.au

UKnet United Kingdom of Great Britain and Northern Ireland
 UKnet Support +44-227-475497 postmaster@uknet.ac.uk

EUnet Europe, CIS-region, and Northern Africa
 EUnet Support +31 20 592-5124 glenn@eu.net

Pipex United Kingdom
 Richard Nuttall (RN131) +44 223 424616 sales@pipex.net

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PART III

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Available via anonymous ftp:
 Host: nnsc.nsf.net
 Directory: nsfnet
 File: limited-referral

Available via e-mail
 E-mail to: info-server@nnsc.nsf.net
 Message text: request: nsfnet
 topic: limited-referral
 request: end

LIMITED REFERRAL LIST
Network Providers for Low-Volume Users

NSF Network Service Center (NNSC)
19 January 1993

Service Types:
EM - Electronic Mail
IP - Dialup IP including TELNET, FTP and possibly other services
PDN - Access to Provider Is Available over Public Data Networks
U - USENET news
FREE - No charge for service

Network Provider
City, State Service Type Service Area
 Contact Name Phone Number E-Mail Address

NETWORKS OFFERING DIALUP IP ACCESS TO THE INTERNET

CERFnet
San Diego, CA EM/IP Western US&Int
 CERFnet Hotline (800) 876-2373 help@cerf.net

(619) 455-3900

CICnet
Ann Arbor, MI EM/IP Midwest US (MN WI IA IN IL MI OH)
John Hankins (313) 998-6102 hankins@cic.net

ICM - International Connections Manager
Herndon, VA EM/IP International
Robert Collet (703) 904-2230 rcollet@icm1.icp.net

JVNCnet - Global Enterprise Services, Inc.
Princeton, NJ EM/IP US&Int
(800) 35-TIGER info@jvnc.net
(609) 258-2400

MSEN, Inc.
Ann Arbor, MI EM/IP Michigan (MI)
Owen Medd (313) 741-1120 info@msen.com

NEARnet
Cambridge, MA EM/IP Northeastern US (ME NH VT CT RI MA)
John Curran (617) 873-8730 nearnet-join@nic.near.net

NevadaNet
Las Vegas, NV EM/IP U Nevada (NV)
Don Zitter (702) 784-6133 zitter@nevada.edu

NYSERnet
Syracuse, NY EM/IP New York (NY)
Jim Luckett (315) 443-4120 info@nysernet.org

OARnet
Columbus, OH EM/IP PDN Ohio (OH)
Alison Brown (614) 292-8100 alison@oar.net

PSINet Performance Systems International
Reston, VA EM/IP U US&Int
(800) 82PSI82 info@psi.com

INTERNET HOSTS OFFERING TERMINAL DIALUP TO AN IP HOST

Alternet (UUNET)
Falls Church, VA EM/IP U US&Int
UUNET (800) 4UU-NET3 alternet-info@uunet.uu.net

Colorado Supernet, Inc.
Golden, CO EM/IP (CO) residents or businesses only
David Menges (303) 273-3471 dcm@csn.org

DIGEX - Digital Express Group
Greenbelt, MD EM/IP U (DC), Baltimore area (MD)
Douglas Humphrey (301) 220-2020 doug@digex.com

HOLONET - Information Access Technologies, Inc.
Berkeley, CA EM/IP U PDN (CA) US&Int
Arthur Britto (510) 704-0160 FAX: (510) 704-8019 info@holonet.net

M-Net Public Access Unix
Ann Arbor, MI EM/IP FREE Michigan (MI)
 modem: (313) 994-6333, 996-4644 telnet: m-net.ann-arbor.mi.us

NYX Public Access Unix System
Denver, CO EM/IP U FREE Denver area (CO)
 Andrew Burt telnet: nyx.cs.du.edu [log in as 'new']
 modem: (303) 871-3324 (2400 b); (303) 871-4770 (1200 b)
 (303) 871-4824 (2400 b); (303)871-4812 (1200 b)
 [High speed lines are also available]

PANIX - Public Access Unix of New York
New York, NY EM/IP (NY)
 Alexis Rosen (212) 877-4854 alexis@panix.com

PORTAL Communications
Cupertino. CA EM PDN US&Int
 John Little (408) 973-9111 jel@corp.portal.com

UKnet United Kingdom of Great Britain and Northern Ireland
Canterbury, England, UK EM International
  UKnet Support +44-227-475497 postmaster@uknet.ac.uk
  uknet.ac.uk is the domain for the University of Kent, England, UK

World, The - Software Tool & Die
Brookline, MA EM/IP U PDN US
 Barry Shein (617) 739-0202 bzs@skuld.std.com

WELL - Whole Earth 'Lectronic Link
Sausalito, CA EM/IP U PDN SF Bay Area (CA)
  (800) 326-8354 support@well.sf.ca.us
  (415) 332-4335

EMAIL HOSTS WITH GATEWAYS TO THE INTERNET

Anterior Technology
Meno Park, CA EM U Radiomail California (CA)
 Geoffrey Good- (415) 328-5615 geoff@fernwood.mpk.ca.us
  fellow (415) 325-7335

AT&T MAIL (EASYLINK)
South Plainsfield, NJ EM PDN US
  (800) MAIL-672 postmaster@attmail.com

CompuServe EM PDN US&Int
Columbus, OH (614) 457-8600 Please communicate by phone.

DASNET (See IGC)

FidoNet
Scottsdale, AZ EM US&Int
 David Dodell Fax: (602) 451-1165 hostmaster@fidonet.fidonet.org
 Please communicate by FAX or email only.

GeoNet Mailbox Systems EM Germany

(See also IGC) +49 6673 18881 postmaster@GEO5.GEOMAIL.ORG (check)

ICG - Institute for Global Communications
San Francisco, CA EM PDN US&Int
(415) 442-0220 igc.org

NetCom - Online Communication Services
San Jose, CA EM SF Bay Area (CA)
(408) 554-8649 info@netcom.com

OMNET
Boston, MA EM PDN US&Int
(617) 244-4333 Please communicate by phone.

REFERENCES TO OTHER NETWORK PROVIDER LISTS

To get documents in the NNSC Info Server, send email to
"info-server@nnsc.nsf.net" with text:
request: nsfnet
topic: (as shown below)

1) Available on the Internet:

    "Peter Kaminski" <kaminski@netcom.com>
    "Public Dialup Internet Access List (PDIAL)"
    To order: Send email with the subject "Send PDIAL" to
    "info-deli-server@netcom.com".
    Also order from the NNSC Info-Server, topic: pdial

    SRI Network Information Systems Center
    "Internet-access-providers-US.txt" and
    "Internet-access-providers-non-US.txt"
    Use anonymous ftp to ftp. nisc.sri.com,
    cd "netinfo". These files are chapters
    from the book "Internet: Getting Started"
    (see below).

    "Phil Eschallier" <phil@bts.com>
    "nixpub lons listing - Open Access UNIX (*NIX) Sites [both Fee and No Fee]
    Bux Technical Services -- Doylestown, PA
    from Usenet Newsgroups: alt.bbs,comp.bbs.misc,comp.misc
    Also order from the NNSC Info-Server Topic: nixpub

2) Available in book form:

    Ed Krol, "User's Guide & Catalog"
    "Appendix A. Getting Connection to the Internet"
    September 1992. O'Reilly & Associates, Inc.
    103 Morris Street, Suite A, Sebastopol, CA 95472.
    pp 333-348.

    SRI Network Information Systems Center
    "Internet: Getting Started". Call
    (415) 859-6387 for more information.

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PART IV

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host: ftp.nisc.sri.com
directory: netinfo
file: internet-access-providers-us.txt
date: December 1992

* *
This file is Chapter 4 of the book "Internet: Getting Started,"
a book that tells what the Internet is and how to join it.
"Internet: Getting Started" will be published by Prentice-Hall
and available in bookstores in early Spring 1993.
* *

CHAPTER 4
SERVICE PROVIDERS

This chapter provides information regarding Internet access providers, the general types of services they provide, and how to contact them. Although some of these providers can help with international connections, Chapter 6 contains more information about many non-U.S. networks and whom to contact for more information about gaining access to them.

This Chapter first lists national providers of network connections, then lists dialup providers, then lists the providers by state.

The information contained here was current as of the publication of this document, and contains information as complete and accurate as we were able to find. We would appreciate corrections and additions to this chapter. They can be sent online to nisc@nisc.sri.com or in hardcopy to SRI International at the address in the Overview.

Format

Each Provider is listed in the following format:

Provider name
    Contact name (if any)
    Phone number
    Internet e-mail address
    Services:

Those items in italics are listed without an identifier pre-pended (e.g. CERFnet rather than Provider name: CERFnet).

The Services item is used to indicate the general type of service a provider offers. It will usually contain either:

- Network connections
- Dialup e-mail
- Dialup IP

One provider may offer any or all of these services.

These types of access methods are each described in Chapter 2. Sometimes other services may be noted as well. For further details about any service, contact the access provider. This Chapter lists only phone numbers and electronic mail addresses. Complete postal addresses can be found in the alphabetical access provider listing contained in Appendix II.

Important: Providers often offer services in addition to those noted! This book is concerned mainly with highlighting types of Internet access. Most often, providers offer a range of value-added services in addition to initial access options. For example, most providers also offer access to USENET news.

If a provider is in your area, but seems from this list not to offer the service you desire, definitely contact them to ascertain their current range of services. Providers expand services often, and it is possible that we were unaware of a service.

Many access providers in the US began with support from the National Science Foundation (NSF) with the mission of connecting research and education sites to the NSFNET backbone or with funding from state agencies to fulfill a similar purpose. Some providers retain this as their primary goal and do not provide access to commercial sites. Other such providers have expanded their missions to include more commercial services, so now serve a wider community. All providers charge fees for their services, which has helped blur the distinction between "commercial" and "research" providers. With a few exceptions, it is generally true

that any organization may join any network as long as it agrees to abide by that network's Acceptable Use Policy. However, it may be the case that a provider listed in this Chapter as serving a particular area may have some restrictions regarding the type of community it wishes to serve.

Note: Access For Individuals

Individuals usually access the Internet via some dialup means. Therefore, if you are looking for access for yourself, start with the section listing Providers Of Dialup Services, but also check listings under your state for other providers that may offer dialup services.

4.1. National Providers of Network Connections

This section lists providers that offer network connections throughout the United States. Network connections means that they will coordinate with you establish a dedicated connection between your host or your local area network to the Internet.

In most cases, these providers are not repeated in Section 4.3, Providers By State. When shopping for an access provider in the United States, therefore, using this section in tandem with the Providers By State section will give you the maximum information from which to make your selection.

Advanced Network and Services, Inc. (ANS) and ANS CO+RE
800 456 8267
+1 313 663 2482
info@ans.net
Services: Network connections. ANS CO+RE is a wholly owned, taxable subsidiary of ANS. ANS is a not-for-profit organization.

AlterNet
800 488 6384
+1 703 204 8000
alternet-info@uunet.uu.net
Services: Network connections; a product of UUNET Technologies.

Infolan
George Abe
+1 310 335 2600

abe@infonet.com
Services: Network connections.

MSEN, Inc.
Owen Scott Medd
+1 313 998 4562
info@msen.com
Services: Network connections, dialup IP, dialup e-mail.

NSFNET:
Referrals available from:
NSF Network Services Center
+1 617 873 3400
nnsc@nnsc.nsf.net
or
Merit Network, Inc.
+1 313 936 3000
nsfnet-info@merit.edu

Performance Systems International, Inc. (PSI)
800 827 7482
+1 703 620 6651
info@psi.com
Services: Network connections; dialup IP; dialup e-mail.

SprintLink
Bob Doyle
+1 703 904 2167
rdoyle@icm1.icp.net
Services: Network connections.

4.2. Providers of Dialup Services

This section lists providers that offer dialup connections. This list includes only national dialup access providers and providers that specialize in dialup e-mail services for specific geographic areas. Those providers that offer both network connections and dialup access to a specific region are listed in Section 4.3 rather than here. This is only for the sake of simplicity. This section is provided mainly for easy reference by individuals seeking dialup access to the Internet. If you are such a person, also look in the section that lists providers by area to see if the mid-level or regional network in your area also provides dialup services.

Even though some providers seem to serve smaller, perhaps municipal areas, their services can be accessed

via a long distance phone call, or sometimes via a public data network. It is worth contacting them to see how you might use their services.

All of these providers are listed elsewhere in this chapter as well as here. Many national access providers also offer dialup services, so they are listed here and in the previous section. Those dialup e-mail providers that serve specific areas are listed again in Section 4.3 under the state they serve.

Although this section emphasizes dialup access, it is important to recall that most of these providers offer other services as well.

If no Area Served information is listed for the dialup providers, they serve all of the US and probably provide international dialup connections as well. Contact the provider directly for more information.

a2i communications
info@rahul.net
Area Served: San Jose, CA (408 area code)
Services: Dialup e-mail, SunOS software development environment.

America Online, Inc.
800 827 6364
+1 703 8933 6288
info@aol.com
Area Served: US and Canada
Services: Dialup e-mail.

Anterior Technology
+1 415 328 5615
info@radiomail.net
Area Served: San Francisco bay area
Services: Dialup e-mail; RadioMail.

Big Sky Telegraph
800 982 6668 (in Montana only)
+1 406 683 7338
jrobin@csn.org
Area Served: Montana
Services: Dialup e-mail.

BIX 800 695 4775
+1 617 354 4137
TJL@mhis.bix.com
Area Served: Area code 617; local dialup connections outside 617 available through TYMNET.

Services: Dialup e-mail.

CERFnet
800 876 2373
+1 619 455 3900
help@cerf.net
Services: Network connections, national dialup IP, dialup e-mail.

Channel 1
+1 617 864 0100
whitehrn@channel1.com
Area Served: Massachusetts
Services: Dialup e-mail.

CLASS
Cooperative Agency for Library Systems and Services
800 488 4559
class@class.org
Area Served: US
Services: Dialup access for libraries in the US.

Community News Service
+1 719 579 9120
klaus@cscns.com
Area Served: Colorado Springs, CO (719 area code)
Services: Dialup e-mail.

CompuServe Information System
800 848 8990
+1 614 457 0802
postmaster@csi.compuserve.com
Services: Dialup e-mail.

The Cyberspace Station
+1 619 944 9498 ext. 626
help@cyber.net
Area Served: San Diego, CA
Services: Dialup e-mail

Express Access Online Communications Service
+1 301 220 2020
info@digex.com
Services: Dialup e-mail in the Northern VA, Baltimore MD, Washington DC areas (area codes 202, 310, 410, 703).

EZ-E-Mail
+1 603 672 0736

info@lemuria.sai.com
Area Served: US and Canada
Services: Dialup e-mail.

Halcyon
+1 206 426 9298
info@remote.halcyon.com

Area Served: Seattle, WA
Services: Dialup e-mail.

HoloNet
+1 510 704 0160
info@holonet.net
Area Served: Berkeley, CA (area code 510)
Services: Dialup e-mail.

Institute for Global Communications (IGC)
+1 415 442 0220
support@igc.apc.org
Services: Dialup e-mail; affiliated with PeaceNet, EcoNet, and ConflictNet; member of the Association for Progressive Communications (APC).

IDS World Network
+1 401 884 7856
sysadmin@ids.net
Area Served: East Greenwich, RI; northern RI
Services: Dialup e-mail.

JvNCnet
Sergio F. Heker
Allison Pihl
800 358 4437
+1 609 258 2400
market@jvnc.net
Services: Network connections, national dialup IP, dialup e-mail.

MCI Mail Engineering
800 444 6245
+1 202 833 8484
2671163@mcimail.com
3248333@mcimail.com
Services: Dialup e-mail.

MindVox
+1 212 988 5987
info@phantom.com
Area Served: New York City (area codes 212, 718)

Services: Dialup e-mail.

MSEN, Inc.
Owen Scott Medd
+1 313 998 4562
info@msen.com
Area Served: U.S.
Services: Network connections, dialup IP, dialup e-mail.

New Mexico Technet
+1 505 345 6555
reynolds@technet.nm.org
Area Served: New Mexico
Services: Dialup e-mail.

Old Colorado City Communications
+1 719 632 4848
dave@oldcolo.com
Area Served: Colorado
Services: Dialup e-mail.

Seattle Online
+1 206 328 2412
bruceki@online.com
Area Served: Seattle, WA
Services: Dialup e-mail.

Panix Public Access Unix
Alexis Rosen
alexis@panix.com
+1 212 877 4854
or
Jim Baumbach
jsb@panix.com
+1 718 965 3768
Area Served:New York City, NY (area codes 212, 718)
Services: Dialup e-mail.

Performance Systems International, Inc. (PSI)
800 827 7482
+1 703 620 6651
info@psi.com Services: Network connections, dialup IP, dialup e-mail.

Portal Communications, Inc.
+1 408 973 9111
cs@cup.portal.com
info@portal.com
Area Served: Northern California (area codes 408,

415)
Services: Dialup e-mail.

Sugar Land Unix
+1 713 438 4964
info@NeoSoft.com
Area Served: Texas (Houston metro area)
Services: Dialup e-mail.

UUNET Technologies, Inc.
800 488 6384
+1 703 204 8000
info@uunet.uu.net
Services: Network connections, dialup e-mail; Alternet is a product of UUNET Technologies.

Whole Earth 'Lectronic Link (WELL)
+1 415 332 4335
info@well.sf.ca.us
Area Served: San Francisco Bay Area (area code 415)
Services: Dialup e-mail.

The World
+1 617 739 0202
office@world.std.com
Area Served: Boston, MA (area code 617)
Services: Dialup e-mail.

4.3. Providers by State

This section lists providers by state. Many providers serve more than one state, so are listed more than once. Dialup e-mail providers are listed again here for the areas they serve. National access providers are not listed here; see Section 4.1 for more information. It is a good idea to contact both national providers and more regional providers when considering an Internet connection in order to have enough information to make the best selection.

Alabama
SURAnet
Jack Hahn
+1 301 982 4600
hahn@sura.net
Services: Network connections.

Alaska:
NorthWestNet
Eric Hood
+1 206 562 3000
ehood@nwnet.net
Services: Network connections.

Arizona	Westnet Pat Burns +1 303 491 7260 pburns@yuma.acns.colostate.edu Services: Network connections.
Arkansas	MIDnet Dale Finkelson +1 402 472 5032 dmf@westie.unl.edu Services: Network connections.
California	BARRNet William Yundt +1 415 723 3104 gd.why@forsythe.stanford.edu Services: Network connections, dialup IP, dialup e-mail.
	CERFnet 800 876 2373 +1 619 455 3900 help@cerf.net Services: Network connections, national dailup IP, dialup e-mail.
	Los Nettos Ann Westine Cooper +1 310 822 1511 Services: Network connections.
	SDSCnet Paul Love +1 619 534 5043 loveep@sds.sdsc.edu Services: Network connections.
	a2i communications info@rahul.net Services: Dialup e-mail to San Jose area; SunOS software development environment.
	Anterior Technology +1 415 328 5615 info@radiomail.net Services: Dialup e-mail; RadioMail to SF Bay Area.
	Cyberspace Station help@cyber.net +1 619 944 9498 ext. 626 Services: Dialup e-mail to San Diego

	area; UNIX systems facilities for programming.
	HoloNet info@holonet.net +1 510 704 0160 Services: Dialup e-mail to Berkeley area.
	Portal Communications, Inc. +1 408 973 9111 cs@cup.portal.com Services: Dialup e-mail.
	Whole Earth 'Lectronic Link (WELL) +1 415 332 4335 info@well.sf.ca.us Services: Dialup e-mail in the San Francisco Bay area.
	Netcom Online Communication Services +1 408 554 8649 info@netcom.com Services: Dialup e-mail, dialup IP in the San Jose, San Francisco area.
	DASNET +1 408 559 7434 postmaster@das.net Services: Dialup e-mail in California.
Colorado	Colorado SuperNet Ken Harmon +1 303 273 3471 info@csn.org Services: Network connections, dialup IP.
	Westnet Pat Burns +1 303 491 7260 pburns@yuma.acns.colostate.edu Services: Network connections.
	Old Colorado City Communications Dave Hughes +1 719 632 4848 dave@oldcolo.com Services: Dialup e-mail.
Connecticut	NEARnet John Curran +1 617 873 8730 nearnet-staff@nic.near.net Services: Network connections, dialup IP.
Delaware	SURAnet Jack Hahn

	+1 301 982 4600 hahn@sura.net Services: Network connections.
	JvNCnet Sergio F. Heker Allison Pihl +1 609 258 2400 800 358 4437 market@jvnc.net Services: Network connections, dialup IP.
District of Columbia	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
	JvNCnet Sergio F. Heker Allison Pihl +1 609 258 2400 800 358 4437 market@jvnc.net Services: Network connections, dialup IP.
	Express Access Online Communications +1 301 220 2020 info@digex.com Services: Dialup e-mail in the Northern Virginia, Baltimore MD, and Washington DC areas (area codes 202, 310, 410, 703).
Florida	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
Georgia	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
Hawaii	PACCOM Torben Nielsen +1 808 949 6395 torben@foralie.ics.hawaii.edu Services: Network connections.
Idaho	NorthWestNet Eric Hood +1 206 562 3000

	ehood@nwnet.net Services: Network connections.
	Westnet Pat Burns +1 303 491 7260 pburns@yuma.acns.colostate.edu Services: Network connections.
Illinois	CICNet John Hankins +1 313 998 6102 hankins@cic.net Services: Network connections.
	netILLINOIS Joel L. Hartmann +1 309 677 3100 joel@bradley.bradley.edu Services: Network connections.
Indiana	CICNet John Hankins +1 313 998 6102 hankins@cic.net Services: Network connections.
	INet Dick Ellis +1 812 855 4240 ellis@ucs.indiana.edu Services: Network connections.
Iowa	CICNet John Hankins +1 313 998 6102 hankins@cic.net Services: Network connections.
	MIDnet Dale Finkelson +1 402 472 5032 dmf@westie.unl.edu Services: Network connections.
Kansas	MIDnet Dale Finkelson +1 402 472 5032 dmf@westie.unl.edu Services: Network connections.
Kentucky	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.

Louisiana	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
Maine	NEARnet John Curran +1 617 873 8730 nearnet-staff@nic.near.net Services: Network connections, dialup IP.
Maryland	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
	JvNCnet Sergio F. Heker Allison Pihl +1 609 258 2400 800 358 4437 market@jvnc.net Services: Network connections, dialup IP.
	Express Access Online Communications +1 301 220 2020 info@digex.com Services: Dialup e-mail in the Northern Virginia, Baltimore MD, and Washington DC areas (area codes 202, 310, 410, 703).
Massachusetts	NEARnet John Curran +1 617 873 8730 nearnet-staff@nic.near.net Services: Network connections, dialup IP.
	BIX +1 617 354 4137 800 695 4775 tjl@mhis.bix.com Services: Dialup e-mail (local dialup connections outside 617 area available through TYMNET.
	Channel 1 +1 617 864 0100 whitehrn@channel1.com Services: Dialup e-mail.
	The World - Public Access UNIX

	+1 617 739 0202 office@world.std.com Services: Dialup e-mail.
Michigan	CICNet John Hankins +1 313 998 6102 hankins@cic.net Services: Network connections.
	MichNet Jeff Ogden +1 313 764 9430 jogden@merit.edu Services: Network connections, dialup IP.
Minnesota	CICNet John Hankins +1 313 998 6102 hankins@cic.net Services: Network connections.
	MRnet Dennis Fazio +1 612 342 2570 dfazio@mr.net Services: Network connections.
Mississippi	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
Missouri	MIDnet Dale Finkelson +1 402 472 5032 dmf@westie.unl.edu Services: Network connections.
Montana	NorthWestNet Eric Hood +1 206 562 3000 ehood@nwnet.net Services: Network connections.
	Big Sky Telegraph Jon Robinson 800 982 6668 +1 406 683 7338 jrobin@csn.org Services: Dialup e-mail.
Nebraska	MIDnet Dale Finkelson

	+1 402 472 5032 dmf@westie.unl.edu Services: Network connections.
Nevada	NevadaNet Don Zitter +1 702 784 6133 zitter@nevada.edu Services: Network connections.
New Hampshire	NEARnet John Curran +1 617 873 8730 nearnet-staff@nic.near.net Services: Network connections, dialup IP.
	EZ-E-Mail +1 603 672 0736 info@lemuria.sai.com Services: Dialup e-mail to Nashua area.
New Jersey	JvNCnet Sergio F. Heker Allison Pihl 800 358 4437 +1 609 258 2400 market@jvnc.net Services: Network connections, dialup IP.
New Mexico	Westnet Pat Burns +1 303 491 7260 pburns@yuma.acns.colostate.edu Services: Network connections.
	New Mexico Technet Lee Reynolds +1 505 345 6555 reynolds@technet.nm.org Services: Dialup e-mail.
New York	NYSERnet Jim Luckett +1 315 443 4120 info@nysernet.org Services: Network connections, dialup e-mail, dialup IP.
	MindVOX +1 212 988 5987 info@phantom.com Services: Dialup e-mail to New York City area.
	PANIX Public Access Unix Alexis Rosen alexis@panix.com

	+1 212 877 4854 or Jim Baumbach jsb@panix.com +1 718 965 3768 Services: Dialup e-mail to New York City area.
North Carolina	CONCERT Joe Ragland +1 919 248 1404 jrr@concert.net Services: Network connections, dialup e-mail, dialup IP.
	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
North Dakota	NorthWestNet Eric Hood +1 206 562 3000 ehood@nwnet.net Services: Network connections.
Ohio	CICNet John Hankins +1 313 998 6102 hankins@cic.net Services: Network connections.
	OARnet Alison Brown +1 614 292 8100 nic@oar.net Services: Network connections, dialup IP.
	PSCNET Eugene Hastings +1 412 268 4960 pscnet-admin@psc.edu Services: Network connections.
Oklahoma	MIDnet Dale Finkelson +1 402 472 5032 dmf@westie.unl.edu Services: Network connections.
Oregon	NorthWestNet Eric Hood +1 206 562 3000 ehood@nwnet.net Services: Network connections.

Pennsylvania	PREPnet Thomas W. Bajzek +1 412 268 7870 twb+@andrew.cmu.edu Services: Network connections, dialup IP.
	PSCNET Eugene Hastings +1 412 268 4960 pscnet-admin@psc.edu Services: Network connections.
Puerto Rico	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
Rhode Island	NEARnet John Curran +1 617 873 8730 nearnet-staff@nic.near.net Services: Network connections, dialup IP.
	RISCnet Andy Green +1 401 885 6855 info@nic.risc.net Services: Network connections, dialup IP.
	The IDS World Network +1 401 884 7856 sysadmin@ids.net Services: Dialup e-mail, SLIP.
South Carolina	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
South Dakota	MIDnet Dale Finkelson +1 402 472 5032 dmf@westie.unl.edu Services: Network connections.
Tennessee	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
Texas	SESQUINET Farrell Gerbode +1 713 527 4988

	farrell@rice.edu Services: Network connections, dialup IP.
	THEnet Tracy LaQuey Parker +1 512 471 5046 tracy@utexas.edu Services: Network connections.
	Sugar Land Unix +1 713 438 4964 info@NeoSoft.com Services: Dialup e-mail.
Utah	Westnet
	Pat Burns +1 303 491 7260 pburns@yuma.acns.colostate.edu Services: Network connections.
Vermont	NEARnet John Curran +1 617 873 8730 nearnet-staff@nic.near.net Services: Network connections, dialup IP.
Virginia	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
	VERnet James Jokl +1 804 924 0616 jaj@virginia.edu Services: Network connections.
	Express Access Online Communications +1 301 220 2020 info@digex.com Services: Dialup e-mail in the Northern Virginia, Baltimore MD, and Washington DC areas (area codes 202, 310, 410, 703).
Washington	NorthWestNet Eric Hood +1 206 562 3000 ehood@nwnet.net Services: Network connections.
	Halcyon +1 206 426 9298 info@remote.halcyon.com

	Services: Dialup e-mail to Seattle area.
	Seattle Online Bruce King +1 206 328 2412 bruceki@online.com Services: Dialup e-mail to Seattle area.
West Virginia	PSCNET Eugene Hastings +1 412 268 4960 pscnet-admin@psc.edu Services: Network connections.
	SURAnet Jack Hahn +1 301 982 4600 hahn@sura.net Services: Network connections.
	WVNET Harper Grimm +1 304 293 5192 cc011041@wvnvms.wvnet.edu Services: Network connections, dialup IP.
Wisconsin	CICNet John Hankins +1 313 998 6102 hankins@cic.net Services: Network connections.
	WiscNet Tad Pinkerton +1 608 262 8874 tad@cs.wisc.edu Services: Network connections.
	Milwaukee Internet X +1 414 962 8172 sysop@mixcom.com Services: Dialup e-mail to the Milwaukee area.
Wyoming	NorthWestNet Eric Hood +1 206 562 3000 ehood@nwnet.net Services: Network connections.
	Westnet Pat Burns +1 303 491 7260 pburns@yuma.acns.colostate.edu Services: Network connections.

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PART V

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Available via anonymous ftp:
 Host: ashley.cs.widener.edu
 Directory: /pub/nixpub
 File: long

nixpub long listing
Open Access UNIX (*NIX) Sites [both Fee and No Fee]
[January 28, 1993]

Systems listed (138)

a2i	aa7bq	abode	actrix	admiral	agora	alchemy
alphacm	amaranth	anomaly	anubis	aquila	atrium	bdt
bigtex	bitsko	blkbox	bluemoon	btr	bucket	cavebbs
cellar	chinet	cinnet	clinet	cns	compunet	conexch
coyote	cpumagic	crash	cruzio	cyber	ddsw1	debug
dhw68k	digex	dircon	dorsaidm	edsi	eklektik	eskimo
exuco1	fullfeed	gagme	genesis	gna	gold	gorn
grebyn	grex	halcyon	hcs	helpex	highlite	holonet
ibmpcug	ichlibix	infocom	isys-hh	ixgch	jabber	jack
jwt	kcbbs	kralizec	latour	loft386	lopez	lunapark
lunatix	m-net	m2xenix	madnix	magpie	marob	medsys
metronet	micor	mindlink	mixcom	mv	ncoast	nervous
netcom	netlink	nuchat	nucleus	nyx	oaknet	odbffm
oldcolo	pallas	panix	pnet51	polari	portal	quack
quake	r-node	raider	rgm	rock	sactoh0	schunix
scuzzy	sdf	seanews	sir-alan	sixhub	solaria	stanton
starnet	sugar	szebra	techbook	telerama	telesys	telly
tmsoft	tnc	tnl	tronsbox	tutor	uunet	uuwest
vicstoy	vpnet	wa9aek	wariat	wb3ffv	well	wet
woodowl	world	wybbs	wyvern	xroads		

Updated Last	Telephone #	Sys-name	Location	Baud	Hours
12/91	201-759-8450^	tronsbox	Belleville NJ	3/12/24/96	24

Generic 386, UNIX 3.2; Provides shell for some users, USENET, E-Mail (feeds available) at $15 a month flat;
Multiple line (-8568 300 - 2400 baud).

04/92	203-661-1279	admiral	Greenwich CT	3/12/24/96	24

SCO Unix 3.2.2. (HST/V32) 203-661-2873, (PEP/V32) 203-661-1279, (V32) 203-661-0450, (MNP6) 203-661-2967. Magpie BBS for local conversation and Waffle for Internet mail/Usenet news. Interactive chat and games. BBS name is "The Grid." Willing to give newsfeeds and mail access. Shell (tcsh, ksh avail) accounts available at no charge. Direct connect to Internet site (Yale) via UUCP. 230 megs disk space. For more information contact uunet!admiral!doug (Doug Fields) or fields-doug@cs.yale.edu.

09/91	206-328-4944^	polari	Seattle WA	12	24

Equip ???; 8-lines, Trailblazer on 206-328-1468; $50/year (flat rate);

Multi-user games, chat, full USENET.
Contact: bruceki%polari.uucp@sumax.seattleu.edu

10/92 206-367-3837^ eskimo Seattle WA 3/12/24/96/ 24
Sun 3/180 SUN/OS 4.1.1_U1 - Everett Tel 206-742-1150 Fast 206-362-6731
14 Lines including TB World Blazer and TB-3000. Free 2-week trial account.
Rates $10/month or $96/year. Everybody gets their choice of sh, csh, tcsh,
ksh, bash, or zsh. Full Usenet News feed 7 day expire. Unique real-time
conference, message and files system. UUCP mail and news feeds available.
Home of the Western Washington BBS List. Many applications online.
Lots of Unix source code archived online. Internet ftp/telnet coming soon!

09/92 206-382-6245^ halcyon Seattle WA 3/12/24/96 24
ULTRIX 4.1, (PEP/V.32) 206-382-6245; monthly and annual fee schedules
available. 56kBaud commercial Internet link to the T-3 backbone; NNTP
news feed. Waffle bbs available. Irc server, archie and gopher clients,
hytelnet, spop; dialup or telnet: login as 'bbs' and provide account
information. For more information, contact: info@remote.halcyon.com,
or call voice (PST, USA) +1 206 426 9298

01/93 206-747-6397^ seanews Redmond WA 12/24/96/14 24
Xenix 386 2.3.2. SEANEWS is a free public service, providing
access to Usenet and Internet mail. There are no games, very limited
files, etc. However SEANEWS does have up-to-date Usenet news and
excellent mail-handling capability.

10/92 212-420-0527^ magpie NYC NY 3/12/24/96 24
? - UNIX SYSV - 2, Magpie BBS, no fee, Authors: Magpie/UNIX,/MSDOS
No Shell; Muli-line (using Telebit Worldblazers) plus anonymous uucp;
Contact: Steve Manes, manes%magpie@nycenet.nycenet.edu

12/90 212-675-7059^ marob NYC NY 3/12/24/96 24
386 SCO-XENIX 2.2, XBBS, no fee, limit 60 min.
Telebit Trailblazer (9600 PEP) only 212-675-8438
Contact: {philabs|rutgers|cmcl2}!{phri|hombre}!marob!clifford

12/92 212-787-3100^ panix New York City NY 12/24/96/19 24
Sun Sparc2, 32MB RAM, 4GB disk, Cisco router & Annex terminal server. Use
any of 7 unix shells, or our own custom-written mneu system. 20 dialins-
five are V.32bis, the rest 2400bps, all 20 do V.42bis & MNP. We are now
a full internet site with a high-speed leased line- telnet to panix.com or
to 198.7.0.1. Full UseNet feed; rn, nn, GNUs; more newsreaders coming soon.
ELM, Pine, MM, emacs, and other mail-readers. Vi, Pico, Emacs editors.
Compile your own sources if you like. $10/mn or $100/yr, no hourly charge.
$27/quarter plus $40 startup for internet access, add'l. UUCP feeds with
mail and/or news available- you can subdomain in panix.com or get your own.
Coming in December: 5 more V.32bis modems and 5 more 2400bps modems
Contact: Alexis Rosen (alexis@panix.com or uunet!panix!alexis),
212-877-4854, or Jim Baumbach (jsb@panix.com), 212-603-3572

04/92 214-436-3281^ sdf Dallas TX 3/12/24/96 24
i386-25, ISC SysVr3.2 UNIX; 4-way rotary at 436-3281, 2400bps except
PEP on 436-5935. Unrestricted free shell access, PinkBBS available.
Operated and funded entirely by users. 500MB on-line storage.
1000+ newsgroup full feed. Internet mail. On-line software includes
emacs, trn, nn, elm, nethack, tinyMUD, etc. Mail and news feeds

available.
Contact iczer@sdf.lonestar.org (Ted Uhlemann).

01/93 214-705-2901^ metronet Dallas TX 3/12/24/96 24
HP-UX 8.07, HP 9000/705; Texas Metronet Communications Service. 10 14.4k dialups (7052901), 10 2400 dialups (7052917). Offers shell accounts w/ ftp, telnet, irc, UseNet, etc. Also UUCP and SLIP. Flat monthly fees from $10-$50, depending on service type. telnet connections to feenix.metronet.com welcome. For more information login as info/info, or mail info@metronet.com, or call voice at 7052900.

12/92 215-348-9727 jabber Doylestown PA 3/12/24/96 24
80386, ISC 386/ix 3.0; Trailblazer+ (PEP) on dial in line, Worldblazer (V.32[bis] and TurboPEP) on -8129, 2400 baud on -1932; No fee services: "*NIX Depot" BBS, BBS for UNIX/Xenix users; Fee services: UUCP feeds, providing access to Internet E-mail and full USENET News (2150+ groups); Anonymous UUCP available for access to the latest nixpub lists, please see the footer of this list for more details;
Contact: Phil Eschallier (phil@bts.com).
anon-uucp: ogin: nuucp (No passwd)

11/91 215-654-9184^ cellar Horsham PA 3/12/24/96 24
DTK 386/33, SCO Unix 3.2, Waffle BBS - The Cellar BBS, no shell; USR Dual-Standard modems, three lines and growing. BBS is free; net news (full feed) and net mail by subscription. $7/mo, $35/6-mo, or $60/yr.

06/92 216-481-9445 wariat Cleveland OH 3/12/24/96 24
ISC Unix SysV/386; USR DS on 481-9445, T-3000 on 481-9425. Shell and UUCP/Internet mail access availble. News and mail feeds are available; also, DOS and UNIX files. Ananymous uucp: login: nuucp, no password; request /x/files/ls-lR.Z; nuucp account does not allow mail exchange; UnixBBS distribution point. BBS free (with e-mail) for shell/uucp/newsfeed donation requested. For details, e-mail to: zbig@wariat.org (Zbigniew Tyrlik)

12/90 216-582-2460^ ncoast Cleveland OH 12/24/96 24
80386 Mylex, SCO Xenix; 600 meg. storage; XBBS and Shell; USENET (newsfeeds available), E-Mail; donations requested; login as "bbs" for BBS and "makeuser" for new users.
Telebit used on 216-237-5486.

07/91 217-789-7888 pallas Springfield IL 3/12/24/96 24
AT&T 6386, 600 meg disk space; 4 lines w/ USRobotics Dual Standard modems; BBS available at no fee (UBBS), shell access for $50/year; E-Mail, Usenet; "guest" login available.

09/92 301-220-0462^ digex Greenbelt MD 3/12/24 24
Express Access Online Communications. Local to Washington, Baltimore, Annapolis and Northern Virginia (area code 703); Baltimore dialup 410-766-1855, Gaithersburg/Damascus 301-570-0001. SunOS shell, full Usenet, and e-mail $15/month or $150/year; Internet services incl. Telnet, FTP, IRC with news/mail $25/month or $250/year; includes unlimited usage 3am - 3pm and 1 hour between 3pm and 3am. Login as new (no password) for info and account application, major credit cards accepted. Telnet to digex.com or mail to info@digex.com for more info; voice phone 301-220-2020.

01/93 301-924-5998 highlite Laurel MD 12/24/96 24
Equip ???; Gotham Communications Research. Washington, DC METRO calling area; Northern VA and Southern MD included; Login as guest (password guest); 8N1; $10/month or $100/yr, 20 free hrs/month (then $1/hour); Usenet news; Internet E-mail; Shell access; All modems V.32 or faster.
Contact: Dave at uunet!highlite!dlreed or dlreed@gotham.com

10/92 303-871-3324^ nyx Denver CO 3/12/24/96 24
A sort of "social experiment" aimed at providing Internet access to the public with minimal operational costs with a "friendly" front end (a home-made menu system). Completely donation and volunteer operated, no user fees at all. Log in as 'new' to create an account. Equipment: Sun SparcServer II + Pyramid 90x, ~6Gb disk space, 16 phone lines (+ network logins; usually ~50 users logged in). Public domain file area, private file area, games, full USENET news, internet e-mail. Provides shell and more network access with proof of identity.
Contact: Andrew Burt, aburt@nyx.cs.du.edu

01/92 309-676-0409 hcs Peoria IL 3/12/24/96 24
VAX/BSD SGI/SV Network - Public Access UNIX Systems - Mult.Lines / 1.8GB Linked 386 bbs (Free). Network Fee structure based on usage with $0.02 minute connection. Shells (sh,ksh,csh,tcsh,bash) Compilers (C,Pascal, Fortran,Lisp,Ratfor oths), games, File and Pic. Libs., UUCP and USENET access with NetNews (nn reader), U.S. Patent and other databases, general timesharing and programmed on-line applications. Self register.
Contact: Victoria Kee {uunet!hcsvax!sysop sysop%hcsvax@uunet.uu.net}

08/91 312-248-0900 ddsw1 Chicago IL 3/12/24/96 24
80386 systems, ISC 2.2; guest users 1 hr daily in AKCS BBS; fee for shell, Full Usenet access, unlimited use, and offsite mail; Authors of AKCS bbs; 1.5GB storage, fee $75/year or $20/bi-monthly, 19200 V.32/PEP available on (312) 248-6295 anonymous uucp (nuucp) from 12 midnight to 6 AM, ~/DIRECTORY/README for info on anon uucp. Newsfeeds and mail connections available; Internet access in the works (PLEASE contact us if interested).
Contact: Karl Denninger (karl@ddsw1.MCS.COM)

10/92 312-282-8606^ gagme Chicago IL 12/24/96 24
3B2/400 - System V 3.2. E-mail, netnews, sources, access to anonymous ftp, GIFs, UUCP, local message base, games, etc. PEP and V.32 available for logins and UUCP. Send mail to info@gagme.chi.il.us for more information.

04/90 312-283-0559^ chinet Chicago IL 3/12/24/96 24
'386, SysVr3.2.1; Multiple lines including Telebit and HST; Picospan BBS (free), USENET at $50/year (available to guests on weekends).

06/90 313-623-6309 nucleus Clarkston MI 12/24 24
AMI 80386 - ESIX 5.3.2, large online sources archive accessable by anonymous UUCP, login: nuucp, nucleus!/user/src/LISTING lists available public domain/shareware source code. Contact: jeff@nucleus.mi.org

06/92 313-761-3000 grex Ann Arbor MI 3/12/24 24
Sun 2, SunOS 2.0; Internet E-Mail/USENET, shell access, Picospan;

Fee: $6/month;

04/92 313-996-4644^ m-net Ann Arbor MI 3/12/24 24
Altos 68020 - Sys III, no limits; merged with Arbornet; non-profit organization; tax deductable donations accepted; fee for extended service; Picospan software; 15 lines, 160 Megs, 100% user supported; on-line games (including nethack, empire, and rotisserie baseball); E-Mail; UUCP accounts available; C compiler, multi-user party, access to Bourne, Korn, C, BBS & Menu; on-line man pages; login access via Internet: "telnet m-net.ann-arbor.mi.us".
contact: help@m-net.ann-arbor.mi.us

09/92 401-455-0347 anomaly Esmond RI 3/12/24/96 24
Informtech 486 mongrel; SCO Open Desktop 1.1; Trailblazer+ (0347) and v.32 T2500 (401-331-3706) dialins. Directly connected to the Internet: IP Address: 155.212.2.2, or 'anomaly.sbs.risc.net'. Current fees: $15/mo. includes complete Internet access. Mail and USENET Newsfeeds available, limited feeds for non-PEP sites. SCO software archive site, anonymous UUCP login: xxcp, pass: xenix. Anonymous FTP also supported. Software listing & download directions in anomaly!~/SOFTLIST

12/92 403-569-2882 debug Calgary AB 3/12/24/96 24
386, SCO-Xenix; Login: gdx; Telebit, HST, V.32bis, MNP-5 supported; 6 phone lines: (403) 569-2882, 569-2883, 569-2884, 569-2885, 569-2886; System runs modified GDX BBS software; Services: Usenet, Internet email, IRC, local-chat, 50+ games, legal-forms, programming, ftp-via-email, and much more; Fee: $10/month-3hrs/day to $25/month-24hrs/day; Visa & Amex accepted. Demo accounts with limmited access are free.
Contact: Rob Franke root@debug.cuc.ab.ca

09/91 407-299-3661^ vicstoy Orlando FL 12/24 24
ISC 386/ix 2.0.2. Partial USENET, e-mail (feeds available); Login as bbs, no passwd (8N1); Free shell access; Orlando BBS list, games; cu to Minix 1.5.10 system (weather permitting); USENET includes Unix/Minix source groups. Contact: uunet!tarpit!bilver!vicstoy!vickde or vickde@vicstoy.UUCP (Vick De Giorgio).

01/92 407-438-7138^ jwt Orlando FL 12/24/96 24
80386/33, System V.3.2, Waffle BBS, no shell access, two lines, V.32, V.32bis, PEP, Usenet news, no fee, login as "bbs".
Contact: john@jwt.UUCP (John W. Temples)

08/92 408-241-9760^ netcom San Jose CA 12/24/96 24
UNIX, Sun Network SunOS 4.1; Netcom - Online Communication Services; 70 Telebit lines V.32/V.42 9600/2400/; USENET (16 days), Lrg archive, News/Mail Feeds, Shell, Internet (ftp, telnet, irc), Slip Connections, Local access via CALNet San Jose, Palo Alto, Red Wd Cty, San Fran, Oklnd, Berkly, Alameda, Plesanton, Los Angeles, and Santa Cruz; Fee $17.50/mo + Reg fee of $15.00. Login: guest (510)865-9004, (408)241-9760,(408)459-9851,(310)842-8835,(415)424-0131,(510)426-6860; Just Say No to connect fees, Login as guest (no password).

09/89 408-245-7726^ uuwest Sunnyvale CA 3/12/24 24
SCO-XENIX, Waffle. No fee, USENET news (news.*, music, comics, telecom, etc)
The Dark Side of the Moon BBS. This system has been in operation since 1985.

Login: new Contact: (UUCP) ames!uuwest!request (Domain) request@darkside.com

09/92 408-249-9630^ quack Santa Clara CA 3/12/24/96 24
Sun 3/160, SunOS 4.1.1; Aka - The Duck Pond; 3 lines: -9630 PEP, -9631 HST/v.32bis/v.42bis, -9632 v.32bis/v.42bis + PEP, all 3 lines MNP 1-4; Shell - $5/mo; New users should login as 'guest'; Contact: postmaster@quack.sac.ca.us

08/92 408-293-9010 a2i San Jose CA 12/24/96 24
Usenet/Email/Internet/SunOS (Unix). Eight lines. Dial 408-293-9010 (v.32bis, v.32) or 408-293-9020 (PEP) and log in as "guest". Or telnet to a2i.rahul.net, 192.160.13.1. Or send any message to info@rahul.net; a daemon will auto-reply. $12/month for 6-month prepaid subscription.

08/91 408-423-9995 cruzio Santa Cruz CA 12/24 24
Tandy 4000, Xenix 2.3.*, Caucus 3.*; focus on Santa Cruz activity (ie directory of community and goverment organizations, events, ...); USENET Support; Multiple lines; no shell; fee: $15/quarter. Contact: ...!uunet!cruzio!chris

04/92 408-458-2289 gorn Santa Cruz CA 3/12/24/96 24
Everex 386, SCO xenix 2.3.2; 2 lines, -2837 telebit for PEP connects; Standard shell access, games, email injection into the internet, up to date archive of scruz-sysops information, upload/download, usenet news including scruz.* heircarchy for santa cruz area information; UUCP set up on as-requested; No charge, donations accepted; newuser: log in as ``gorn'' and fill out online form.
Contact: falcon@gorn.echo.com

11/91 408-725-0561^ portal Cupertino CA 3/12/24/96 24
Networked Suns (SunOS), multiple lines, Telenet access, no shell access fees: $13.95/month + Telenet charges (if used) @ various rates/times conferencing, multi user chats, usenet, computer special interest groups

11/91 408-739-1520^ szebra Sunnyvale CA 3/12/24/96 24
386PC, AT&T SVR4v3; Trailblazer+; Full Usenet News, email (Internet & UUCP),
first time users login: bbs, shell access/files storage/email available (registration required); GNU, X11R4 and R5 source archives. viet-net/SCV and VNese files/sftware archives.
contact: tin@szebra.Saigon.COM or {claris,zorch,sonyusa}!szebra!tin

10/92 410-661-2598 wb3ffv Baltimore MD 12/24/96/14 24
80486, UNIX V.3.2.x; XBBS for HAM radio enthusiasts; 1.6 Gigabytes online;
Multiple lines, dial in - TB WorldBlazer, 2475 - USR HST DS V.32bis/42bis, 2648 - Tb+ PEP; Some USENET; Anon-UUCP available; Login as bbs (8-N-1).

06/91 412-431-8649^ eklektik Pittsburgh PA 3/12/24 24
UNIX PC- SYSV - UNaXcess BBS, donation requested for shell,
login: bbs for BBS, limited Usenet news (amiga and gaming groups).
RPG mailing list, rec.games.frp and rec.music.dylan archive.
Alternate number: 431-3064,
Contact: anthony@eklektik.pgh.pa.us or anthony@cs.pitt.edu

01/93 412-481-5302 telerama Pittsburgh PA 3/12/24 24
4.3BSD UNIX - Telerama, $6/mo = 10 hrs/mo, additional hours $0.60
login: new to create a new account, Full USENET news, Clarinet news,
Full internet connectivity - telnet - ftp - irc - MUDs - Email
Contact: info@telerama.pgh.pa.us for more info.

04/92 414-241-5469^ mixcom Milwaukee WI 12/24/96 24
80386, SCO UNIX 3.2; MIX (Milwaukee Internet eXchange); $9/mo
access to Internet services including email, Usenet BBS and file
archives; MIX has comprehensive and easy to use menus, along with
shell access; Multiple lines; login as 'newuser' password 'newuser'.
Contact: Dean Roth (sysop@mixcom.com) [414-962-8172 voice]

10/92 414-321-9287 solaria Milwaukee WI 3/12/24 24
Sun 3/60LE, SunOS 4.1. Internet E-mail, limited USENET news, shell access,
Telebit WorldBlazer soon. Feeds available. Donations requested,
registration required. One hop off of the Internet.
Contact: jgreco@solaria.mil.wi.us (Joe Greco) or log in as "help"

09/91 414-734-2499 edsi Appleton WI 3/12/24 24
IBM PS/2 Model 55SX, SCO Xenix 2.3.2; Running STARBASE II Software.
Enterprise Data Systems Incorporated (Non-profit). 100+ local rooms,
PLUS USENET, Multi Channel Chat, 9 ports, $15 yr, flat rate for full
access to net news, mail. The Fox Valley's only public access Unix
based BBS. Contact: Chuck Tomasi (chuck@edsi.plexus.COM)

08/92 415-332-6106^ well Sausalito CA 12/24/96 24
6-processor Sequent Symmetry (i386); Internet, UUCP and USENET
access; multiple lines; access via CPN and Internet (well.sf.ca.us);
PICOSPAN BBS; $15/mo + $2/hr (CPN or 9600 +$4/hr);
Contact (415) 332-4335

06/91 415-826-0397^ wet San Francisco CA 12/24 24
386 SYS V.3. Wetware Diversions. $15 registration, $0.01/minute.
Public Access UNIX System: uucp, PicoSpan bbs, full Usenet News,
Multiple lines (6), shell access. Newusers get initial credit!
contact:{ucsfcca|hoptoad|well}!wet!editor (Eric Swanson)

04/91 415-949-3133^ starnet Los Altos CA 3/12/24/96 24
SunOS 4.1. 8-lines. MNP1-5 and v42/bis, or PEP on all lines.
Shell access for all users. USENET--900+ groups. E-mail (feeds
available). smart mail. Publically available software (pd/shareware).
$12/mo. Contact: admin@starnet.uucp or ...!uunet!apple!starnet!admin

12/91 415-967-9443^ btr Mountain View CA 3/12/24/96 24
Sun (SunOS UNIX), shell access, e-mail, netnews, uucp, can access by
Telenet PC Pursuit, multiple lines, Telebit, flat rate: $12.50/month.
For sign-up information please send e-mail to Customer Service at
cs@btr.com or ..!{decwrl,fernwood,mips}!btr!cs
or call 415-966-1429 Voice.

08/92 416-249-5366 r-node Etobicoke ON 3/12/24/96 24
80386, ISC SV386; SupraModem2400 on Dial-in line, Worldblazer and
Cardinal2400 on other two lines; No fee services: Uniboard BBS for
BBS users; shell access for those who ask; Fee services: access
to subsequent lines, unlimited dl/ul access; full USENET News and
International E-mail access through Usenet/Internet mail; Free

UUCP connections;
Contact: Marc Fournier (marc@r-node.gts.org)

11/89 416-452-0926 telly Brampton ON 12/24/96 24
386 SysVr3.2; proprietary menu-based BBS includes Usenet site searching. News (all groups, incl biz, pubnet, gnu, CanConfMail), mail (including to/from Internet, Bitnet), many archives. Feeds available. $75(Cdn)/year.
Contact: Evan Leibovitch, evan@telly.on.ca, uunet!attcan!telly!evan

12/88 416-461-2608 tmsoft Toronto ON 3/12/24/96 24
NS32016, Sys5r2, shell; news+mail $30/mo, general-timesharing $60/mo
All newsgroups. Willing to setup mail/news connections.
Archives:comp.sources.{unix,games,x,misc}
Contact: Dave Mason <mason@tmsoft> / Login: newuser

12/92 502-231-5908 compunet Louisville KY 3/12/24/96 24
386 clone, Interactive System V 3.2, 2 gig. Also 502-231-5910, both lines support V.32 and HST. Carrying most USENET groups, Shell access, multi-user games(including The Realm(c)) multi-user chat, downloads including the AB20 and SIMTEL20 CD-ROMS, and more. Rate info available via a guest information account.

10/92 503-220-0636^ techbook Beaverton OR 3/12/24/96 24
33MHz/486, Sys5.4, 1.3GB disk; 8 lines and support PEP/V.32/V.32bis; E-Mail/USENET; Shell access for $45 / year includes Korn, C, or tcsh; $90 / year includes full internet (ftp, telnet, irc, mud) access; Free access to BBS;

08/91 503-254-0458^ bucket Portland OR 3/12/24/96 24
Tektronix 6130, UTek 3.0(4.2bsd-derived). Bit Bucket BBS no longer online. Modem is Telebit Trailblazer+ (PEP). Users intereseted in access to Unix should send EMail to rickb@pail.rain.com. Services include USENET News, EMail (fast due to local Internet access), and access to all tools/utilities/games. UUCP connections (1200, 2400, 9600V.32, 9600PEP, 19200PEP) available (through another local system which is not publically available) to sites which will poll with reasonable regularity and reliability.

12/92 503-293-1772^ agora PDX OR 12/24/96 24
Intel Unix V/386, $6/mo or $60/yr, news, mail, ftp, telnet, irc.
Six lines with trunk-hunt, all V.32bis. Agora is part of RAINet.
Contact: Alan Batie, batie@agora.rain.com

02/91 503-297-3211^ m2xenix Portland OR 3/12/24/96 24
'386/20, Xenix 2.3. 2 Lines (-0935); Shell accounts available, NO BBS; No fee; E-mail, USENET News, program development.
Contact: ...!uunet!m2xenix!news or on Fido at 297-9145

01/92 508-664-0149 genesis North Reading MA 12/24/96 24
Gateway 2000 386/25, Minix-386; Three lines; Internet mail; Usenet News; Multi-user chat, games; Shell access and menu system; Full access to all users; No Fees; 200 megabytes; One hop from the Internet; HST & V.32.
Contact: steve1@genesis.nred.ma.us (Steve Belczyk)

12/92 508-752-9121 schunix Worcester MA 24/96/14.4 24
5 lines ,SUN 4/75(Sparc 2), SunOS 4.1.1(BSD),1.9GB; 2400 buad on dial-in, 14.4k (T3000) on -8305; Shell, Usenet, E-mail, $15/month or $150/yr for

up to 1 hr/day, 1 time Reg fee of $10; 5 megabyte quota; 4 week free trial;
login as "guest"
Contact: ...!uunet!lectroid!jjmhome!schu@schunix.uucp (Robert Schultz)
SCHUNIX c/o Ostrow Electric, 9 Mason Street, Worcester, MA 01609
Voice: 508-752-4522

12/91 510-294-8591 woodowl Livermore CA 12/24/19.2 24
Xenix/386 3.2.1. Waffle BBS, Usenet Access; Reasonable users welcome. No fee; For more information contact: william@woodowl.UUCP, lll-winken!chumley!woodowl!william, or call and just sign up on system.

08/92 510-530-9682 bdt Oakland CA 12/24/96 24
Sun 4, SunOS 4.1; BBS access to Usenet news, E-mail (Internet and UUCP). PEP/V.32 on 510-530-6915. First time users login: bbs. Unix, Atari ST, and IBM-PC sources and PD/shareware. $35 annual fee. 30-day free trial. Newsfeeds and UUCP access by special arrangement. Contact: David Beckemeyer david@bdt.com

09/91 510-623-8652^ jack Fremont CA 3/12/24/96 24
Sun 4/470 running Sun O/S 4.1.1 offers downloading of netnews archives and all uploaded software. Each user can log in as bbs or as the account which they create for themselves. This is a free Public Access Unix System that is part of a network of 4 machines. The primary phone line is on a rotary to three other lines.

08/92 510-704-1058 HoloNet Berkeley CA 12/24/96/14 24
DECstations, ULTRIX; Commercial network, over 850 cities; Custom shell; Full Internet, IRC, telnet, USENET, USA Today Descisionline, games; $2/hr off-peak; Telnet: holonet.net, Info sever: info@holonet.net, Contact: support@holonet.net

06/91 512-346-2339^ bigtex Austin TX 96 24
SysVr3.2 i386, anonymous shell, no fee, anonymous uucp ONLY, Telebit 9600/PEP; Mail links available. Carries GNU software.
anon uucp login: nuucp NO PASSWD, file list /usr3/index
anon shell login: guest NO PASSWD, chroot'd to /usr3
Contact: james@bigtex.cactus.org

11/92 513-779-8209 cinnet Cincinnati OH 12/24/96 24
80386, ISC 386/ix 2.02, Telebit access, 1 line; $7.50/Month; shell access, Usenet access; news feeds available;
login: newacct password: new user to register for shell access

01/92 514-435-8896 ichlibix Blainville Quebec CAN 3/12/24/96 24
80386, ISC 2.2.1; 2400 bps modem on dial in, HST DS on -2650; BBS program is Ubbs (RemoteAccess Clone) - named Soft Stuff, no shell; No fees required but are recommended for more access ($25 - $75/yr); Files for both dos and UNIX + a lot of binaries for ISC; Possibility to send/receive UUCP mail from the BBS

01/90 517-487-3356 lunapark E. Lansing MI 12/24 24
Compaq 386/20 SCO-UNIX 3.2, lunabbs bulletin board & conferencing system, no fee, login: bbs password: lunabbs. Primarily UNIX software with focus on TeX and Postscript, also some ATARI-ST and IBM-PC stuff 2400/1200 --> 8 N 1
Contact: ...!{mailrus,uunet}!frith!lunapark!larry

02/92 517-789-5175   anubis   Jackson   MI 3/12   24
  Equip ???, OS ???; 1200 baud dial-in (planning on 19.2kbps);
  UUCP connections to the world, PicoSpan BBS software, Teleconferencing,
  C programming compiler, 3 public dial-in lines, Online games;
  Contact: Matthew Rupert (root@anubis.mi.org).

10/92 518-237-2163   tnl   Troy   NY 3/12/24   24
  80386 w/ SCO XENIX. No Fee. Full shell, USENET, BBS, games, optional
menus,
  2 hr limit. Login as 'new' for an account, no valid. "The Northern Lights."
  Contact: norstar@tnl.com (Daniel Ray)

12/88 518-346-8033   sixhub   upstate   NY 3/12/24   24
  PC Designs GV386. hub machine of the upstate NY UNIX users group (*IX)
  two line reserved for incoming, bbs no fee, news & email fee $15/year
  Smorgasboard of BBS systems, UNaXcess and XBBS online,
  Citadel BBS now in production. Contact: davidsen@sixhub.uucp.

07/91 602-293-3726   coyote   Tucson   AZ 3/12/24/96 24
  FTK-386, ISC 386/ix 2.0.2; Waffle BBS, devoted to embedded systems
  programming and u-controller development software; E-Mail/USENET;
  UUCP and limited USENET feeds available;
  Contact: E.J. McKernan (ejm@datalog.com).
      bbs: ogin: bbs   (NO PWD)
     uucp: ogin: nuucp (NO PWD)

09/92 602-649-9099^   telesys   Mesa   AZ 12/24/96   24
  SCO UNIX V/386 3.2.4; Telebit WorldBlazers; TeleSys-II Unix based BBS
  (no fee) login: bbs; Unix archives available via BBS or ANON UUCP;
  Shell Accounts available for full access USENET, email (fees);
  Phoenix Matchmaker with more than 9000 members (fees) login: bbs
  Regional supplier of USENET Newsfeeds; uucp-anon: nuucp NOPWD;
  Contact: kreed@tnet.com or ...!ncar!noao!enuucp!telesys!kreed

12/90 602-941-2005^   xroads   Phoenix   AZ 12/24   24
  Motorola VME1121, UNIX 5.2, Crossroads BBS, Fee $30/yr + $.50/.25 (call)
  prime (evenings)/non-prime, USENET news, multi-chat, online games,
  movie reviews, adventure games, dos unix/xenix files for dload, multi lines

05/92 602-991-5952   aa7bq   Scottsdale   AZ 3/12/24   24
  Sun 4, SunOS 4.1.2, NB bbs system, 900 meg online,
  Primarily Ham Radio related articles from usenet
  (Rec.radio.amateur.misc), complete Callsign Database, Radio and
  scanner modifications, frequency listings, shell access by permission,
  No fees, Free classifie ads, Local e-mail only. Login: bbs (8N1) or
  Login: callsign for callsign database only. Don't use MNP!
  For additional info contact Fred.Lloyd@West.Sun.COM

01/92 603-429-1735   mv   Litchfield   NH 12/24/96   24
  80386; ISC UNIX; MV is on the Internet (mv.MV.COM, host 192.80.84.1);
  mail connections and news feeds via uucp; domain registrations;
  membership in "domain park" MV.COM; domain forwarding; archives of
  news and mail software for various platforms; mailing lists;
  area topics; $7/month for 1 hour/month; $20/month for 3 hours/month
  $2/hour thereafter; blocks of 30 hours for $20 month - First month free
  up to 20 hours.

Voice: 603-429-2223; USMail: MV Communications Inc, PO Box 4963
Manchester NH 03108; Or dial the modem and login as "info" or "rates".

08/92 603-448-5722 tutor Lebanon NH 3/12/24/96 24
Altos 386 w/ System V 3.1; Limited newsfeed; E-Mmail and USENET available via UUCP.
Contact: peter.schmitt@dartmouth.edu

11/90 604-576-1214 mindlink Vancouver BC 3/12/24/96 24
80386 w/ SCO Xenix; 14 lines, 660 Meg disk space, TB+ & 9600 HST available;
No shell; Fee of $45/year for BBS access; E-Mail, USENET, hundreds of megs
of file downloads; Operating since 1986.

08/89 605-348-2738 loft386 Rapid City SD 3/12/24/96 24
80386 SYS V/386 Rel 3.2, Usenet mail/news via UUNET, UUNET archive access.
NO BBS! News feeds avaliable. 400 meg hd. Fees: $10/month or $25/quarter.
Call (605) 343-8760 and talk to Doug Ingraham to arrange an account or email
uunet!loft386!dpi

10/92 606-233-2051 lunatix Lexington KY 3/12/24 24
SCO Unix 3.2.2. 2 2400 baud lines. V32bis later in the fall.
Home grown Pseudo BBS software. Multiuser games, Full USENET Feed on tap, USENET Feeds available. Shells available, No Fees.

01/93 608-246-2701 fullfeed Madison WI 96/14.4/19. 24
Sun SPARC station SLC, 16Mb RAM, 1Gb disk, SunOS 4.1.1, Telebit WorldBlazers; operated by FullFeed Communications; USENET/E-Mail, UUCP plus other digital communication services; login: fullfeed; UUCP starts at $24/month, shells cost $16/month; No-cost, limited-term, evaluation accounts are setup over the telephone; FullFeed plans to offer Internet connections (SLIP, PPP, 56Kbps) within 6 months.
Contact "SYSop@FullFeed.Com" or call +1-608-CHOICE-9 (voice).

05/92 608-273-2657 madnix Madison WI 3/12/24 24
486, MST UNIX SysV/386, shell, no fee required, USENET news, mail, login: bbs
Contact: ray@madnix.uucp

09/90 612-473-2295^ pnet51 Minneapolis MN 3/12/24 24
Equip ?, Xenix, multi-line, no fee, some Usenet news, email, multi-threaded conferencing, login: pnet id: new, PC Pursuitable
UUCP: {rosevax, crash}!orbit!pnet51!admin

12/92 613-237-0792 latour Ottawa ON 3/12/24 24
Sun 3/60, SunOS 4.1, 8meg Ram, 660 meg of disk; 2nd line 230-5022 v.32[bis];
No BBS; Unix access rather than usenet. Login as guest for a shell (send mail to postmaster asking for an account);
Anon uucp is login as 'anonuucp' (/bin/rmail is allowed) --
Grab ~uucp/README[.Z] for an ls-lR.

02/92 613-837-3029 micor Orleans ON 3/12/24/96 24
386/25, 600 Meg, Xenix 2.3.2, USENET, email, 2 phone lines

fee required to get more than 15 mins/day of login and to access additional phone lines.
Available: bbs accounts (waffle) or shell accounts.
Contact: michel@micor.ocunix.on.ca or michel@micor.uucp, Michel Cormier.

08/92 614-868-9980^ bluemoon Reynoldsburg OH 3/12/24/96 24
Sun 4/75, SunOS; 2.2gb; Leased line to the Internet; Multiple lines, HST Dual on -9980 & -9982, Telebit T2500 on -9984; 2gb disk space; Bluemoon BBS -- supporting UNIX, graphics, and general interest; Full USENET, gated Fidonet conferences, E-Mail;
Contact: grant@bluemoon.uucp (Grant DeLorean).

05/92 615-288-3957 medsys Kingsport TN 12/24/96/19 24
386 SCO-UNIX 3.2, XBBS, no fee, limit 90 min.
Telebit PEP, USENET, 600 meg., login: bbs password: bbs
anon uucp --> medsys Any ACU (speed) 16152883957 ogin: nuucp
Request /u/xbbs/unix/BBSLIST.Z for files listing
Contact: laverne@medsys (LaVerne E. Olney)

04/91 615-896-8716 raider Murfreesboro TN 12/24/96 24
Featuring GDXBBS. BBS accounts are free, and available to the general public with unlimited capabilities first call. We also provide mail, shell, and USENET links. One hop from uunet. Complete source and binary archives available. Annual member fees for shell and uucp accounts are $40, with a six month sub for $25. 615-896-8716 is Intel 9600 EX modem using V.32/42/42bis. Line 2, 615-896-7905 1200/2400 only. For more info contact root@raider.raidernet.com, or log into bbs and leave mail.

12/91 616-457-1964 wybbs Jenison MI 3/12/24/96 24
386 - SCO-XENIX 2.3.2, two lines, XBBS for new users, mail in for shell access, usenet news, 150 meg storage, Telebit. Interests: ham radio, xenix
AKA: Consultants Connection Contact: danielw@wyn386.mi.org
Alternate phone #: 616-457-9909 (max 2400 baud). Anonymous UUCP available.

12/90 617-739-9753^ world Brookline MA 3/12/24/96 24
Sun 4/280, SunOS 4.0.3; Shell, USENET, E-Mail, UUCP, IRC, Alternet connection to the Internet, and home of the Open Book Initiative (text project), multiple lines; fees: $5/mo + $2/hr or $20/20hrs per month;
Contact: geb@world.std.com

10/92 619-453-1115^ netlink San Diego CA 12/24 24
i386 Unix system, provides access to email and over 800 Usenet newsgroups through Waffle BBS interface (no shell). Multiple lines, NO FEE for basic access. Higher access available for a donation. Mail feeds available.
Login: bbs Contact: system@netlink.cts.com

06/92 619-569-4072^ crash San Diego CA 12/24/96 24
Datel 486-33 12mb, SCO Xenix 2.3.4, 9 lines; HST 619-569-4072, V32 619-569-9195, PEP 619-571-6057. V42.bis most lines, V32.bis on 619-569-4097. All modems at 38,400bps, Telebits at 19,200bps. 8N1 only. Full Usenet (1500+ groups), (smart) email, shell and uucp accounts. 1.5gb disk. No direct internet (yet).
Contact: bblue@crash.cts.com.

06/92 619-634-1376 cyber Encinitas CA 3/12/24/96 24
Equip ???; Multilple lines [HST16.8/V.32]; The Cyberspace Station;

On the Internet (telnet to CYBER.NET [192.153.125.1]); A Public Access Unix service with full Internet connectivity; E-Mail/USENET, International communications, hunting for files, and interactive chatting; Login on as "guest" and send feedback (Don't forget to leave a phone number where you can be reached).
Contact: info@cyber.net

08/92 703-281-7997^ grebyn Vienna VA 3/12/24 24
Networked Vax/Ultrix. $30/month for 25 hours. $1.20 connect/hr after 25 hours. 1 MB disk quota. $2/MB/month additional quota. USENET News. Domain mail (grebyn.com). Full Internet IP connectivity expected in the summer of 1992. Mail to info@grebyn.com, voice 703-281-2194.

05/92 703-803-0391^ tnc Fairfax Station VA 3/12/24/96 24
Zenith Z-386, SCO Xenix; 120 MB HDD; 12 lines, tb+ for UUCP only; "The Next Challenge"; Usenet, mail, Unique (sysop written) multi-user space game; No Shell; Free and user supported --> No fee for light mail and usenet; Subscription required for game and unlimited mail and usenet at $25 / year;
Contact: Tom Buchsbaum (tom@tnc.UUCP or uunet!tnc!tom).

01/93 708-425-8739 oaknet Oak Lawn IL 3/12/24/96/ 24
386 Clone running AT&T System V release 3.2.1, no access charges. Free shell accounts, USENET news, and internet email...
Contact: jason@oaknet.chi.il.us, Jason Vanick (708)499-0905 (human).

05/92 708-833-8126^ vpnet Villa Park IL 12/24/96 24
386 Clone - Interactive Unix R2.2 (3.2), Akcs linked bbs FREE, including many selected Usenet groups. Shells are available for a minimum $60/year contribution; under 22, $30. Includes access to our FULL Usenet feed. Well connected. Five lines including three Trailblazers. Two hunt groups - V.32 modems call 708-833-8127 (contributors only).
Contact: lisbon@vpnet.chi.il.us, Gerry Swetsky (708)833-8122 (human).

12/91 708-983-5147 wa9aek Lisle IL 12/24/96 24
80386, UNIX V.3.2.3; XBBS for HAM radio enthusiasts; 1.5 Gigabytes online;
Multiple lines, dial in - USR HST DS V.32bis/42bis, 8138 - Tb T2500;
Login as bbs (8-N-1).

01/93 713-480-2686^ blkbox Houston TX 3/12/24/96 24
486/33, SCO Open Desktop; 5 lines, all V32[bis]/V42[bis]; E-Mail/USENET (4500+ groups); 25 online adventure games, IRC, SLIP/PP; $21.65 / month for full shell access.
Contact: Marc Newman (mknewman@blkbox.com)

10/89 713-668-7176^ nuchat Houston TX 3/12/24/96 24
i386; USENET, Mail, Shell Access; 300M On-line; Trailbazer Used; No fee.

10/92 713-684-5900^ sugar Houston TX 3/12/24/96/ 24
486/AT, SCO UNIX, 16+ lines (V.22, V.32, PEP, TurboPEP), Usenet news, email,
Clarinet, complete *.sources and *.binaries archives, dial-up SLIP, access to Internet (FTP, telnet, ...), varying fees for shell access, news feeds.

01/91 714-635-2863^ dhw68k Anaheim CA 12/24/96 24
Unistride 2.1; Trailblazer access; 2nd line -1915; No fee; USENET News; /bin/sh or /bin/csh available

12/90 714-821-9671^ alphacm Cypress CA 12/24/96 24
386 - SCO-XENIX, no fee, Home of XBBS, 90 minute per login, 4 lines, Trailblazer pluses in use.
uucp-anon: ogin: nuucp NO PASSWD

12/90 714-842-5851^ conexch Santa Ana CA 3/12/24 24
386 - SCO Xenix - Free Unix guest login and PC-DOS bbs login, one hour inital time limit, USENET news, shell access granted on request & $25/quarter donation. Anon uucp: ogin: nuucp NO PASSWD. List of available Unix files resides in /usr3/public/FILES.

01/91 714-894-2246^ stanton Irvine CA 3/12/24 24
80386-25, SCO Xenix-386, 320mb disk, 2400/1200/300 MNP supported; E-Mail & USENET; Fixed fee $20/yr; X11R4 archive and many packages ported to Xenix 386; C development system (XENIX/MSDOS), PROCALC 1-2-3 clone, FOXBASE+; anon uucp: ogin: nuucp, no word

10/92 714-944-7833 alchemy Rancho Cucamonga CA 12/24/96/19 24
33 Mhz 80386, SCO Xenix v2.3.4, Telebit T2500; Alchemy Software Designs Technial Support BBS; USENET news; threaded conference system; data library (mainly Unix sources) with X, Y and Zmodem batch transfers; No fees; New users login as "guest" and apply for account at main BBS menu.
Contact: John Donahue {gumby, bbs, root}@alchemy.UUCP

12/92 716-634-6552 exuco1 Buffalo NY 3/12/24/96 -24
SGI Iris Indigo; 2 Lines, both Telebit WorldBlazers (on a hunt) [PEP Answer sequence last]; "The Buffalo Computer Society", Western New York's first Public Access UNIX; Mon - Fri 6:00pm - 7:00am EST, 24 Hours on Weekends; No Fee; E-Mail/USENET
Come March '93 -- will be running on several DEC Vaxen running BSD 4.3, and MANY MANY MANY more lines.

01/93 718-729-5018 dorsaidm NYC NY 3/12/24/96 24
80386, ISC 386/ix, Waffle bbs; 3 phone lines (V.32bis for contributors); no shell (yet); BBS with over 250 non-Usenet newsgroups, 1.2 gb of mac, ibm, amiga, cp-m, appleII, cbm files; BBS is free, $25/yr for UseNet access, (180 min/day), $50/yr for extended gold access (300 min/day); Full news and mail feed from uupsi; login through bbs.
Contact: postmasert@dorsai.com

06/92 719-520-1700 cns Coloroda Springs CO 3/12/24 24
Sun 3/260, SunOS; 22 lines (on rollover); $35 signup fee, $1 / hour; CNS (Community News Service) -- offering Internet access, carrying email, ftp, telnet, and usenet on a full UNIX account; Free access to a MUSH connection at address "telnet 192.94.51.10 4201";
To signup, sign on and type "new".

12/89 719-632-4111 oldcolo Colorodo Springs CO 12/24/96 24
386 - SCO-XENIX frontend, 2 CT Miniframes backend, e-mail conferencing, databases, Naplps Graphics, USENET news. 7 lines 8N1, 2400 on 2906, USR Dual 9600 on 2658. Self registering for limited free access (political, policy, marketplace) Subscriptions $10, 15, 18 mo for full use. Dave Hughes SYSOP.

01/92 801-566-6283^   bitsko   Salt Lake City UT 3/12/24/96 24
  80486, UHC UNIX SVR4; Bitsko's Bar & Grill BBS; Telebit; No fee;
  Unidel; Usenet news; Internet mail; Citadel-net gateway and local
  feeds available; Source system for Unidel, a Citadel-like newsreader
  and UNIX BBS, and uccico, a UNIX-side Citadel-net gateway.
  Contact: ken@bitsko.slc.ut.us (Ken MacLeod)

08/92 804-627-1828   wyvern   Norfolk   VA 12/24/96/14 24
  486/33, SVR4. Four v.32/v.32bis lines on rotary. Running UniBoard
  bbs, login "bbs". Shell accounts available. Mail and news feeds
  available. Archie by mail available with simple interface. 530MB
  disk space with lots of games, programming languages, news. We're
  fed by a major Internet site (ODU), and can include your machine in
  our domain park. Internet connection coming soon.
  Contact: Tom Manos at (804) 627-7837, or tmanos@wyvern.twuug.com
  (uunet!wyvern!tmanos), or login as guest, password guest, to register
  for full access.

04/92 812-333-0450   sir-alan   Bloomington   IN 12/24/19.2/ 24
  SCO UNIX 3.2; no fee; TB+ on 333-0450 (300-19.2K); archive site for
  comp.sources.[games,misc,sun,unix,x], some alt.sources, XENIX(68K/286/386)
  uucp-anon: ogin: nuucp password: anon-uucp
  uucp-anon directory: /u/pdsrc, /u/pubdir, /u/uunet, help in /u/pubdir/HELP
  Contact: miikes@iuvax.cs.indiana.edu (812-855-3974 days 812-333-6564 eves)

04/92 812-421-8523   aquila   Evansville   IN 3/12/24   24
  80386, SCO Unix; Second line is '1963; Games, mail, and Unix
  classes-by-mail; System has a "BBS Mall" of varied topics -- several
  BBSs under a single system.
    Anonymous uucp/mail: nuucp <no password>. Contact: info@aquila.uucp

08/92 814-353-0566   cpumagic   Bellefonte   PA 12/24/96/14 24
  80386, ESIX 4.0.3a (SVR4); Dual Standard (v.32/v.32bis/HST);
  The Centre Programmers Unit BBS, custom BBS software (Micro Magic);
  Files available: UNIX, GNU, X, ESIX, MSDOS tools and libraries;
  No fee but up/download ratios enforced.
  Contact: Mike Loewen at mloewen@cpumagic.scol.pa.us
                    or ...psuvax1!cpumagic!mloewen

12/92 818-287-5115^   abode   El Monte   CA 24/96   24
  XENIX 2.3.3; 2400-9600 Baud (Telebit T1000 PEP); Fee of $40 per year;
  Users get access to shell account, C compiler, email, usenet news,
  games, etc. Send email to contact name below for more information.
  Contact: eric@abode.ttank.com (cerritos.edu!ttank!abode!eric)

08/92 818-367-2142^   quake   Sylmar   CA 3/12/24/96/ 24
  ESIX/386 3.2D running Waffle; Telebit WorldBlazer on dial-in line,
  818-362-6092 has Telebit T2500; Usenet (1000+ groups), Email
  (registered as quake.sylmar.ca.us), UUCP/UUPC connections; Rare Bird
  Advisories, Technomads, more; $5 a month if paid a year at a time.
  New users login as "bbs", then "new". One week free to new users.

08/92 818-793-9108^   atrium   Pasadena   CA 3/12/24   24
  Xenix/386 2.3.3; International pen-pal service; login: mm
  Contact: sysop@atrium.ucm.org; multi-lines

09/92 900-468-7727   uunet   Falls Church   VA 3/12/24/96 24
  Sequent S81, Dynix 3.0.17(9); UUNET Communication Services; No Shell;
  Anonymous UUCP, fee $0.40/min -- billed by the telephone company,
  login: uucp (no passwd); Multiple lines, PEP and V.32 available;
  grab "uunet!~/help for more info" ...
  Full internet mail and USENET access via subscriber UUCP accounts.
  Contact: info@uunet.uu.net or call [voice] 703-204-8000.

07/91 904-456-2003   amaranth   Pensacola   FL 12/24/96   24
  ISC Unix V/386 2.2.1 TB+ on dialin. XBBS no fee. limited NEWS, E-mail
  For more info: Jon Spelbring jsspelb@amaranth.UUCP

09/91 906-228-4399   lopez   Marquette   MI 12/24   24
  80386, SCO Xenix 2.3.4; Running STARBASE II Software. Great White North
  UPLink, Inc. (Non Profit) 100+ local rooms, PLUS USENET, Multi Channel
Chat,
  5 ports, $30 yr, flat rate for full access to net news, mail.
  Upper Michigan's ORIGINAL BBS (since 1983)
  Contact: Gary Bourgois ...rutgers!sharkey!lopez!flash (flash@lopez.UUCP)

08/91 916-649-0161^   sactoh0   Sacramento   CA 12/24/96   24
  3B2/310 SYVR3.2; SAC_UNIX, sactoh0.SAC.CA.US; $2/month; 3 lines,
  v.32 on 722-6519, TB+ on 649-0161, 2400/1200 baud on 722-5068;
  USENET, E-Mail, some games; login: new
  Contact: root@sactoh0.SAC.CA.US   or   ..ames!pacbell!sactoh0!root

10/92 916-923-5013   rgm   Sacramento   CA 12/24/96/14 24
  486SX-25. 200mb. Coherent 386 v4.0.1; Dedicated incoming HST line. Full
  Bourne/Korn shell accessfor all users. Internet mail, limited Usenet
  (requests encouraged). Mail & news feeds available. $2/mo. for light
  mail/news users. login: new; Contact root@rgm.com

10/92 919-248-1177^   rock   RTP   NC 3/12/24/96/ 24
  SparcStation 1+, SunOS 4.1; Fee: $50 installation, $30/month. Full
  internet access (FTP, TELNET, etc). Netnews (includes vmsnet, u3b, alt)
  and E-Mail. No limit on time, 5 meg disk quotas enforced. 56Kbps and
  T1 internet connections also available. Phone number depends on location
  within North Carolina (PC Pursuit also available).
  Contact: info@concert.net

02/92 +33-1-40-35-23-49 gna   Paris   FR 12/12/96   24
  Microlec 2000, Unisoft 1.3; (T2500/PEP/V32/2400/1200) +33-1-40-35-23-49,
  (Multimodem/V32/2400/1200) +33-1-40-35-23-31, (Telsat1240/1200)
  +33-1-40-35-15-67; ~250 Meg -- comp.sources.{games,unix,misc,x},
  alt (~1200 files), rfc, uumap, techreports, x11r4 patches, images,
  spl (miscelaneous), latest GNU stuff, grab ~/news for more info;
  Mail/News feeds (no fees) for everyone.
  Contact: postmaster@gna.axis-design.fr or postmaster@gna.tfd.com.
     Anonymous uucp archive (gin: nuucp, no passwd);

12/92 +358-0-455-8331   clinet   Espoo   FI 3/12/24/96 24
  Sun 3/60 16M/1G + Motorola M8[48]00-hybrid 32M/300M (terminal server,
  mostly), SunOS (4.1.1); Multi-line -8331 (V32bisMNP), -8332 (V32MNP)
  & -8778 (V32), 4 lines starting at -8688 (V22bis); custom software
  (locally written), conferences, menu system, other stuff; TCP/IP
  connected with IRC, USENET (all groups), E-Mail, shell access, common
  UNIX software, programming; $10/mo including at least 1hr of daily

time ($0.25/hr if all lines busy). login as 'new'. Since 1987.
Contact: clinet@clinet.fi.

06/92 +39-541-27135 nervous Rimini (Fo) IT 3/12/24/96 24
386/33, 1GB, ISC 386ix; Menu driven BBS, no shell; Directly connected with uunet.uu.net, UnixBBS Development Site, full USENET access thru menu-driven BBS (no shell logins), lots of unix sources and erotic images, no fees required for file download
COntact: pizzi@nervous.com

10/92 +41-61-8115492 ixgch Kaiseraugst CH 3/12/24/96 24
80386, SCO XENIX SV2.3.3, USR-DS (-V.32); Host: ixgch.xgp.spn.com (Ixgate Switzerland); Organization: XGP Switzerland & SPN Swiss Public Network; Public UI: PubSh (Public Shell), free!; Services among others: UUCP feeds for Internet Mail and Usenet News, Swiss BBS-List Service, Ixgate-Archive (RFCs,NIC-docs,non-comp-areas etc.), anonymous UUCP, CHAT conference, TALK software and more. BTW: V.32bis connections soon!
General info: mail to service@spn.com (Subject: help).
Contact: sysadm@xgp.spn.com (...!gator!ixgch!sysadm)

10/92 +44-734-34-00-55 infocom Berkshire UK 3/12/24/96 24
80386, SCO UNIX 3.2.2; BBS, Games, Teletext pages; E-Mail/USENET; No shell access; Newsfeeds to members of UKnet; Anon UUCP (on request, one account per site); File Upload & Download, no quotas;
Some services are free and some are pay;
login as 'new' (8-N-1) ... on-line registration, password sent by mail;
Contact: sysop@infocom.UUCP or Fax +44 734 32 09 88

12/91 +44-81-317-2222 dircon London UK 3/12/24 24
UNIX SysV 3.2; The Direct Connection multi-user on-line service; Local and international/USENET conferencing, choice of newsreaders, keyword searchable download areas, industry newswires, electronic mail, FAX gateway, real-time tele-conferencing, personal file areas;
10 pounds sterling per month (5 pounds registration); No connect time or character charges; For demonstration/sign-up login as 'demo';
Call (voice): +44-81-317 0100 for more information.
EMAIL Contact: info@dircon.co.uk [...ukc!dircon!info]

12/92 +44-81-863-6646 ibmpcug Middlesex UK 3/12/24/96 24
486 PC/AT, SCO Unix -- IBM-PC User Group; Multiple lines, 300-19.2k + V42bis + V32; Fee: ~50 pounds sterling, unlimited use; Internet Access (FTP, Telnet and IRC) as well as News and Mail services via UUCP; BSD Shell Access on a 386BSD system, UUCP News and Mail Feeds
Contact: adrian@ibmpcug.co.uk, Voice +44 81 863 1191

08/92 +44 81 893 4088 HelpEx London UK 3/12/24 24
SunOS 4.1, V32/V42b soon. Mail, news and UNIX shell (/usr/ucb/mail, ream; rn; sh, csh, tcsh, bash) UK#5 per month. 500 USENET groups currently and expanding. All reasonable mail and USENET use free. Beginner's pack available. Mail for contract and charges documents. One month free trial period possible. ***Mail and news feeds.*** ***SUITABLE FOR BUSINESS USE TOO.***
Contact: HelpEx@exnet.co.uk, or voice/FAX +44 81 755 0077 GMT 1300-2300.

08/92 +49-30-694-61-82 scuzzy Berlin DE 3/12/24/96 24
80486/33, ISC 3.0; HST 14400/v.42bis on the first, HST

14400/V.32bis/V.42bis
Modems on other dial-in lines; Large library of source code including 386BSD, GNU, TeX, and X11 -- will distribute on tapes (grab /src/TAPES for the order form, /src/SERVICE for info about support for Free Software). Bulletin Board System with possible full Internet access, i.e. email, USENET, IRC, FTP, telnet (grab /src/BBS for info, or login as 'guest'); Login as 'archive' for x/y/z-modem and kermit transfers; Anonymous UUCP available, grab /src/README for initial info;
Contact: src@contrib.de (Heiko Blume)
anon uucp: ogin: nuucp word: nuucp

01/92 +49-40-494867 isys-hh Hamburg DE 3/12/24/96/ 24
Intel 80486/33/1050 - SCO Unix 3.2V2.0 (ODT 1.1.0n);
Shells: msh, sh, csh, ksh; nn for newsreaders, ELM for mail
Contact: mike@isys-hh.hanse.de (Michael Loth)

12/92 +49-69-308265 odbffm Frankfurt/Main DE 3/12/24/96 24
Altos 386/2000, Telebit Modem, Public Access Unix; only shell accounts, no bbs software. Mail and news access (currently via UUCP, Internet planned).
Contact: oli@odb.rhein-main.de, voice +49 69 331461, fax +49 69 307682

06/91 +49-8106-34593 gold Baldham DE 3/12/24/96 24
33MHz i486 EISA, PEP/V.32 available on first line, HST available on +49-8106-34692; Unix 5 Release 4.0.2, Waffle bbs, Usenet, German Subnet, Megabytes of Unix Sources; No shell; BBS is free for Mail and Usenet; Anonymous UUCP available, grab ~nuucp/gold.files.Z for more info, (uucp supports e, f, and g protocols);
Contact: cs@gold.sub.org
anon uucp: ogin: nuucp (no password)

11/91 +61-2-837-1183 kralizec Sydney AU 24 12/24/96
Sun 3/50, SunOS 4.0; 470mb disk; V.32/MNP-5 modem; Dialup access to Internet E-mail & USENET; mail-based FTP. 80 - 100 Mb software online for download. Full C-shell access to all members. No joining fee. Usage fee $50 for 50 hours connect time. Voice number +61-2-837-1397.
Home of IXgate - Internet to Fidonet gateway - also Fido 713/602.
Contact: nick@kralizec.zeta.org.au

12/91 +64-4-389-5478 actrix Wellington NZ 3/12/24/96 24
Zenith 386/33MHz w/ ISC 386/ix 2.02; Actrix Information Exchange -- New Zealand's first Public Access UNIX. 750 Mb disk; 3 lines, USR Courier HST (T2500 due December 1990, X25 in '91). Fee: NZ$54 p.a. - offers heavily modified XBBS with USEnet and Fidonet, e-mail (elm), hundreds of file areas divided into sections for UNIX, MS-DOS, Amiga, Atari, Apple //, Macintosh, CP/M etc. Shell w/ many extras available via `Enhanced subscription'. Planned to join APC (PeaceNet/EcoNet);
Contact: paul@actrix.gen.nz (Paul Gillingwater) PO Box 11-410, Wgtn, NZ

01/93 +64-3-564-2314 cavebbs Wellington NZ 12/24/96 24
AT&T 3B2/400 w/SysV 3.2; The Cave MegaBBS System. 144MB disk; 1 line. v32 MNP5/v42bis. Free access for paid users of the main Cave DOS-based system, 4 lines on +64-4-564-3000. Shell accounts with elm mailer and rn/trn newsreaders. News and email hub for local sites in the welly domain. The Cave runs using KiwiBoard s/w on a 386/33 to provide local messaging and 825MB of PC files; Contact: clear@cavebbs.welly.gen.nz (Charlie Lear), Box 2009 Wellington, NZ, phone/fax +64-4-564-5307

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02/91  +64-9-817-3725     kcbbs      Auckland        NZ 12/24/96    24
  SMC 486/25MHz w/ ESIX 5.3.2 Rec C; Kappa Crucis Unix BBS. Fee: NONE
  1140 Mb disk; 7 lines, T2500, 3*v32MP4/5, 2*2400MNP3/5, Radio modem
  tnc/Packet VHF. KCBBS s/w, non-Unix user interface (no user Unix shell
  access) with USEnet, Fidonet, GTnet, online weatherfax/gifs, Email,
  100's file areas, off-line readers, multi-user chat, Astronomy/Science
  Fidonet 3:771/90, login as kc.   Contact: dgd@kcbbs.gen.nz (David Dix)

--------------------------------------------------------------------------
NOTE:  ^ means the site is reachable using PC Pursuit.
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Lists are available via any of the following:
      o  anonymous uucp from jabber.
            +1 215 348 9727 [Telebit access]
            login: nuucp  NO PWD   [no rmail permitted]
            this list: /usr/spool/uucppublic/nixpub
            short list: /usr/spool/uucppublic/nixpub.short
            (also available from the "*NIX Depot" BBS on jabber)
      o  mail server on jabber
            mail to mail-server@bts.com
            body containing:
               get PUB nixpub
            or
               get PUB nixpub.short
      o  the nixpub-list electronic mailing list.  to subscribe to
         the list:
            mail to mail-server@bts.com
            body containing:
               subscribe NIXPUB-LIST Your Name
      o  USENET, regular posts to:
            comp.misc
            comp.bbs.misc
            alt.bbs
      o  anonymous ftp from VFL.Paramax.COM [128.126.220.104]
            under ~/pub/pubnet/{nixpub.long,nixpub.short}
      o  archive server from cs.widener.edu.
            mail to archive-server@cs.widener.edu
            Subject: or body of
               send nixpub long
            or
               send nixpub short
            or
               send nixpub long short
            or even
               index nixpub
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The Totally Unofficial List of Internet Muds

16 January 1993 Volume 5 Issue 2

Compiled by Scott Goehring (scott@glia.biostr.washington.edu)
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CORRECTIONS and ADMINISTRIVIA: mudlist@glia.biostr.washington.edu

SUBSCRIPTIONS (UK only): pjc@computer-science.manchester.ac.uk
SUBSCRIPTIONS (rest of world): mudlist@glia.biostr.washington.edu

BACK ISSUES: ftp to caisr2.caisr.cwru.edu in /pub/mud

MUDWHO servers (7)

Name	Address	Numeric Address	Port	Status	Notes
??	dancer.ethz.ch	129.132.57.66	6889	up	
??	jobe.portal.com	156.151.1.101	2031	HD	1
		156.151.1.104			
AFserv	af.itd.com	128.160.24.249	6889	up	
	pa.itd.com				
Amber	amber.ecst.csuchico.edu	132.241.1.43	6889	up	
Nova	nova.tat.physik.uni-tuebingen.de		6889	up	
		134.2.62.161			
VieMud RWHO	**	**	**	up	
okwho	riemann.math.okstate.edu		6889	up	
		139.78.1.15			

AberMUDs (14)

Name	Address	Numeric Address	Port	Status	Notes
Abermuck I	fert2.fe.psu.edu	146.186.62.132	6969	TO	
Askerbulkum	minsk.docs.uu.se	130.238.8.18	6715	up	2
Camelot	loligo.cc.fsu.edu	128.186.2.99	6715	up	
DIRT	alkymene.uio.no	129.240.21.60	6715	R	3
DragonMud	fermina.informatik.rwth-aachen.de		6715	up	
		137.226.112.2			
Give Me Death or	Give Me Glory	131.252.21.12	5000	R	
	jove.cs.pdx.edu				
Kove	marx.esu.edu	192.147.113.10	6715	up	
Longhorn	lisboa.cs.utexas.edu	128.83.139.10	6715	up	
Mustang MUD	mustang.dell.com	143.166.224.42	6715	up	
Northern Lights	aber.ludd.luth.se	130.240.16.18	6715	up	4
	father.ludd.luth.se				

```
Seminole          loligo.cc.fsu.edu       128.186.2.99     6715  up
5,6
Temple            bigboy.cis.temple.edu   129.32.32.98     6715  up
Twilight Zone     jordan.pc.cc.cmu.edu    128.2.112.111    6715  up
Tyrann            muselab.ac.runet.edu    137.45.32.2      6715  up
--------------------------------------------------------------------------
-
                  cool (2)
Name              Address                 Numeric Address  Port  Status
Notes
--------------------------------------------------------------------------
-
CoolMud Groan     groan.berkeley.edu      128.32.152.202   8888  up
CoolMud Grunt     grunt.berkeley.edu      128.32.152.180   8888  up
--------------------------------------------------------------------------
-
                  DikuMUDs (58)
Name              Address                 Numeric Address  Port  Status
Notes
--------------------------------------------------------------------------
-
??                euston.city.ac.uk       138.40.41.1      1992  up
7
??                muselab.ac.runet.edu    137.45.32.2      4123  R
Adversary         bigboy.cis.temple.edu   129.32.32.98     4000  up
AlexMUD           mud.stacken.kth.se      130.237.234.17   4000  up
                  marcel.stacken.kth.se
Apocalyspe III    peabrain.humgen.upenn.edu                4000  up
                                          128.91.3.204
Austin DikuMud    austin.daimi.aau.dk     130.225.16.161   4000  up
8
Challenger MUD    physical8.chem.ufl.edu  128.227.16.222   4000  up
Chomestoru        mccool.cbi.msstate.edu  130.18.104.2     4000  up
CircleMUD         ??                      ??               ??    ??
9,10
Clarkson Diku     gb.dorm.clarkson.edu    128.153.48.5     4000  R
Copper Diku       copper.denver.colorado.edu               4000  up
11
                                          132.194.10.1     4001
                                                           4002
CovertMUD         **                      **               **    HD
Dark Knight's Realm                       132.170.223.1    4000  TO
                  sun1.cstore.ucf.edu
Dark Shadow's DikuMUD                     128.146.37.87    6666  TO
12
                  atlantic.mps.ohio-state.edu
Depravedmud       maxwell.bethel.edu      140.88.1.76      4004  R
Drexel Diku       **                      **               **    up
13
Duke Diku         duke.me.chalmers.se     129.16.50.80     4000  TO
14
Eltanin           uhro.wosc.osshe.edu     140.211.111.23   4000  up
Epic              **                      128.52.46.11     9000  up
Fantasia          fantine.cislabs.pitt.edu                 4000  R
                                          130.49.10.60
Fuzzy's           ??                      ??               ??    ??
15,16
```

Generic MUD	pulmonary.ubc.ca	137.82.67.1	4000	up
17,18,19				
Gods of War	elof.iit.edu	192.41.245.90	4000	up
			4001	
GrimneMUD	gytje.pvv.unit.no	129.241.36.229	4000	up
			4000	
Imperial	supergirl.cs.hut.fi	130.233.40.52	6969	up
Imperial DikuMUD	jessica.cislabs.pitt.edu		4000	R
		130.49.10.54		
JediMUD	stimpy.psy.jhu.edu	128.220.27.102	4000	up
20				
KAOS	??	??	??	??
21,22				
KIT-Mud	jinsil.kaist.ac.kr	143.248.11.171	4000	up
KallistiMud	kallisti.wtfd.orst.edu	128.193.206.5	4000	up
23				
	wtfd.orst.edu			
Kaspelheim	ernie.princeton.edu	128.112.131.67	8000	R
		128.112.120.67		
		128.112.124.67		
		128.112.224.67		
		128.112.20.67		
		140.180.128.160		
Kludge World	st6000.sct.edu	131.144.80.249	4374	up
Lankhmar	kafka.ws.cc.cmu.edu	128.2.111.46	4000	TO
24				
Last Outpost	inst3.micro.umn.edu	128.101.97.3	4000	up
		128.101.193.150		
LimboMUD	daisy.cc.utexas.edu	128.83.135.15	4000	R
MUME	lbdsun4.epfl.ch	128.178.77.5	4000	up
	disun8.epfl.ch	128.178.79.56		
Motel VI	hecate.cdc.com	129.179.161.17	7900	up
25				
Mudde Pathetique	flysex.berkeley.edu	128.32.128.36	2999	R
Nob Mud	**	128.174.2.3	6969	R
26				
		128.174.5.60		
Northwind	??	??	??	??
OmegaDiku	dumbo.cc.utexas.edu	128.83.135.19	4000	up
PosMud	turtle.postech.ac.kr	141.223.13.32	4000	R
		141.223.90.131		
QUEST!	faraday.ee.utulsa.edu	129.244.59.33	4000	TO
		129.244.56.67		
Renegade Outpost	louie.cc.utexas.edu	128.83.135.4	4000	up
			4001	
			5000	
SeaMud II	lily12.uwaterloo.ca	129.97.16.13	8888	R
Shadow MUD	darwin.cc.nd.edu	129.74.35.170	4000	up
SillyMud	doldrums.cis.ufl.edu	128.227.224.35	4001	up
		128.227.162.9	4000	
Sloth MUD	bovina.cs.utexas.edu	128.83.138.111	4000	R
Snebo-land	beat.isca.uiowa.edu	128.255.19.234	4000	up
Stellar Genesis	**	**	**	up
27,28,29,30				
TNG Diku	hopper.bsu.edu	147.226.112.102	6969	up
31				
	hopper.cs.bsu.edu			

```
The Perilous Realms                      140.211.111.20   2150  up
                odin.wosc.osshe.edu
ToyTown         ??                       129.10.50.130    4000  R
UBC Dikumud     abbott.cs.ubc.ca         137.82.18.47     4000  up
32
UC Davis Diku   fajita.ucdavis.edu       128.120.61.203   3000  R
33
                fajita.engr.ucdavis.edu  128.120.65.4
VieMUD          billroth.wu-wien.ac.at   137.208.91.6     4000  up
34
WileyMUD II     wiley.cs.wmich.edu       141.218.40.41    3000  up
35
Worlds of Carnage                        128.227.116.14   4000  up
                bigguy.eng.ufl.edu
-------------------------------------------------------------------------
-
                DUMs (2)
Name            Address                  Numeric Address  Port  Status
Notes
-------------------------------------------------------------------------
-
CanDUM II       cheetah.vlsi.uwaterloo.ca                 2001  up
                cheetah.vlsi-cheetahnet.uwaterloo.ca
                                         129.97.94.45
                                         129.97.180.1
DUM II          legolas.cs.umu.se        130.239.24.66    2001  up
36,37
                                         130.239.96.15    2001
-------------------------------------------------------------------------
-
                LPmuds (84)
Name            Address                  Numeric Address  Port  Status
Notes
-------------------------------------------------------------------------
-
??              coos.dartmouth.edu       129.170.16.50    1155  R
??              capella.dur.ac.uk        129.234.200.72   3000  up
38
2010 A Space Oddity                      **               **    ??
39,40
                **
AbacusMUD       abacus.hgs.se            130.238.204.10   4080  up
Aegolius Acadicus                        130.218.13.19    2000  R
                vyonous.kennesaw.edu
After Hours     goonsquad.spies.com      130.43.9.3       2002  up
Akropolis       cssun5.vassar.edu        143.229.1.25     6666  up
41
Allanite        mutt.cs.jmu.edu          134.126.20.223   2222  R
                vis3.cs.jmu.edu
Ancient Anguish dancer.ethz.ch           129.132.57.66    2222  up
BatMUD          batmud.jyu.fi            130.234.0.3      2001  up
42
                palikka.jyu.fi
Castle Arg      ??                       ??               7777  R
43,44
Conservatorium for the Advanced Learning of LPC          6000  up
                vyonous.kennesaw.edu     130.218.13.19
```

CyberWorld	acme.etsu.edu	192.43.199.22	3000	up
45				
Dark Towers	snoopy.ece.scarolina.edu		3000	R
		129.252.22.22		
Dark World	apollo.njit.edu	128.235.38.8	2000	up
Darker Realms	worf.tamu.edu	128.194.51.189	2000	up
Dartmud	fermat.dartmouth.edu	129.170.28.31	2525	up
16				
Deeper Trouble	alk.iesd.auc.dk	130.225.48.46	4242	up
Discworld	ro.trincoll.edu	157.252.16.22	2000	R
Dragon's Den	??	129.25.7.111	2222	up
46				
DragonFire	bigben.umsl.edu	134.124.42.246	3000	up
	bigben.124.134.in-addr.arpa			
Faery Home MUD	sun1.lrz-muenchen.de	129.187.10.20	3000	up
		128.187.208.220		
Forgotten Realms	fenris.dhhalden.no	158.36.33.3	2001	up
47				
Frontier	benford.cc.umanitoba.ca	130.179.32.59	9165	R
48,49				
Genesis	milou.cd.chalmers.se	129.16.79.12	2000	up
Genocide	pip.shsu.edu	192.92.115.10	2222	up
50				
			4444	
Highlands	pip.shsu.edu	192.92.115.10	2000	up
Igor	epsilon.me.chalmers.se	129.16.50.30	1701	up
Imperial II	**	128.113.5.78	3000	R
51				
Infinity	infinity.ccs.northeastern.edu		3000	up
52				
		129.10.10.30		
Ivory Tower	itchy.macc.wisc.edu	128.104.30.206	2000	TO
53				
Kerovnia	icarus.montclair.edu	130.68.1.40	2000	up
Kingdoms	moderato.fy.chalmers.se	129.16.117.17	1812	up
KoBra	duteca4.et.tudelft.nl	130.161.144.22	8888	up
LPSwat	lpmud.iastate.edu	129.186.140.6	2020	R
	aviator.cc.iastate.edu			
Loch Ness	lochness.i1mp.ch	157.161.1.12	2222	up
	indigo.imp.ch			
Lost Souls	dick.imb.uh.edu	129.7.2.13	3000	up
LurkMud	romulus.ehs.uiuc.edu	128.174.74.24	2345	up
LustyMud	lusty.tamu.edu	128.194.9.199	2000	up
Marches of Antan	chema.ucsd.edu	132.239.68.1	3000	up
	chem.ucsd.edu			
Midian	elvis.ncsa.uiuc.edu	141.142.103.43	3456	up
Midnight Sun	midnight-sun.ludd.luth.se		3000	up
	holly.ludd.luth.se	130.240.16.23		
Moral Decay	**	138.95.7.13	2002	up
Mythos Mud	??	??	??	??
54,55				
NANVAENT 3	corrour.cc.strath.ac.uk	130.159.220.8	3000	up
Nameless	complex.is	130.208.165.231	2000	up
NannyMUD	kajsa.lysator.liu.se	130.236.254.150	2000	up
NeXT Mud	odysseus.uncg.edu	152.13.37.8	3000	up
56				
Nemesis	dszenger9.informatik.tu-muenchen.de		2000	up

		131.159.8.67		
Nightfall	nova.tat.physik.uni-tuebingen.de		4242	up
57,58				
		134.2.62.161		
Nightmare	orlith.bates.edu	134.181.1.12	2999	up
Nirvana	elof.iit.edu	192.41.245.90	3500	up
Oblivion	view.cc.iastate.edu	129.186.140.42	3475	up
59,60				
Overdrive	ferd.mit.edu	18.80.1.192	5195	R
PaderMUD	athene.uni-paderborn.de	131.234.2.32	3000	up
Paradox	adl.uncc.edu	128.109.143.15	10478	up
Phoenix	orlith.bates.edu	134.181.1.12	3500	up
PixieMud	elof.iit.edu	192.41.245.90	6969	up
QUOVADIS	nemesis.imp.ch	157.161.1.10	2345	up
Quantum Mud	**	128.210.15.29	3333	R
61				
Ragnarok	**	**	**	up
62				
Realmsmud II	majors7.cs.duke.edu	128.109.208.24	3120	up
Revenge of the End of the Line		36.21.0.99	2010	up
63				
	mud.stanford.edu			
	aus.stanford.edu			
Rogue	boobytrap.spies.com	130.43.9.7	2222	up
64,50				
STYX	freedom.nmsu.edu	128.123.1.14	3000	up
StickMUD	stickmud.jyu.fi	130.234.0.2	7680	up
65				
	kalikka.jyu.fi			
SvenskMUD	svmud.lysator.liu.se	130.236.253.6	2043	up
66,67				
	lysator.liu.se	130.236.254.1	2046	
		130.236.254.129		
TAPPMud	mud.informatik.uni-erlangen.de		6510	up
68				
	faui00e.informatik.uni-erlangen.de			
		131.188.61.14		
Terrapin	bessel.umd.edu	128.8.251.131	2000	up
69,19				
The Edge	??	??	??	??
70,71,72				
The Holy Mission	alijku05.edvz.uni-linz.ac.at		4242	R
	mud.edvz.uni-linz.ac.at	140.78.3.30		
	alijku03.edvz.uni-linz.ac.at			
		140.78.3.1		
The LOST MUD	**	128.83.138.119	6666	up
The LPC-Centre	victoria.city.ac.uk	138.40.11.1	6999	up
73				
	euston.city.ac.uk	138.40.41.1		
Tower of Darkness		129.252.22.21	3000	up
	linus.ece.scarolina.edu			
Tsunami IV	castor.acs.oakland.edu	141.210.10.109	2777	up
74				
TubMUD	morgen.cs.tu-berlin.de	130.149.19.20	7680	up
UNITOPIA	helpdesk.rus.uni-stuttgart.de		3333	up
75				
		129.69.221.120		

```
Valhalla         wiretap.spies.com       192.187.153.1    2444  up
76
                 midgard.valhalla.com    130.43.3.3
VikingMUD        bigblue.pvv.unit.no     129.241.36.232   2001  up
Vincent's Hollow Project                 129.186.140.11   1992  up
77
                 tbird.cc.iastate.edu
                 vh.iastate.edu
Virtual Realities                        128.252.136.100  3019  up
78,79
                 coyote.wustl.edu
WanderingMUD     cantata.cc.purdue.edu   128.210.15.32    1234  R
What's It's Name MUD                     129.65.42.9      4000  R
                 pananche.ardfa.calpoly.edu
World of Mizar   delial.docs.uu.se       130.238.8.40     9000  up
-------------------------------------------------------------------------
-
                 mage (2)
Name             Address                 Numeric Address  Port  Status
Notes
-------------------------------------------------------------------------
-
SynthMAGE II     synth.dorm.clarkson.edu 128.153.48.4     4242  R
80,81
VampireMAGE      eehp25.cen.uiuc.edu     128.174.138.51   4242  up
-------------------------------------------------------------------------
-
                 MOOs (8)
Name             Address                 Numeric Address  Port  Status
Notes
-------------------------------------------------------------------------
-
Dimensions MOO   **                      128.2.112.111    4208  up
82
Final Frontier   **                      **               **    up
83,84
GodNet           morticia.cnns.unt.edu   129.120.4.5      7777  R
85
InterMOO         **                      **               **    TO
JaysHouseMOO     **                      **               **    up
LambdaMOO        lambda.parc.xerox.com   13.2.116.36      8888  up
86
OpalMOO          **                      **               **    up
PlaysHouseMOO    **                      **               **    HD
-------------------------------------------------------------------------
-
                 TinyMUCKs (14)
Name             Address                 Numeric Address  Port  Status
Notes
-------------------------------------------------------------------------
-
AfterFive        af.itd.com              128.160.24.249   9999  up
77
                 pa.itd.com
AnimeMUCK        anime.tcp.com           128.95.10.106    2035  up
87,88,89,90
Brazillian Dreams                        137.190.16.16    6969  up
```

91
                icarus.weber.edu
CaveMUCK   cave.tcp.com   128.95.10.106   2283 up
92,93
DruidMuck   freedom.nmsu.edu   128.123.1.14   4201 up
FurryMUCK   hawkwind.utcs.toronto.edu   8888 up
94
                hawkwind.utcs.utoronto.ca
                                        128.100.102.51
HoloMuck   collatz.rh.uchicago.edu 128.135.120.46   5757 up
95
                                                         5757
Incarnations   zippy.sonoma.edu   130.157.2.99   4201 up
Infinity's End **   **   **   R
96
MasqueMUCK   hobbes.cs.mcgill.ca   132.206.3.32   4201 up
97
NAILS   flounder.rutgers.edu   128.6.128.5   5150 up
98,99
Pegasus   l_eld08.icaen.uiowa.edu 128.255.21.78   2001 up
Quartz Paradise quartz.rutgers.edu   128.6.60.6   9999 up
100,101,102
Qwest   betz.biostr.washington.edu   9999 up
                                        128.95.10.119

                MUGs (1)
Name   Address   Numeric Address Port Status
Notes

UglyMUG   spec0.ee.man.ac.uk   130.88.14.17   4201 up
103,104,105

,106
----
                muie (1)
Name   Address   Numeric Address Port Status
Notes

Paramethia   alf.zfn.uni-bremen.de   134.102.20.22   1782 R
107,108

                TinyMUSEs (8)
Name   Address   Numeric Address Port Status
Notes

BattleTech   **   129.72.2.48   3026 up
109,110
DragonsFire   snake.ssc.gov   134.3.33.43   4444 up
111
MicroMUSE   chezmoto.ai.mit.edu   18.43.0.102   4201 up
112,113,114

Rhostshyl	rhostshyl.cit.cornell.edu		4201	up
		128.253.180.15		
TOS TrekMuse	blazer.med.ucla.edu	149.142.136.3	1701	up
TimeMuse	murren.ai.mit.edu	18.43.0.179	4201	up
115				
TrekMUSE	nebula.lib.vt.edu	128.173.7.183	1701	up
116				
WindsMUSE	swrl36.calstate.edu	130.150.102.36	4208	up

TinyMUSHes (41)

Name	Address	Numeric Address	Port	Status
Notes				
AcademyMUSH	adamwest.ins.cwru.edu	129.22.8.52	4201	R
AmberMUSH	lodestar.gb.nrao.edu	192.33.116.108	9999	up
117				
ApexMUD	apex.ccs.yorku.ca	130.63.237.12	4201	up
DarkThorn	**	128.52.46.32	4201	HD
		128.109.113.98		
DragonsDawn	elof.iit.edu	192.41.245.90	2508	up
Dreamlands	??	??	??	??
118,119				
DuneMUSH	cogsci.berkeley.edu	128.32.211.5	4201	up
120,121				
DungeonMush	ra.info.sunyit.edu	149.15.1.3	8888	TO
Elendor	fermi.ces.cwru.edu	129.22.16.66	4201	up
122,123,124				
FUBARmush	nauer.cba.csuohio.edu	137.148.20.7	7719	up
125,126				
	ackerman.cba.csuohio.edu			
		137.148.20.9		
Global MUSH	lancelot.cif.rochester.edu		4201	up
		128.151.220.22		
ImageCastle	fogey.stanford.edu	36.22.0.31	4201	up
Indecision	b62713.student.cwru.edu	129.22.244.249	4242	TO
127				
KOMUSH	**	128.119.166.99	4040	up
5,128,129				
,130				
Mua'kaar	wlu.edu	137.113.10.35	6666	up
131				
	liberty.uc.wlu.edu			
NamelessMUSH	**	152.1.43.9	4201	up
132				
NarniaMush	gallina.gb.nrao.edu	192.33.116.103	6250	up
133,134				
Nightmare	jove.cs.pdx.edu	131.252.20.12	4201	TO
135				
		131.252.21.12		
PernMUSH	freya.arc.nasa.gov	128.102.114.15	4201	up
111				
		128.102.31.78		
PosseMUSH	bohr.sos.clarkson.edu	128.153.16.134	4201	up
RiftMUSH	helix0.chem.iastate.edu	129.186.10.6	5555	up

136
ScifiMUSH zaphod.cs.uwindsor.ca 137.207.224.3 1972 R
Singlenesia cajal.uoregon.edu 128.223.21.36 6250 up
137
SouCon soucon.cygnus.com 140.174.1.69 4201 up
111
kyriath.cygnus.com
Space Madness riemann.math.okstate.edu 6250 up
138
139.78.1.15
Spellbound notrees.cs.utexas.edu 128.83.138.123 4201 TO
StarfireMuse proton.agronomy.auburn.edu 4201 up
41
131.204.60.10
131.206.60.10
SwordsMUSH ** ** ** up
139,140,141

,142
Tela Magica ** ** ** up
108
The Belgariad csa.bu.edu 128.197.10.202 4201 up
143
The NeverEnding Story 131.252.21.12 9999 up
144
jove.cs.pdx.edu
The Sprawl ** 130.39.129.221 6250 up
145
TinyCWRU caisr2.caisr.cwru.edu 129.22.24.22 4201 up
TinyTIM control.spies.com 130.43.9.4 5440 TO
TitanMUSH titan.ucc.umass.edu 128.119.166.99 4201 R
6969
TooMUSH gallina.gb.nrao.edu 192.33.116.103 4201 up
133,146
ToonMUSH hobbes.catt.ncsu.edu 152.1.43.9 3000 up
TrippyMush newton.sos.clarkson.edu 128.153.16.131 7567 up
Two Moons tsalmoth.colorado.edu 128.138.253.20 4201 up
147,148
UK_MUSH dawes.brunel.ac.uk 134.83.128.247 4201 up
134.83.192.68
134.83.240.6
X-MUSH ** ** ** R
149,150,151

-
TeenyMUDs (1)
Name Address Numeric Address Port Status
Notes

-
(EVIL!)Mud fido.econ.arizona.edu 128.196.196.1 4201 up

-
TinyMUDs (2)
Name Address Numeric Address Port Status
Notes

```
-
DragonMUD        ghost.cse.nau.edu       134.114.64.6     4201  up
152
PRISM            lister.cc.ic.ac.uk      129.31.80.167    4201  up
-------------------------------------------------------------------------------
-
                 UberMUDs (1)
Name             Address                 Numeric Address  Port  Status
Notes
-------------------------------------------------------------------------------
-
The Land of Drogon                       192.131.108.55   6123  up
153
                 **
-------------------------------------------------------------------------------
-
                 unknown (1)
Name             Address                 Numeric Address  Port  Status
Notes
-------------------------------------------------------------------------------
-
Hectic House     indigo.lut.ac.uk        131.231.19.20    4000  up
-------------------------------------------------------------------------------
-
                 UnterMUDs (6)
Name             Address                 Numeric Address  Port  Status
Notes
-------------------------------------------------------------------------------
-
Carnivalia       drycas.club.cc.cmu.edu  128.2.232.11     4201  up
                                         128.2.232.225
                                         128.2.232.229
ChrisMUD         hawkwind.utcs.utoronto.ca                6600  up
                                         128.100.102.51
Crossroads       tsalmoth.colorado.edu   128.138.253.20   6565  up
154,155
Esotericism      cook.brunel.ac.uk       134.83.128.246   1234  up
Sunmark          moebius.math.okstate.edu                 6543  TO
156,157
                                         139.78.10.3
WanderLand       amber.ecst.csuchico.edu 132.241.1.43     4201  R
158
-------------------------------------------------------------------------------
-
                 UriMUDs (1)
Name             Address                 Numeric Address  Port  Status
Notes
-------------------------------------------------------------------------------
-
Darkest Domain   jobe.portal.com         156.151.1.101    2030  HD
159
                                         156.151.1.104
-------------------------------------------------------------------------------
-
                 YAMUDs (1)
Name             Address                 Numeric Address  Port  Status
Notes
```

```
-------------------------------------------------------------------------------
-
GooLand II       kalapana.eng.hawaii.edu 128.171.61.29    6715  up
160
                                         128.171.60.29
-------------------------------------------------------------------------------
-
                                 Notes
-------------------------------------------------------------------------------
-
Status field:
*  = last successful connection was more than 7 days ago
** = last successful connection was more than 30 days ago
#  = no successful connection on record
R  = connection refused
TO = connection timed out
HD = host down or unreachable
ND = network down or unreachable
NA = insufficient address information available

1    only available to portal.com users
2    hours are 00-07,17-24(MTWRFSU) GMT
3    hours are 00-05,15-24(MTWRF) 00-24(SU) GMT
4    administrators are anna@ludd.luth.se and aber@ludd.luth.se
5    hours are 00-12,22-24(MTWRF) 00-24(SU) GMT
6    closes 1-Jan-93
7    not open to the public
8    hours are 00-07,17-24(MTWRF) 00-24(SU) GMT
9    send mail to jelson@server.cs.jhu.edu to register
10   in search of a site; down indefinitely
11   administrator is l1ngo@copper.denver.colorado.edu
12   no new characters
13   administrators are ucpflugf@king.mcs.drexel.edu and
jorgec@serss0.fiu.edu
14   version 2 of the original dikumud
15   administrator is dougie@mit.edu
16   open for playtesting
17   administrator is aod@pulmonary.ubc.ca
18   hours are 00-14(M) 02-14(TWRF) 02-00(S) 00-24(U) GMT
19   looking for a new site; mail admin if you have one
20   administrator is jedi@stimpy.psy.jhu.edu
21   administrator is bawade@icaen.uiowa.edu
22   mail admin for playtesting information and site address
23   administrator is mud@wtfd.orst.edu
24   administrator is r746gr1h@vb.cc.cmu.edu
25   administrator is jfr2@ra.msstate.edu
26   hours are 00-13(M) 01-13(TWRF) 01-24(S) 00-24(U) GMT
27   administrator is mcdaniel@stein.u.washington.edu
28   hours are 00-16,23-24(MTWR) 00-24(FSU) GMT
29   send mail to stellar@byron.u.washington.edu to register
30   visitors welcome
31   administrator is mondays@bsu-cs.bsu.edu
32   hours are 00-13.30(M) 01.30-13.30(TWRF) 01.30-24(S) 00-24(U) GMT
33   hours are 00-16(M) 01-16(TWRF) 01-24(S) 00-24(U) GMT
34   player's guide available for ftp from 137.208.91.6 in
     ~ftp:pub/diku/incoming/newguide.mud
35   who daemon on port 3001
```

hours are 00-06,18-24(MTWRF) 00-24(SU) GMT
local users only
hours are 00-08,15-24(MTWRF) 00-24(SU) GMT
administrator is s5511011@oxpoly.ac.uk
domain coding available
restricted theme: unspecified (contact administrator)
administrator is batmud@jyu.fi
down while searching for new site
ftpd service at 35.8.8.174 port 7777
administrator is cyber@acme.etsu.edu
administrator is tlpmud@mcs.drexel.edu
hours are 00-06,16-24(MTWRF) 00-24(SU) GMT
administrator is jcoper@ccu.umanitoba.ca
registration required to advance past level 2
dedicated to player killing
not fully open
administrator is mud@infinity.ccs.northeastern.edu
will be down 4-Jan-92 to 20-Jan-92
administrator is sjohns@ucs.indiana.edu
in search of a site; mail administrator if you have one
send mail to mudgod@hamlet.uncg.edu to register
administrator is gamesmgr@tat.physik.uni-tuebingen.de
beta test
hours are 00-14.30,23.30-24(MTWRF) 00-24(SU) GMT
down until about 26-Jan-93 for remodeling
administrator is khartoum@sonata.cc.purdue.edu
hours are 00-15(M) 01-15(TWRF) 01-24(S) 00-24(U) GMT
open for beta testing
administrator is mario@netcom.netcom.com
administrator is stickmud@jyu.fi
use port 2046 for iso-8859-1 characters
Swedish-language mud
administrators are prknoerr@cip.informatik.uni-erlangen.de and efchen@mises.uni-paderborn.de
administrator is highway@wam.umd.edu
administrator is meetch@dialix.oz.au
looking for playtesters/builders
modem dialup system only; DIALix account required
administrators are garion@selway.umt.edu, sisquach@cs.city.ac.uk, and obsidian@world.std.com
send mail to mud@castor.acs.oakland.edu to register
German-language only
new address (midgard.valhalla.com) effective 4-Jan-93
hours are 00-14,23-24(MTWRF) 00-24(SU) GMT
administrator is jessy@maria.wustl.edu
gateway at wucs1.wustl.edu (128.252.165.1) 3019
open only to wizards
no new players
administrator is laotzu@blazer.med.ucla.edu
administrator is s442223@nexus.yorku.ca
looking for builders
administrator is legate@morticia.cnns.unt.edu
send mail to LambdaMOO-Registration@xerox.com to register
administrators are crys@anime.tcp.com and kei@glia.biostr.washington.edu
send mail to anime-registration@anime.tcp.com to register
restricted theme: Japanese Animation
theme not rigidly enforced

```
91   open to registered users
92   administrator is wizards@cave.tcp.com
93   send mail to jingoro@cave.tcp.com to register
94   send mail to lynx@netcom.com to register
95   send mail to sjade@collatz.rh.uchicago.edu to register
96   hours are 01-13(MTWRF) 00-24(SU) GMT
97   used primarily for special events; guest access is available at other
     times
98   send mail to rbright@clam.rutgers.edu to register
99   optional ANSI color supported
100  send mail to bbs@quartz.rutgers.edu to register
101  no pennies
102  no building
103  administrators are malcolm@spec0.ee.man.ac.uk and pcrowther@cs.man.ac.uk
104  experimental
105  reachable from JANET as uk.ac.man.cs.r1k (man.cs.r1k from Spider)
106  down until 4-Jan-92 for the holidays
107  send mail to ssouth@navajo.ucs.indiana.edu to register
108  closed to public
109  administrator is horne@stolaf.edu
110  restricted theme: BattleTech
111  restricted theme: Pern (Anne McCaffrey)
112  send mail to micromuse-registration@michael.ai.mit.edu or
     mr@chezmoto.ai.mit.edu to register
113  educational theme
114  charter available for ftp from michael.ai.mit.edu:muse/info/charter
115  send mail to manda@altdorf.ai.mit.edu to register
116  no feature characters
117  administrator is shadow@cc.purdue.edu
118  send mail to tbonewil@acpub.duke.edu or pc30@cunixb.cc.columbia.edu to
     register
119  open to visitors
120  send mail to dunemush@cogsci.berkeley.edu to register
121  restricted theme: Dune (Frank Herbert)
122  send mail to skinner@alpha.ces.cwru.edu to register
123  restricted theme: Tolkien
124  closed to players
125  administrator is am133@cleveland.freenet.edu
126  down for operating system upgrade
127  administrator is geduld@hopi.ucs.indiana.edu
128  send mail to dunkelza@titan.ucc.umass.edu to register
129  restricted theme: K-Realm game
130  opens 1-Feb-93
131  restricted theme: info available for ftp from
     netcom.netcom.com:pub/anton/muakaar
132  administrator is db74+@andrew.cmu.edu
133  administrator is emeinfel@sadira.gb.nrao.edu
134  builders wanted; mail admin for more info
135  administrator is downsj@cs.pdx.edu
136  register feature characters with chad@helix0.chem.iastate.edu
137  send mail to singlenesia@cajal.uoregon.edu to register
138  administrators are russ@math.okstate.edu and jds@math.okstate.edu
139  administrator is jim@world.std.com
140  send mail to jim@world.std.com to register
141  restricted theme: The Book(s) of Swords (Fred Saberhagen)
142  open to builders only; mail admin for application
143  restricted theme: the Belgariad and the Malloreon (David Eddings)
```

144 restricted theme: The NeverEnding Story
145 hours are 00-13,23-24(MTWRF) 00-24(SU) GMT
146 hours are 00-13,22-24(MTWRF) 00-24(SU) GMT
147 administrator is timmain@tsalmoth.colorado.edu
148 restricted theme: ElfQuest
149 administrator is cschmidt@wsuaix.csc.wsu.edu
150 hours are 01-13(MTWRFSU) GMT
151 send mail to cschmidt@wsuaix.csc.wsu.edu to register
152 administrator is dragon@ghost.cse.nau.edu
153 administrator is gordon@meiko.com
154 send mail to mud@tsalmoth.colorado.edu to register
155 building concept required for registration
156 administrator is jds@hardy.math.okstae.edu
157 up only for on-line conferences; mail admin to set up one
158 send mail to wanderland@amber.ecst.csuchico.edu to register
159 requires an account on portal.com
160 administrator is lemon@unssun.nevada.edu

%%%%%   Zamfield`s Wonderfully Incomplete, Complete Internet BBS List   %%%%%
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Publishing Info:	September 24th 1992. Published with the Textedit text editor for X-windows. Now Available in Postscript form thanks to Interleaf.
Availablity:	Anonymous FTP at Wuarchive.wustl.edu in the /pub directory. E-mail requests can be made to Zamfield@Dune.EE.MsState.Edu. Posted on alt.bbs.internet twice a month.

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FOREWORD:
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The following list has been compiled with the help of the wonderfully generous who associate with InterNet or UseNet. I owe them many thanks and please continue to send information. The amount of mail I recieve is enormous, and I appreciate the responses.

I have a few things to say about these BBS's in general. So bear with me, or skip ahead, but do take the time to read this.

1. These BBS's are provided as a service to anyone on Internet. Not just you. This means that you should try not to dominate these sites by staying logged in continuously or repeatedly trying to gain access.
2. While you may not directly pay for these services someone does. These bbs's are run on someone else's computer, which means that someone else pays to keep it

running, provide space and access, and fix problems.
3. You are a guest, and please keep that in mind while using these BBS's

Okay, that wasn't so bad after all.

Most of these BBS`s offer services unique to BBS'ing. Some offer small scale versions of standard Internet sevices. Keep in mind that mail or articles posted on BBS's does not reach everyone in the world, and if you can get to UseNet, you will problably find better responses. Most of the files on these BBS`s can be found by anonymous FTP, so don't tie up the system downloading files if you have FTP. Do be considerate on these BBS`s, some people aren't using Telnet or Rlogin to get to these, some people still dial numbers with modems at there homes.

I'm not going to say anymore, because you can figure most of this out for yourselves. Enjoy the list and write back to tell me about these BBS`s. I want to add as much info to these as possible. A little abstract, such as services, will be great.

For users of JANET (UK), you may access these bbs's through first connecting to UK.AC.NSFNET-RELAY.TELNET or PAD.UK.AC.NSFNET-RELAY.TELNET. Likewise, users of internet can get to JANET by telnet SUN.NSF.AC.UK, login as janet.

Something New!!!!!

all sites that are prefixed with ==========
and sufixed with the same thing are sites that are down and will probably be removed from this list.

such as
==========
Mars Hotel mars.ee.msstate.edu
-- down now
==========

just something new to help clear any misconceptions up.

==========
=
9/24/92 Zamfield@Dune.EE.MsState.Edu

NAME	ADDRESS	LOGIN	BBS Software
TEST SITE	phred.pc.cc.cmu.edu		
--	128.2.111.111		
--	This site is included to help the designer of it bbs		
--	software work out it's bugs. Currently it is ofline,		
--	but when it does go online be sure to help out. I		
--	included his original post hear because he describes		
--	his system better than me.		
--	I am working on starting a new bbs that is		

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        --                      avaible  on the internet.  Basically, I am
        --                      working on writing software and would like to
        --                      have some people use it and help me to debug
        --                      it.  To login tlenet to 128.2.111.40, port
        --                      8888 and just follow the directions.  BTW,
        --                      if you don't get  anything when connecting
        --                      that just means someone else is online.  I
        --                      need to work on it.  mail responses to
        --                      aw2t+@andrew.cmu.edu Alex R.N. Wetmore.
        --              This is Alex's project not mine.

        --              just release the bbs software on anon ftp too.
        --              give this place a try.

ANOTHER TEST SITE       utbbs.civ.utwente.nl    bbs
        --              130.89.1.219

        --              Try this place and tell the sysop any bugs
        --              you find.  Has lots o files, message bases,
        --              conferencing, talk, and chat.

        --              Sysop Erwin Verwoerd.

AfterFive               af.itd.com 9999
        --              128.160.2.249 9999

        --              Hours are 5 pm to 8 am CST on weekdays. Open 24
        --              hours a day on weekends and holidays.

        --              Subscribe to the AfterFive mailing list too.

        --              MUCK - enhanced tinymuck2.2.10.4d-beta.  Based on
        --              Bourbon Street, New Orleans.  May not be
        --              appropriate for all ages, especially very young
        --              children as the database is rather graphic in
        --              section describing stip tease, and bars.

        --              BBS is Citadel like Quartz and Grind.  No HotKeys
        --              though.  Supports 250 concurrent users. Running on
        --              a Sparc 2 under Sunos 4.1.2.

        --              Contact Howard, Darrel, Trish, Eyes, or Parade,
        --              wizards, if you wish to work on any aspect of After-
        --              Five.

APA BBS                 atl.calstate.edu        apa
        --              130.150.102.33
        --              The American Philosophical Association BBS.
        --              Offers news from the national office,
        --              philosphical societies, grant/fellowship and
        --              academic position information, philosophical
        --              calendar, E-mail, directories and computer
        --              resources, discussion on computer use in
        --              philosophy, and news from divisions.

Auggie BBS              nic.augsburg.edu        bbs     Eagles
        --              141.224.128.3
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        --              use user ID guest and passwd guest to look
        --              around, and for a regular account send

        --                      userid
        --                      initial passwd
        --                      realname
        --                      termtype
        --                      address
        --                      email address

        --              to schwartz@aug1.augsburg.edu or mail
        --              to Billy on the bbs.

BadBoy`s Inn            nameserver.aue.com      bbs     Pirate 2.0
        --              badboy.aue.com

        --              Be sure to use badboy.aue.com, it will usually get
        --              you throught to wherever badboy really is.

        --              Boards, Talk, Chat, Mail Test site for new Pirate
        --              Software.  Pirate 2.0 kicks, if it would work
        --              all the time!

        --              This site is rather deserted, probably because of
        --              difficulty finding the place, but it has a great
        --              message base.

Bergon By Byte          oscar.bbb.no            bbs             unknown

        --              This is a new site, but not sure about it, so don't
        --              go flooding this place until I can confirm
        --              its availablity.

        --              Large message areas, but mostly norweigan,
        --              International conference for anglophones, menus
        --              can be shown in english and general bulletins are
        --              translated.  Lots of files.

        --              Has a registration fee, of $60 or $30 student.

Chatsubo BBS            chatsubo.nersc.gov      bbs             pirate 1.7

        --              new site, check out.

        --              Sysop Jim Morton. (maXx)

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Cimarron (in Spanish)   bugs.mty.itesm.mx       bbs             Pirate 1.0
        --              131.178.17.60

        --              Send mail to sysop with necessay info(?) and you
        --              will be validated after two months.

        --              Nice BBS, too bad it is all in Spanish.  Good place
        --              to get aquainted with if you are trying to learn
        --              Spanish, lots of conversations to look at.  Cimarron
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        --              is a type of ram, and is the school pet.
        --              Open between 18:00 to 6:00 Mexican Central Time.

        --              Down due to HACKING, until further notice.
==========

Cleveland Free-Net      freenet-in-a.cwru.edu
CWRUBBS
        --              freenet-in-b.cwru.edu
        --              freenet-in-c.cwru.edu

        --              Usenet, USA Today ON-Line, Local & Internet mail,
        --              and Interest Groups.

        --              This site is huge.  The entire system is based on
        --              a town metaphor, which means to mail people you walk
        --              to the  post-office , and to talk you go to the rec
        --              center, etc.  The amount of local/regional infomation
        --              at this site is unreal, but most people will be
        --              interested in the conversations that go on, and the
        --              possiblility of having an account on a system that
        --              closely resembles a full unix account.

CueCosy                 cue.bc.ca               cosy            Cosy 4.2
        --              134.87.11.200

        --              Conferences and Topics. EAN Mail, Usenet, and FTP
        --              require a full unix account.  Only teachers and
        --              educators are eligible for a full unix account.

        --              Download messages and mail via Kermit & Xmodem,
        --              Online Unix course is being considered, for now
        --              a QA conference is available.  Some local files
        --              are available too.

        --              Sysop jnemeth@cue.bc.ca John Nemeth.

Delft University BBS    130.161.180.68          BBS
        --              tudrwa.tudelft.nl

        --              In Holland, Mostly Dutch. Files, messages, Chat
        --              area's

        --              VERY large MS/DOS file base, but you have to be able
        --              to understand Dutch descriptions.
        --              This is probably a very cool bbs, but I doubt that
        --              many people seeing this will find it of much use.
Eagle's Nest            131.95.127.2            bbs <passwd bbs>   Mod.
Pirate
        --              seabass.st.usm.edu

        --              For info and account request mail
        --              nest-request@rock.b11.ingr.com

        --              Boards, 2 chat rooms, mail, talk, IRC.  Guest
account.
        --              Must give name, address, e-mail address, passwd,
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        --              terminal-type, mailng address, and alias (up to 12
        --              chars, all letters.).  Info will be returned via
email.

        --              Sysop gtvega@seabass.st.usm.edu
        --              or    rocker@rock.b11.ingr.com

Endless Forest          137.48.1.8 2001         or login ef w/0 port #
        --              forest.unomaha.edu 2001

        --              Boards, E-mail.  Reminds me of WWIV BBS. all-message
        --              base.  Said to be a kind of poetry/philosophy
hangout.
        --              After rising to a high enough access level, you can
        --              be granted read-only Usenet access and Gopher.

Halcyon.com             192.135.191.2           bbs             Waffle

        --              Free 30 day accounts with E-mail, Usenet, and
        --              files from zeus.ieee.org, wuarchive.wustl.edu
        --              and gatekeeper.dec.com.

        --              Extended BBS services, Internet Access via
        --              Unix Shell, is commercially available.

        --              Mail info@remote.halcyon.com for more info.

Heartland Peoria Illinois FreeNet
        --              136.176.10.10           fnguest
        --              heartland.bradley.edu

        --              Mail, Public Forum, Recreation, Calendar, Social
        --              services, Senior center, Teen center, Local job &
        --              government info, Legal, Medical, Tax, &
Invest/Banking
        --              Forums SIG's, library, Home & Garden, Science & Tech,
        --              & Education Forums

        --              Community metaphor, and mostly local info.

Hewlett-Packard BBS     hpcvbbs.cv.hp.com
        --              15.255.72.16

        --              has tech help, and 28/28S/48S/48SX files/programs.
        --              New releases, prodouts, and announcements.
        --              This is the one and only source if you need
        --              something for your Hewlett-Packard calculator.  I
        --              have see games, sounds, pictures,and nearly
        --              everything else for the 48 series at this

IDS World Network       155.212.1.2             guest
        --              ids.net

        --              IDS World Network is a public access system
        --              run on a DEC VAX.  It is menu driven, supports
        --              VT100, and ANSI graphics.
```

-- Features, TELNET, FINGER, Weather Underground,
-- Ham Callsign Book, Weather GIFS, Library Databases,
-- Gateways to Commercial Services, Internet Mail, and
-- more. All in an easy-to-understand menu-driven format
-- for the beginner (or shells for the experienced user.)

-- Includes Entertainment, such as, International
-- MUD's, local-only games, CONQUEST & GALACTIC
-- TRADER, and CB Simulator for CHATS.

-- RIME, PC-BBS messaging network, Usenet NEWS with
-- "nearly" full newsfeed.

-- Special Conferences include: Skeptics Abound, Game
-- Developers Conference, Internet in Education, and
-- Usenet/Internet Info.

-- Local access at (401)-884-9002, (V.32, Telebit/
-- PEP, USR HST, V.42bis).

-- We also offer PersonalSLIP - dialup SL/IP on demand
-- at an hourly rate; you only pay for what you use.

-- Internet Services require a donation of at least
-- $10/month, $50/halfyear, or $100/year.
-- For more info, email info@ids.net

ISCA BBS bbs.isca.uiowa.edu iscabbs DOC (Citadel)
-- whip.isca.uiowa.edu
-- 128.255.40.203
-- Dial-Up 319-335-6409 (2400 baud)

-- Can now handle 140 users on a new HP 9000/710.
-- 150 message rooms. Private IRC, Internet and
-- IRC access for local users.
-- Online data system Panda.

-- TEST BBS

-- pulse.isca.uiowa.edu bbs DOC (Citadel)
-- 128.255.40.202

-- Evaluating new hardware, Help play around with
-- this BBS.

-- ANONOMOUS FTP

-- grind.isca.uiowa.edu
-- 128.255.19.233
-- 128.255.40.200
-- Dial-Up 319-335-6408 (9600 baud HST/v.32)

-- anon ftp or shell access via telnet.

-- Over 2 gig of IBM, Mac, Amiga, and other software.

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        --              Kermit, XYZModem, of FTP send from the shell.

        --              PANDA

        --              panda.uiowa.edu
        --              chop.isca.uiowa.edu
        --              128.255.40.201

        --              Online Data Service.  An improved Gopher.

Lorain County Freenet   freenet.lorain.oberlin.edu      guest

Mars Hotel              Mars.EE.MsState.Edu     bbs             Pirate
        --              Jupiter.EE.MsState.Edu
        --

        --              Boards, Talk, Chat, IRC, Mail.
        --              Fairly extensive files,
        --              ftp'able, Kermit,XYZmodems,

        --              Mars is back, and Faster than ever.  It now runs
        --              on and IBM RS/6000 Powerstation 530 or a big
        --              Weenie Roaster 6000.  All the old Boards should
        --              be back on, or if not will be soon.

        --              Contact cass@dune.ee.msstate.edu or
        --              conner@dune.ee.msstate.edu or
        --              keller@dune.ee.msstate.edu or
        --              wilson@dune.ee.msstate.edu
        --              for further information and/or help.

        --              Tell all your friends about it, the BBS has
        --              never run faster, and everyone is welcome.

MindVOX                 phantom.com             mindvox  + ('guest' at ID)
        --              38.145.218.228
        --              voice#: 212-988-5987

        --              Public access system.  Cyberpunk hangout, MONDO
        --              online, SF writers, Movie people, artists, mail
        --              system for many hard-to-locate underground names
        --              that have moved into the mainstream.  Very active
        --              conference bases.  Features ARCHIVES of Cyberspace
        --              with files and buffers dating back to the first
        --              underground and legitimate boards circia 1978-1992.

        --              1200-19.2K dialup access.  Signup is online through
        --              the 'guest' account (after typing 'mindvox').  Fees
        --              are from $10 - $15 per month.  Free two week trial.
        --              Local Dialups start at (212) 988-5030

        --              Features custom front-end software, easy to navigate
        --              user-interface, irc, ftp, telnet, Internet mail, MUD,
        --              downloads, graphics, developer echoes.

M-Net                   hermes.merit.edu
        --              35.1.48.150
```

```
        --              at the Which Host? prompt type um-m-net.
        --              at the MichNet login: prompt type newuser.

        --              This is a Public Access UNIX/Conferencing System.
        --              100 Conferences, sh, ksh, csh, bbs, & menu shells
        --              for every type of user.

        --              write/talk/xtalk/chat for communicating between
        --              users, and PARTY for group chats.

Monochrome              138.40.11.1             mono (passwd mono)
        --              138.40.21.1
        --              138.40.31.1
        --              138.40.41.1
        --              victoria.city.ac.uk
        --              paddington.city.ac.uk
        --              kingsx.city.ac.uk
        --              euston.city.ac.uk

        --              suggested to set terminal to dumb.
        --              guest accounts until registered.  Read files,
        --              reply to and u2u (user to user) message sent
        --              to you, and be 'woken' into the very
        --              sophisticated multi-user talker.  This talker
        --              has a large map, which is being extended as
        --              people send in ideas.

        --              register by mailing dg194@city.ac.uk with an
        --              account name.  This must be all lowercase letters,
        --              with no spaces or underscores and 10 characters
        --              maximum.
        --              Large base of files, some Read-Only, some that
        --              can be added to is you are registered.  Supports
        --              most terminal types, and uses them well.  If
        --              you are registered you can E-mail yourself files.

        --              Email monoadm@city.ac.uk for help or info.
        --              on the bbs contact monochrome.
        --              Sysop/Admin: Dave Brownlee.

National Education BBS  nebbs.nersc.gov         guest

        --              multi-user, but not usually anyone else on but you.
        --              Guest accounts, which provide bbs E-mail and
        --              reading posts.  Full access only given to National
        --              Education Supercomputing Program members.

        --              Files, news, talk and chat for full access.

Netcom                  netcom.netcom.com       guest + <CR> at passwd
        --              192.100.81.100
        --              voice # 408-554-UNIX

        --              Contact Robert Hood, Systems/Network Admin at
        --              hoodr@netcom.com.
```

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        --              Full Unix service.  Money for access.
        --              One time registration fee of $15.  No more than
        --              50 hours/month online during prime time hours
        --              (M-F 10 a.m. to midnight (Pacific time?)).

        --              $17.50/month ($19.50 for invoiced billing)
        --              (408) 241-9760 (San Jose, CA) and
        --              (415) 424-0131 (Palo Alto, CA)
        --              (510) 865-9004 (San Fransico/Oakland/Berkeley, CA)
        --              (510) 426-6860 (Pleasanton/Fremont, CA)
        --              (408) 459-9851 (Santa Cruz, CA)
        --              (310) 842-8835 (Los Angeles, CA)

Nyx BBS                 nyx.cs.du.edu           new
        --              130.253.192.68

        --              Full news feed, Local downloads,
        --              shell access (with validation), and Ftp.
        --              It is a completely free public access Unix
        --              system run by the University of Denver's
        --              Math and Computer Science Department.
        --              Sysop: Prof. Andrew Burt.

        --              The system is now running on a Sun SparcStation 2,
        --              with a homebrew menuing system

        --              Lots of files and Dial-in

===========
Olajier                 129.31.22.11            Olajier <passwd Olajier>
        --              castor.ee.ic.ac.uk

        --              Capitals are important for both the login
        --              and passwd.  This BBS is at Imperial College
        --              in London.

        --              Down due to information about hacking being
        --              posted and discussed by the users.
===========

OuluBox (Finnish)       tolsun.oulu.fi          box
        --              130.231.96.16

        --              Can set English as prefered language,
        --              said to switch to Finnish at the most
        --              inconvenient time.  IRC

        --              Contains boards and files.  As mentioned
        --              above, just when you get to the good stuff
        --              it goes Finnish on you.

The Picayune            milo.ndsu.NoDak.edu     new
        --              star96.nodak.edu        20
        --              star24.nodak.edu or star12.nodak.edu for slower
speeds
        --              134.129.107.131
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```
        --              North Dakota Higher Education Computer Network.
        --              readonly News service, file areas, tetris
        --              online, local email, and online games.

        --              a 386 running unix, 2 80 meg drives, 600 users
        --              give or take a few.  And Now Ethernet.

        --              courtesy(sp) of Marshal Perlman.
        --              cool welcome screen.

        --              sysop glaeske@cs.uwp.edu
==========
Quartz                  Quartz.Rutgers.Edu      bbs             Citadel
        --              128.6.60.6

        --              Rooms/Boards.  This system is extremely active
        --              and the messages move very quickly, so don't
        --              be too suprised at the rate of response to posts
        --              and you can get left behind very easily.

        --              Suggest MUD to chat.

        --              Not sure when this one will be back up.
==========

Samba North Carolina    152.2.22.80             bbs             Modified XBBS
        --              lambada.oit.unc.edu
        --              (919)-962-9911

        --              offers vi, emacs, rn, NEWS, MAIL
        --              local messaging, SIGS, Conferencing
        --              Files (Kermit/FTP), & INFO
        --              limited NewsFeed.
Softwords COSY          softwords.bc.ca         cosy            Cosy
        --              134.87.11.1

        --              Very friendly with good discussions, but 9600
        --              baud connection is a pain.

Spacelink BBS           192.149.89.61           NEWUSER passwd NEWUSER
        --              Please use IP address only until
        --              net restructuring is complete.
        --              spacelink.msfc.nasa.gov

        --              NASA news, educational materials, ask-a-NASA-
        --              person service  Contains a great deal of
        --              information about NASA's past and present programs.
        --              Provides real-time updated current mission
        --              information.  Has graphic images of planetary
        --              probes too.

        --              contact D. Alan Cunningham cunnida@tenet.edu


Sparcs BBS              ara.kaist.ac.kr         bbs             Pirate 1.8
        --              143.248.1.53
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--	try login in as irc for the irc chat server.		
--	boards, local mail, chat, and talk.		
TECNet	Registration by mail only		
--	Mail to:		
--	TECnet, Tufts University,		
--	Dept. of Mechanical Engineering		
--	Anderson Hall Room 203		
--	Medford, MA 02155		
--	Telephone (617) 627-3818		
--	Fax (617) 623-1427		
--	Internet info@tecnet.me.tufts.edu		
--	TECnet is an electronic resource for Small		
--	Manufacturers.		
--	TECnet is operated by the Tufts University		
--	Manufacturing Resource Center to provide		
--	technical assistance to small and medium-sized		
--	manufacturers as part of a broader program of		
--	technology transfer and outreach. TECnet was		
--	created with funding provided by the National		
--	Institute of Standards and Technology in		
--	collaboration with the Rensselaer Polytechnic		
--	Institute.		
--	TECnet provides a number of services not found		
--	on your typical BBS including job leads from Federal		
--	procurement and foreign trade publications, chemical		
--	safety data for common manufacturing chemicals,		
--	abstracts of federal military specifications		
--	standards and listings of business and financial		
--	assistance providers.		
--	TECnet users have access to a library of publications		
--	from the U.S. Small Business Administration, a		
--	link to a national directory of used industrial		
--	equipment and the ability to transmit binary		
--	files such as CNC programs as private mail messages		
--	to other users.		
--	TECnet carries a handful of Usenet conferences		
--	related to CAD, industrial computing, and business		
--	software applications. These conferences allow		
--	small business users access to technical experts		
--	from larger companies and university sites.		
--	TECnet is accessible by modem or via the internet.		
Tiny BBS	tiny.computing.csbsju.edu	bbs	
--	Menu driven topics and suptopics.		
--	Mail sysop to get account.		
--	jodominik@tiny.computing.csbsju.edu		
TriState Online	129.137.100.1	visitor	FreeNetIII
--	tso.uc.edu		

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        --              new FreeNet site.

Virginia Tech Cosy      vtcosy.cns.vt.edu                       cosyreg
        --              128.173.5.10            bbs (for list)

        --              Virginia Tech Conferencing System.  Offers
        --              local conferencing, up to date listing of local
        --              BBS's and read only Usenet NEWS.  Tons of Messages.
        --              No files.
Youngstown Free-Net     yfn.ysu.edu             visitor
        --              192.55.234.27

        --              At Main Menu try typing
        --              GO WITTY
        --              for one of the most interesting
        --              and wide-ranging boards on a
        --              Free-Net.

The World               world.std.com           new
        --              192.74.137.5

        --              Public access Unix system.  19.2, 96, 24, & 12
        --              hundred baud modem connections.  3 GB disk
        --              storage.  CompuServe Packet Network access.
        --              and SLIP connection up to T1.

        --              signup, dial 617-739-WRLD, type new.  basic
        --              rates are $2/hr 24 hrs/day and $5 monthly fee.
        --              20/20 plan, $20 for 20 hrs, including monthly
        --              fee.  Also available from Compuserve Packet
        --              Network. $5.60/hr surcharge is added to monthly
        --              bill.  Further info at staff@world.std.com

        --              I messed up and said the Compuserve Packet Network
        --              access was a $5.60 surcharge, but it is $5.60 per
        --              hour, and makes quite a difference.  Thanks
        --              Elizabeth.

        --              Email to Internet, UUCP, BITNET, CSNET, EUNET,
        --              JANET, JUNET, Fidonet, BIX, Compuserve, Applelink
        --              and MCImail.

        --              USENET, ClariNet, Electronic Mailing Lists,
        --              Chatting, Unix Software, GNU Software, Games,
        --              Online Book Initiative, AlterNet Acces, Internet.

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SERVICES
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        The following is a list of useful services that most
        BBS'ers are interested in.  I have not checked any of
        these except Archie.  If you have more info about
        these or if you know of other to add, please mail
        me: Zamfield@Dune.EE.MsState.Edu.  I will make the
```

changes and post the list again. Enjoy. :-)

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================================================================================
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Service                 Address                 Login
--------------------------------------------------------------------------------
-

Archie                  quiche.cs.mcgill.ca     archie
        --              132.206.2.3
        --      archie-client sites.
        --              archie.sura.net
        --              archie.mcgill.ca
        --              archie.funet.fi
        --              archie.au
        --              archie.doc.ic.ac.uk
        --              cs.huji.ac.il

        --              Archie is the easiest, fastest, and most convienent
        --              way to find files available via anonymous FTP.  The
        --              archie-client sites are sites that are used for
        --              archie front ends to query info, the
        --              quiche.cs.mcgill.ca is the original archie site, and
        --              you can telnet to and use this archie without a
client,
        --              although the client is much simpler to use and
        --              easier on the server.


DDN Network Information Center
        --              nic.ddn.mil
        --              192.112.36.5

        --              TACNEWS, WHOIS Server, NIC  This site is not nearly
        --              as useful as the NIS server listed below.

FTP Mail                write mail to ftpmail@decwrl.dec.com

        --              reply <MAILADDR>
        --                      set reply addr, since headers are usually
wrong
        --              connect [HOST [USER [PASS]]]
        --                      defaults to gatekeeper.dec.com, anonymous
        --                      ascii files grabbed are printable ascii
        --                      binary files grabbed are compressed or tar
        --                      or both
        --              chdir PLACE
        --                      "get" and "ls" commands are relative to PLACE
        --                      (only one CHDIR per ftpmail session)
        --              compress
        --                      compress binaries using Lempel-Ziv encoding
        --              compact
        --                      compress binaries using Huffman encoding
        --              uuencode
        --                      binary files will be mailed in uuencode
        --                      format
```

```
        --              btoa
        --                      binary files will be mailed in btoa format
        --              ls (or dir) PLACE
        --                      short (long) directory listing
        --              get FILE
        --                      get a file and have it mailed to you
        --              quit
        --                      terminate script, ignore rest of mail message
        --                      (use if you have a .signature or
        --                      are a VMSMAIL user)


        --              you must give a "connect" command, default host is
        --              gatekeeper.dec.com, default user is anonymous,
default
        --              password is your mail address.
        --              binary files will not be compressed unless 'compress'
        --              or 'compact'
        --              command is given; use this if at all possible, it
        --              helps a lot.

        --              binary files will always be formatted into printable
        --              ASCII with "btoa" or "uuencode" (default is "btoa").

        --              all retrieved files will be split into 60KB chunks
and
        --              mailed.

        --              VMS/DOS/Mac versions of uudecode, atob, compress and
        --              compact are available, ask your LOCAL wizard about
        --              them if you can't locate them (but try
        --              gatekeeper.dec.com in /archive/pub/VMS if you're
        --              still trapped on a VMS system.)

        --              several mail unsplitters are hiding on
        --              gatekeeper.dec.com in /pub/mail/ua/misc/unsplit.
        --              includes one in c, one in perl, and one in VMS DCL.

        --              >>> examples:
        --              -> connect to gatekeeper.dec.com and get a root
        --              directory listing:

        --                      connect
        --                      ls
        --                      quit

        --              -> connect to gatekeeper.dec.com and get the
        --              README.ftp file:

        --                      connect
        --                      get README.ftp
        --                      quit

        --              -> connect to gatekeeper.dec.com and get the
        --              gnuemacs sources:

        --                      connect
```

```
        --                      binary
        --                      chdir /pub/GNU
        --                      get emacs-18.57.tar.Z
        --                      quit
        --              -> connect to uunet.uu.net as anonymous and get a
        --              root directory list:

        --                      connect uunet.uu.net
        --                      dir
        --                      quit

GeoServer               Martini.eecs.umich.edu 3000
        --              141.212.100.9 3000

        --              Provides information by city or area code.  This
        --              infomation includes population, longitude and
        --              latitude, elevation, and various other information.

IRC Client              bradenville.andrew.cmu.edu
        --              128.2.54.2

        --              Internet Relay Chat access.  Not all IRC commands are
        --              supported.  IRC is similar to the chat system on
        --              Pirate BBS's but much more powerful. IRC has
channels,
        --              which you join to join a discussion, or you can
create
        --              your own to discuss whatever you like.  These
sessions
        --              are very informal, and topics can stay quickly.

Library Systems         ->FTP<- ftp.unt.edu

        --              This site contains a huge, 100-150
        --              page, guide to internet libraries.
        --              The file is under the library
        --              directory.  Send thanks and responses
        --              to Billy Barron, BILLY@vaxb.acs.unt.edu.

Lyric Server            ->FTP<- cs.uwp.edu

        --              these files are available via
        --              anonymous ftp.  This is not
        --              really a telnetable service, but
        --              it is nice to know about so I
        --              included it.

National Ham Radio Call-Sign Callbook
        --              128.205.32.2 2000
        --              callsign.cs.Buffalo.Edu 2000

        --              I am very impressed with this service,
        --              I have figured out the problem.  The
        --              name listing did not include the port
        --              number.  This should clear up any problems
        --              with this site.
```

```
        --              Also, if this site hangs at you commands
        --              try hitting enter again.  it seems to work
        --              fine other than that.

        --              any problems should be reported to
        --              bowen@cs.buffalo.edu as well as to myself.

NCSU Services           ccvax1.cc.ncsu.edu      INFO or PUBLIC
        --              152.1.13.4

NetFind Server          bruno.cs.colorado.edu   netfind

        --              This site runs a netfind service.  type h
        --              to get better explaination than I can give.
        --              Basically lets you search for a person's
        --              e-mail address.

Network Information Service (Univ. of California at Berkeley)
        --              netinfo.berkeley.edu 117
        --              128.32.136.12, 117
        --              128.32.206.12 117

NetMailSite Service     hermes.merit.edu

        --              at the Which Host? prompt, type: netmailsites

        --              Connects you to a machine that given a site name
        --              matches it with any node names it has on file, and
        --              visa versa.

OCEANIC                 128.175.24.1            OCEANIC
        --              delocn.udel.edu

        --              Ocean info center, from the U. of
        --              Delaware.  Contains technical and
        --              scientific info on oceanic research.
        --              DOS software for viewing oceanographic
        --              graphics.
        --              type <$> to logout (no brackets).

==========
Slugnet chat system     cons1.mit.edu
        --              18.80.0.88, 2727

        --              sorta like IRC
==========

UM-Weather Service      downwind.sprl.umich.edu 3000
        --              141.212.196.79 3000

        --              This site offers City/State forecasts in most of the
        --              major cities.  You can also get ski reports and
        --              earthquake reports.  Very complete service.

Vatech Central Branching Exchange
        --              128.173.16.6
        --              vtcbx.cc.vt.edu
```

```
        --              Access to all local on-campus boards.
        --              these boards have messages, files, etc.

        --              to get to the Dream World BBS, type
        --              C 26964, and hit enter a couple o times.

WAIS server             hub.nnsc.nsf.net        wais
        --              192.31.103.7
        --              quake.think.com
        --              192.31.181.1
        --              nnsc.nsf.net
        --              129.89.1.178
        --              info at think.com <<ftp server>

        --              Wide Area Information Service.  Gives access to
online
        --              documents.  More info can be obtained from think.com
        --              via anonymous ftp.

Washington University Services
        --              wugate.wustl.edu        luis

        --              Provides Internet Access to many services
        --
```

On-Line Library Catalogs

The Americas

- Canada
- Mexico
- United States

Europe/Scandinavia

- Austria
- Belgium
- Denmark
- Finland
- France
- Germany
- Iceland
- Ireland
- Israel
- Italy
- Netherlands
- Norway
- Spain
- Sweden
- Switzerland
- United Kingdom

Asia/Pacific

- Australia
- Hong Kong
- New Zealand
- Taiwan

The Desktop Internet Reference

Version 1.0a Copyright 1993 John Buckman

Anonymous FTP sites
Archie Servers
- **ARCHIE user commands**

Campus-wide Information systems
Distributed File Servers (Gopher/WAIS/WWW)
Electronic books
Fee-Based Services
Free-NET systems
General Bulletin Boards
Hytelnet On-line
Libraries on the Internet
- **Catalog interfaces**
- **Databases and bibliographies**
- **Using library catalogs**

ListServ resources
Multi-User Domains (MUDs) on the Internet
Miscellaneous resources
NASA databases
Network Information Services
Putting your home PC on the Internet
- **Individual access to the Internet**

Religion on the Internet
Telnet tips
- **Telnet/TN3270 escape keys**

Whois/White Pages/Directory Services
- **Mail: Obtaining Host and Address Information**

General References:
Zen and the Art of the Internet, a beginner's guide
The Hitchhikers Guide to the Internet
National Science Foundation's Internet Resource Guide
Introduction to the Internet: A Reading List

What is The Desktop Internet Reference?
How to Install The Desktop Internet Reference

Sweden

Chalmers University of Technology
Hogskolan Sundsvall/Harnosand
Karolinska Institute
Lund University
Royal Institute of Technology, Stockholm
Swedish University of Agriculture
University of Gothenburg
University of Umea
University of Uppsala

Lund University

TELNET LOLITA.LU.SE
Select terminal type 10. If you have a terminal that supports Scandinavian 7-bit ASCII, select 4.
Enter 100 as the location code
Type /LANG 1 to select English

OPAC = VTLS

To exit:

1. Type /QUIT.
2. Enter Y to confirm.

University of Umea

```
TN3270 LIBUM.UMU.SE
Hit RETURN
Type DIAL VTAM
Enter BIBLIO when prompted

To exit:

1.    Choose 5 off the menu
2.    Enter UNDIAL when prompted
```

Karolinska Institute

TELNET KIBIB.KIB.KI.SE or 130.237.207.90
Username: library

OPAC = LIBERTAS

To exit, hit the TELNET escape key

Royal Institute of Technology, Stockholm

TELNET KTHBIB.LIB.KTH.SE or 130.237.29.3
Username: BIBKAT

OPAC = LIBERTAS

To exit, type EXIT

Chalmers University of Technology

TELNET CTHLIB.LIB.CHALMERS.SE or 129.16.86.70
Log in with usernames CHANS or CHANSX
Select 3 on "Alternativ" menu.
Select 1 for English on language menu.

OPAC = LIBERTAS

To exit, type EXIT on main menu

For further information contact Tore Lund tore@lib.chalmers.se

Hogskolan Sundsvall/Harnosand

TELNET OLORIN.BIB.HSH.SE or 130.239.216.7
Username: BIBLIOS for Sundsvall, BIBLIOH for Harnosand
8-bit (DECMCS or Latin1) VT200 compatible terminal recommended
Select 3 to change language

OPAC = LIBERTAS

To exit, enter EXIT from main menu

Swedish University of Agriculture

```
TELNET UPNOD.SLU.SE or 130.238.98.4
At the "Enter Address" prompt, type lr
At the "att" prompt, type lukas
At the > prompt, type slubib

To exit, hit the Telnet escape key
```

University of Gothenburg

TELNET GUNDA.UB.GU.SE or 130.241.30.253
Type /LANG 1 for English

OPAC = VTLS

To exit, hit the TELNET escape key

University of Uppsala

TELNET UDAC1.UDAC.UU.SE or 130.238.4.130
At the "Enter address" prompt, type DISA
At the terminal type prompt, select 10
At the "ANGE KOD F\R BIBLIOTEKSENHET/AVD" prompt, type 100
Type /LANG 1 for English

OPAC = VTLS

To exit, hit the TELNET ESCAPE key

Library Systems currently in use

DRA Altas sites
BLCMP sites
BuCAT sites
CATS sites
CLSI sites
DOBIS/LIBIS sites
Dynix sites
GEAC sites
GEAC Advance sites
GvB sites
Inlex sites
INNOPAC sites
Libertas sites
LS/2000 sites
Multilis sites
NOTIS sites
OCLC sites
PALS sites
UNICORN sites
URICA sites
UTCAT sites
VTLS sites
Z39.58 sites

Libraries using DRA Atlas

Abilene Library Consortium
Air Force Institute of Technology
Augusta College
Beloit College
Citadel, the Military College of South Carolina
College of Charleston
Drake University
Drew University
Franklin and Marshall College
Georgia Southern University
Guilford College
Hofstra University
John Carroll University
HSLC HealthNET (Health Sciences Information Network)
Kenyon College
Lawrence University
Middlebury College
Mount Allison University
New Mexico Highlands University
Ottawa Public Library
Sam Houston State University
SouthWest Texas State University
Texas Christian University
Trent University
Tufts University
University of Hong Kong
University of Lowell
University of Prince Edward Island
University of Texas-Pan American
University of Texas-Permian Basin
University of Toronto
Valdosta State College
Virgina Military Institute

Libraries using BLCMP

Birmingham University
Brunel University
De Montfort University
Loughborough University
Queens University Belfast
Salford University
Sheffield University
Thames Polytechnic
Warwick University

Libraries using BuCat

Athabasca University
Brandon University
University of Saskatchewan (INFOACCESS)

Libraries using CATS

Cambridge University
University of East Anglia
University of Kent
University of Newcastle Upon Tyne

Libraries using Dynix

Aberdeen University
Alma College
Calvin College
Dixie University
Dundee Institute of Technology
Dundee University
James Cook University Library
National Library of Australia
Northern Territory University
Skidmore College
Snow College
Southern Utah University
Stirling University
St. Mary's University
Swinburne University of Technology
University of Adelaide
University of Alabama, Birmingham. Lister Hill Health Sciences
University of Dayton
University of Otago
University of South Australia
University of York
Utah Valley Community College
Wake Forest University
Weber State University
Westminster College
Victoria University of Wellington

Libraries using GEAC

Aston University
Bangor University
Charles Sturt University
Dalhousie University
Durham University
Edinburgh University
Glasgow University
Hull University
Lehigh University
Massachusetts Institute of Technology
Mount Saint Vincent University
New York University
Nova Scotia College of Art and Design
Oberlin College
Old Dominion University
Royal Melbourne Institute of Technology
Rutgers University
Saint Mary's University
Simon Fraser University
Smithsonian Institution
South Bank Polytechnic
Staffordshire Polytechnic
Strathclyde University
SUNY-Albany
Technical University of Nova Scotia
Texas Woman's University
University College of Cape Breton
University of Arizona
University of Central Lancashire
University of Houston
University of Kings College
University of Leeds
University of Saskatchewan
University of Sussex
University of Technology
University of Waterloo
University of Western Ontario
U.S. Military Academy
Utrecht University Library
Zentralbibliothek Zurich

Libraries using INNOPAC

Academia Sinica
Allegheny College
Bates College
Boston University
Bowdoin College
Bowling Green State University
Bryn Mawr College
California Institute of Technology
California State University at Hayward
California State University - Sacramento
California State University - San Marcos
Canisius College
Case Western Reserve University
Central State University
Chadron State College
Claremont Colleges
Colby College
Colgate University
College of Wooster
Columbia University Law Library
Concordia University
Deakin University
Denison University
Fordham University Law School
Gettysburg College
Gordon Technical College
Grinnell College
Hartwick College
Haverford College
Hong Kong University of Science & Technology
Illinois Institute of Technology, Chicago Kent Law Library
Kalamazoo College
Lafayette College
Marquette University
Medical College of Wisconsin
Miami University Library
National Taiwan University
Nebraska State College
New York University, Ehrman Medical & Waldmann Dental Libraries
New York University Law Library (JULIUS)
Occidental College
Ohio Northern University
OhioLink
Peru State College
Pima Community College
Rochester Institute of Technology
St. Norbert College
Simmons College
State Library of South Australia
SUNY-College at Buffalo
Susquehanna University
Swarthmore College
Tri-College Consortium
Uniformed Services University of the Health Sciences

University of Arizona
University of California - Northern Regional Library Facility
University of California, San Diego
University of California - Irvine
University of California, San Francisco
University of Cincinnati
University of Lethbridge
University of Maine System
University of Miami
University of Miami Medical Library
University of Michigan Law Library
University of Nebraska - Kearney
University of Nebraska - Lincoln
University of Nebraska - Omaha
University of Nevada, Las Vegas
University of Nevada, Reno
University of New Mexico General Library
University of New Mexico Law School
University of Newcastle
University of Northern Iowa
University of Oregon
University of Pennsylvania Law School Library
University of San Diego
University of San Francisco
University of Texas at Austin Tarlton Law Library (TALLONS)
University of Virginia Law Library
Victoria University of Technology
Washington and Lee University
Wayne State College
Wellesley College
Williamette University
Williams College
Wright State University

Libraries using Libertas

Bristol University
Chalmers University of Technology
City of London Polytechnic
Cranfield Institute of Technology
Exeter University
Hogskolan Sundsvall/Harnosand
Karolinska Institute
Leeds Metropolitan University
Leicester University
London University Central Libertas Consortium
London University, British Library of Political & Economic Sci.
London University, Imperial College
London University, Kings College
London University, Queen Mary and Westfield College
London University, Royal Holloway & Bedford New College
London University, School of Oriental and African Studies
London University, University College
Nottingham University
Open University
Royal Institute of Technology, Stockholm
University College of Swansea
University of Hertfordshire
University of Iceland
University of London Serials Database
University of Plymouth
University of Wales, Aberyswyth
University of Wales College of Cardiff
University of the West of England
University of Westminster

Libraries using NOTIS

Auburn
Brigham Young University
California State University at Long Beach
City University of New York
Clemson University
Columbia University
Cornell
DALNET (Detroit Area Library Network)
Eastern Michigan University
Florida State University System
Indiana University
Iowa State University
Johns Hopkins University
Kansas State University
Kent State University
Loyola University
McGill University
McMaster University
Michigan State University
Michigan Technological University
Northeast Missouri State University
Northwestern University
Purdue
Queen's University
Rice University
Southern Methodist University
SUNY-Binghamton
SUNY-Stony Brook
Syracuse University
Texas A&M
University of Alabama
University of Buffalo
>US070> University of Delaware
University of Illinois at Chicago
University of Iowa
University of Michigan
University of Minnesota
University of Notre Dame
University of Oklahoma
University of Pennsylvania
University of Pittsburgh
University of Texas Arlington
University of Texas at Dallas
University of Toledo
University of Utah
University of Vermont
University of Victoria
University of Virginia
University of Windsor
Vanderbilt University
Virgina Commonwealth University
Washington University-St. Louis
Wayne State University
Wesleyan University

West Virginia University
Western Michigan University
York University

Libraries using PALS

Creighton University
Minnesota State University System
Monash University Library
OLLI: University System of Georgia On-Line
Library Information System
St. Boniface General Hospital Library
University of Alabama, Huntsville
University of Manitoba
University of Queensland
University of Wollongong

Libraries using UNICORN

Portland State University

Libraries using URICA

Australian National University
Bradford University
Southampton University
University of Bath
University of Canberra
University of Canterbury
University of Western Australia

Libraries using UTCAT

University of Texas Austin

Libraries using VTLS

Abo University
Finnish National Bibliography
Finnish National Library (HELKA)
Idaho State University
Joensuu University
Jyvaskyla University
Kuopio University
Lapin University
Lund University
New Mexico State University
Oulu University
Swedish Business University
Tampere University
Universitat Autonoma de Barcelona
University of Akron
University of Gothenburg
University of New England
University of North Texas
University of Uppsala
Vaasan University
Virginia Tech
Youngstown State University

Libraries using Z39.58

Dartmouth
Harvard University

Libraries using Geac Advance

San Francisco State University

Libraries using lnlex

Montanta State University

LS/2000 Sites

University of Utah, Eccles Health Sciences Library
University of Sunderland
University of Wisconsin - Eau Claire
University of Wisconsin - Green Bay
University of Wisconsin - La Crosse
University of Wisconsin - Oshkosh
University of Wisconsin - Parkside
University of Wisconsin - Platteville
University of Wisconsin - Stevens Point
University of Wisconsin - Stout
University of Wisconsin - Superior
University of Wisconsin - Whitewater

GvB Sites

University of North Carolina, Asheville

Multilis sites

Baylor University
Canada Centre for Mineral and Energy Technology
Laval University
Ontario Institute for Studies in Education
Universite de Sherbrooke
University of Massachusetts, Dartmouth

DOBIS/LIBIS sites

Chinese University of Hong Kong
Liverpool University
Oxford University
Rechenzentrum Der Universitaet Zuerich (University of Zurich)
University College Cork

CLSI sites

City University
Heriot-Watt University
Reading University
Waterways Online Library Facilities

OCLC sites

Essex University

Switzerland

CERN Scientific Information Service
Eidgonoessische Technische Hochschule Zuerich
Rechenzentrum Der Universitaet Zuerich
SIBIL: Swiss-French Network Catalogue
Zentralbibliothek Zurich

Eidgenoessiche Technische Hochschule Zuerich

(Swiss Federal Institute of Technology, Zurich)

TELNET ETHICS.ETHZ.CH or 129.132.1.22
At the enter terminal type prompt, enter VT100.
Hit RETURN twice.
Choose D for Deutsch (German) or F for French interface.

To exit, hit the TELNET escape key.

Zentralbibliothek Zurich

Telnet NUZ.UNIZH.CH or 130.60.64.5
Hit enter
At the # prompt enter call e100
Hit enter
If you do not get the following screen, type END then choose 1 for English version:

OPAC = GEAC

Wahlen Sie Ihre Sprache / Choose your language:

1. English
2. Deutsch

To exit, hit the Telnet escape key

Rechenzentrum Der Universitaet Zuerich

(University of Zurich)

TELNET NUZ.UNIZH.CH or 130.60.64.5
At the # prompt type tso
Enter terminal type: vt100
At Wahl der Applikation: enter 1
At COMMAND ==> enter dobis
Enter 4 to change language to English

OPAC = DOBIS

To exit, hit the Telnet escape key

SIBIL: Swiss-French Network Catalogue

```
Telnet SIBIL.SWITCH.CH or 130.59.108.11
At the ENTER 2-DIGIT TERMINAL TYPE OR "M" FOR MENU - type 02 for vt100
At the SIBIL logo press RETURN
At the MENU PRINCIPAL screen select 14 to change language
At the LANGUE DE TRAVAIL screen select 3 for English

To exit, hit the Telnet escape key

                                MAIN MENU

        SWISS-FRENCH NETWORK CATALOGUE

          1   Authors
          2   Corporate authors (associations, States, congresses etc.)
          5   Titles of works or of periodicals
          9   Subjects
         10   MeSH (Medical Subject Headings)
         11   Information, help, TELEPAC.
         12   Other searches in this catalogue
         13   SUISSE UNION CATALOGUE OF FOREIGN SERIALS (RP7/RPM)
         14   Travailler en francais/Deutsch abfragen/interrogare in italiano
```

CERN Scientific Information Service

```
TELNET VXLIB.CERN.CH or 128.141.201.44
Username: ALICE
Select 3 for vt100 emulation
Select 1 for library system

To exit, type STOP
```

Taiwan

Academia Sinica
National Taiwan University

National Taiwan University

TELNET 140.112.196.20
login: library

OPAC = INNOPAC

To exit, type Q

Academia Sinica

TELNET LAS.AS.EDU.TW or 140.109.4.14
login: library
Type v
Type y

OPAC = INNOPAC

To exit, type Q

TELNET tips

The Telnet protocol has been implemented on a variety of systems. Each is different, so specific commands depend on your version. However, all versions function similarly, so there are a few general guidelines to follow.

The one common element across the disparate environments of the Internet is the TCP/IP software protocol suite, the basis of communications.

Telnet, the terminal-handler portion of the TCP/IP protocol suite, is the cornerstone of this striking communications technology. Telnet handles the remote login to another Internet host, so it is useful to know something about the way it works.

Telnet operates in a client/server environment in which one host (the computer you are using, running Client (User) Telnet) negotiates opening a session on another computer (the remote host, running Server Telnet). During the behind-the-scenes negotiation process, the two computers agree on the parameters governing the session. One of the first things they settle is the terminal type to be used -- in general, a line-by-line network virtual terminal, for simplicity's sake. Virtual terminal, in this context, refers to a set of terminal characteristics and sequences that both sides of a network connection agree to use to transmit data from terminals across the network, regardless of the terminal used.

Finding Telnet Commands

Try typing "help" or "?" at the Telnet prompt to get a list of the commands available in your Telnet software.

Using Local versus Remote Commands

Once you have established a remote session, all commands you type will be sent to the Server Telnet on the remote host for execution.

If you want a Telnet command issued in the remote environment to be acted on locally by your client Telnet, on most systems you would normally precede the command with an escape sequence (a predetermined character or combination of characters that signal your Telnet software to execute the command that follows locally). For example, in NCSA Telnet for pc-compatible microcomputers, the F10 key is the escape character that alerts Telnet to execute locally the next command you type (to turn local echo on or off, or to toggle capture on or off, etc.).

The Telnet escape sequence by itself followed by [cr] returns you temporarily to your local operating environment. On UNIX systems, the escape sequence is usually the control key (CNTL) and left bracket ([) pressed simultaneously.

Logging On

TELNET [host]
   or

TELNET [cr] followed by OPEN [host] at the prompt.

The basic command set is simple. You also need to know either the machine domain name or the machine Internet address (a series of numbers). The numbers will always work; the names will work if they are in a software table available to your version of Telnet.

IBM systems that use TN3270 may require you to type a carriage return, "DIAL VTAM," or just "VTAM" in response to the first prompt from the remote system.

Logging Off

LOGOFF or LOGOUT (also try QUIT, END, EXIT, STOP, etc.)

CLOSE, prefixed by the escape sequence.

ABORT, prefixed by the escape sequence--use as a last resort!

To exit the remote system, first try that system's logoff command. To determine what the appropriate logoff command is, check the menus, help, and welcome screens when you first log on. Oftentimes, the logoff information is listed there but not always easy to retrieve later.

Logging off the remote system may return you to your primary operating environment (all the way out of Telnet), or you may be left in Telnet. If so, type "quit".

But some information systems have no graceful exit for remote users. In that case, you have two options --- CLOSE or ABORT.

CLOSE should be your next choice after LOGOFF. If you are unable to CLOSE the connection normally (e.g., if your remote session is hung), try the Telnet ABORT command to drop your connection locally.

ABORT will return control to you in your local environment, but it may not properly terminate your session on the remote machine. Since this can leave the port on the remote machine busy for an indefinite period even though you are no longer using it, ABORT should be used only as a last resort.

In either case, you can also try escaping back to your local environment and then issuing the termination commands. If one method doesn't work, try the other.

Other commands may allow you to control your communications environment. Investigate the help systems both in your local Telnet and on the remote system at the outset.

Using the BREAK Key

Don't be hasty with the Break key. Too many Breaks may cause your Telnet session to be dropped!

There is no standard BREAK key across versions of Telnet and in remote information systems. Telnet is based on the concept of a network virtual terminal, in which the control functions (breaks, etc.) are

communicated with characters regardless of terminal type (rather than line conditions, used in the terminal server environment). Your local Telnet receives your break and sends out a character sequence which is reinterpreted on the other end, hopefully as the break you intended.

Your Break may not always be understood by the remote system, so you should try HELP or ? when you begin (at the Telnet prompt) to determine what your version of Telnet uses as BREAK.

Tips: In UNIX, CNTL-C may work for BREAK. In the Mac environment, BREAK may be a click down menu option or a character combination. In NCSA Telnet (a popular PC version), BREAK is F10 followed by a lower case letter "b".

Using the Backspace Key

The backspace character may not be recognized by the remote system. Investigate in your local Telnet how to set an erasing backspace. Type ? at the Telnet prompt, or SET ? for a list of possibilities.

Adjusting the Settings to your Needs

Most Telnet programs have the ability to SET or TOGGLE many of these settings on and off. Erasable backspace, local echo, carriage return interpretation ([cr] or [cr][lf] -- i.e., carriage return or carriage return with line feed), and the escape character you use to return to the local environment are things that you can usually SET or TOGGLE at the Telnet prompt. Type ? and use Telnet's internal help system to change a setting.

Using Function Keys

Remember that special function keys are local implementations and have no significance in a remote session. Function keys such as INSERT, DELETE, ERASE END-OF-FIELD, PF, and PA keys may not be recognized in the remote environment. Even though function keys and control key combinations may have significance on the remote system, they may vary from those on your local system.

United Kingdom

Aberdeen University
Aston University
Bradford University
Brunel University
Cambridge University
City of London Polytechnic
City University
Cranfield Institute of Technology
De Montfort University
Dundee Institute of Technology
Durham University
Edinburgh University
Edinburgh University Online Information System
Essex University
Glasgow University
Heriot-Watt University
Hull University
Lancaster University
Leeds Metropolitan University
Leicester University
Liverpool University
London University Central Libertas Consortium
London University, British Library of Political and Economic Science
London University, Imperial College
London University, Kings College
London University, Queen Mary College
London University, Royal Holloway & Bedford New College
London University, School of Oriental and African Studies
London University, University College
Loughborough University
Manchester University
National Library of Wales
Nottingham University
Open University
Oxford Polytechnic
Oxford University
Queens University Belfast
Reading University
Royal Greenwich Observatory
Rutherford Appleton Laboratory
St Andrews University
Salford University
Sheffield University
South Bank Polytechnic
Southampton University
Staffordshire Polytechnic
Stirling University
Strathclyde University
Thames Polytechnic
University College of North Wales, Bangor
University College of Swansea
University of Bath
University of Birmingham
University of Bristol

University of Central England
University of Central Lancashire
University of Dundee
University of East Anglia
University of Essex
University of Hertfordshire
University of Kent
University of Leeds
University of London Serials Database
University of Manchester IST
University of Newcastle Upon Tyne
University of Plymouth
University of Sunderland
University of Surrey
University of Sussex
University of Teesside
University of Ulster
University of Wales, Aberystwyth
University of Wales College of Cardiff
University of Wales College of Medicine
University of the West of England
University of Westminster
University of York
Warwick University

Aberdeen University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.abdn.lib
At the Enter Selection prompt, enter 3

OPAC = DYNIX

To exit, choose option 9

University of Wales, Aberystwyth

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.aber.lib
Username: LIBRARY
Enter 1 as the terminal model

OPAC = LIBERTAS

To logout, type EXIT

Aston University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.aston.geac
Hit RETURN twice

OPAC = GEAC

To exit, type END

University College of North Wales, Bangor

TELNET SUN.NSF.AC.UK or 128.86.8.7
Logon: janet
Hostname: uk.ac.bangor.library
Enter 1 when prompted for language
Hit RETURN

OPAC = GEAC

To exit, type END

University of Bath

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.bath.lib

OPAC = URICA

To exit, select O then use the TELNET escape key

University of Birmingham

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.bham.lib

OPAC = BLCMP

To exit, type E on main menu

University of Bristol

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.bris.lib
Username: LIBRARY
Select 1 for VT100

OPAC = LIBERTAS

To exit, type EXIT

Brunel University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.brunel.lib

OPAC = BLCMP

To exit, type E

We have set up access to our OPAC from the Internet on a trial basis. (Our X.25 access via the Internet/JANET gateway at ULCC will continue to be available)

The address is : 134.83.128.140

The name (which is not currently working off-campus) will be:

lib.brunel.ac.uk or library.brunel.ac.uk

vt100 or televideo terminal emulation is desirable but not essential.

David Thomas
Systems Librarian
Brunel University Library
Uxbridge
Middlesex
UB8 3PH
United Kingdom

JANET Email: david.thomas@brunel.ac.uk

If you have any difficulty using this catalogue please contact us
by electronic mail to: library@uk.ac.brunel
or telephone: Uxbridge (0895) 74000 ext 2550 (Mon-Fri 9-5)
or write to: Brunel University Library, Uxbridge, Middlesex, UB8 3PH

Cambridge University

TELNET CAMBL.IXI.CH or 130.59.2.14

or

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.cam.ul
Enter Y

OPAC = CATS

To exit, type END

City of London Polytechnic

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.city-poly.tower-vax
At the Username prompt, enter LIBRARY
At the second Username prompt, enter LIBRARY again

OPAC = LIBERTAS

To exit, type EXIT

Cranfield Institute of Technology

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.cran.lib
Username: JANET
Enter 1 as terminal model

OPAC = LIBERTAS

To exit, type EXIT

Dundee Institute of Technology

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.dct.lib
Press RETURN
Login: library

OPAC = DYNIX

To exit, hit 9 on main menu

University of Dundee

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.dund.libb
Login: library

OPAC = DYNIX

To exit, type 8 on the menu

Durham University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.dur.library
Press RETURN

OPAC = GEAC

To exit, type E

University of East Anglia

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.uea.info
Username: INFO
```

OPAC = CATS

```
To exit, type EXIT

                UEA INFORMATION SYSTEM
                ----------------------
    CPC         ... UEA Computing Centre services.
    MEETINGS    ... UEA Newsletter Meetings Section.
    TELEPHONE   ... UEA Telephone directory.
    USERNAMES   ... UEA Electronic Mail Names.
    JANET       ... National JANET Addresses.
    XINFOS      ... External Information Systems.
    LIBGUIDE    ... UEA Library Guide to Services.
    OPAC        ... UEA Library Online Public Access Catalogue.
    STC         ... UEA Library Short-Title Catalogue.
    PERIODICALS ... UEA Library Periodicals.
    TRAVEL      ... Selected bus and train timetables.
    NOTES       ... Notes and Hints.
    COMMENTS    ... Leave a comment about INFO.
    EXIT        ... Exit from the information system.
```

Edinburgh University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.ed.geac
Press RETURN twice

OPAC = GEAC

To exit, type END

Edinburgh University Online Library Information System

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.ed.emas-a
At the user prompt, enter LIBRARY
At the pass prompt, type GUEST
Select 33 as the terminal type for VT100

To exit, type Q
```

University of Essex

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.sx.sersun1
Login: library
Enter VT100 as the terminal type

OPAC = OCLC

To logout, type QUIT

Glasgow University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.gla.lib

OPAC = GEAC

To exit, type END

Heriot-Watt University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.hw.lib

OPAC = CLSI

To exit, hit the TELNET escape key

Hull University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.hull.geac

OPAC = GEAC

To exit, type E

University of Kent

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.ukc.iris
Username: UKCLIB
Password: UKCLIB

OPAC = CATS

To exit, enter Q on main menu

Lancaster University

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.lancs.lib
Press RETURN

To exit, use the TELNET escape key
```

University of Leeds

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.leeds.lib

OPAC = GEAC

To exit, type E

Leicester University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.le.lib
Username: LIBRARY

OPAC = LIBERTAS

To exit, type END

Liverpool University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.liv.lib
When terminal type is requested, type VT100
When the screen clears, hit RETURN

OPAC = DOBIS/LIBIS

To logout: Enter E, select 5 off the menu

London University Central Libertas Consortium

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.lon.consull
Username: LIBRARY
Enter 1 for terminal model

OPAC = LIBERTAS

To exit, type EXIT

Member Libraries

Birkbeck College
Institute of Advanced Legal Studies
School of Slavonic and East European Studies
Institute of Commonwealth Studies
Royal Postgraduate Medical School
St. Georges Hospital Medical School
Institute of Classical Studies
Institute of Latin American Studies
Institute of Historical Research
Institute of Germanic Studies
Goldsmiths' College
Heythrop College
Institute of Education
Wye College
School of Pharmacy
Institute of Psychiatry
Institute of Neurology
Royal Veterinary College
Warburg Institute

Serials only:

Charing Cross & Westminster Medical School, the London Business School, the Depository Library and those BPMF libraries not listed above.

London University, British Library of Political and Economic Science

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.lse.blpes
Username: LIBRARY
When prompted for terminal model, enter 1
```

OPAC = LIBERTAS

```
To exit, type EXIT

         CATALOGUES OF OTHER LIBRARIES (Inter-LIBERTAS Access)

 1   BLPES     BLPES
 2   CONSUL    University of London Consortium
 3   ICLIB     Imperial College
 4   KCLIB     King's College, London
 5   QMWLIB    Queen Mary & Westfield College
 6   UCLIB     University College London
```

London University, Imperial College

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.ic.lib
Username: LIBRARY
When prompted for the terminal model, enter 1

OPAC = LIBERTAS

To logout, type EXIT

London University, Kings College

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.kcl.lib
At the Username prompt, enter LIBRARY

OPAC = LIBERTAS

To logout, type EXIT

London University, Queen Mary and Westfield College

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.qmw.lib
Username: LIBRARY
Enter 1 for terminal model
```

OPAC = LIBERTAS

```
To logout, type EXIT
```

London University, University College

TELNET LIB.UCL.AC.UK or 128.40.20.220
Username: LIBRARY
Enter 1 for vt100

or

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.ucl.lib
Username: LIBRARY
Enter 1 for vt100

OPAC = LIBERTAS

To exit, type EXIT

Loughborough University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.lut.lib

OPAC = BLCMP

To exit, type E

University of Newcastle Upon Tyne

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.ncl.langate
At Enter host-name prompt, type tuda
Login: netcat
Password: netcat

OPAC = CATS

To exit, type 9 on main menu

University of Westminster

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.wmin.lib
Username: LIBRARY
Enter 1 for vt100

OPAC = LIBERTAS

To exit, type EXIT

University of Plymouth

TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.plym.lib
Username: LIBRARY

OPAC = LIBERTAS

To exit, type EXIT

Queens University Belfast

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.qub.lib
Press RETURN

OPAC = BLCMP

To exit, use the TELNET escape key

Rutherford Appleton Laboratory

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.rl.ib
Select 24 as your page size
Enter LOGON LIB7 (LIB4, LIB5, or LIB8)
Enter password based on season.  For example, Sept-Nov 91 is AUTUMN91,
Dec-Feb 92 is WINTER91
Enter NO to continue.
Enter Y to enter the library system.

To exit, hit 12 on the main menu
```

St. Andrews University

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.st-and.lib
Press RETURN

To exit, type 9
```

Salford University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.salf.saiso
Press RETURN

OPAC = BLCMP

To exit, use the TELNET escape key

Sheffield University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.shef.lib

OPAC = BLCMP

To exit, select E on the main menu

South Bank Polytechnic

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.sbank.switch
Choose option G
After the "connected to port" message, press RETURN

OPAC = GEAC

To exit, type E

Stirling University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.stir.lib
At the Enter NRS host name prompt, enter library
At the login prompt, enter janet

OPAC = DYNIX

To exit, type 11 on main menu

Strathclyde University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.strath.lib

OPAC = GEAC

To exit, type END

University of Surrey

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.surr
Login: library
Password: surrey
Type vt100 at the TERM = prompt

To exit: hit X on the main menu
```

University of Sussex

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.susx.lib

OPAC = GEAC

To exit, use the TELNET escape key

University College of Swansea

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.swan.libvax
Username: LIBRARY
OPAC = LIBERTAS

To exit, type EXIT

University of Manchester

Institute of Science and Technology

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.umist.cn.pa
Type LOGIN LIBRARY
Enter LIBRARY as the password
When asked for terminal type, enter VT
Press RETURN twice

To exit, type 9

University of Wales College of Cardiff

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.cf.liby
Username: LIBRARY
Enter 1 as the terminal model

OPAC = LIBERTAS

To exit, type EXIT

University of York

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.york.library
Select 1 for VT100
Enter Y
Press RETURN

OPAC = DYNIX

To exit, type 10

Warwick University

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.warwick.opac
After connection is established, press RETURN
```

OPAC = BLCMP

```
To exit, use the TELNET escape key
```

Thames Polytechnic

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.thames.lib
After connection is established, press RETURN
```

OPAC = BLCMP

```
To exit, hit the Telnet escape key
```

Manchester University

```
TELNET UTS.MCC.AC.UK or 130.88.200.3
Login:  mancat
At the > prompt, type mancatx

To exit, hit X

or

Telnet SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.man.cn.xb
At the Owens Class prompt, enter LIBRARY
When prompted for terminal type, type VT100

To exit, hit X
```

City University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.city.lib

OPAC = CLSI

To exit, use the TELNET escape key

De Montfort University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.leicp.opac

OPAC = BLCMP

To exit, type E

Nottingham University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.nott.lib
Username: LIBRARY
Select 1 for VT100 emulation

OPAC = LIBERTAS

To exit, type EXIT

Open University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.open.lib
Username: OULIBRARY

OPAC = LIBERTAS

To exit, type EXIT

Oxford University

TELNET LIBRARY.OX.AC.UK or 129.67.1.46
At Please enter terminal type: enter vt100

OPAC = DOBIS/LIBIS

To exit, type e

Reading University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.rdg.linnet
When connected press Control O twice

OPAC = CLSI

To exit, hit the Telnet escape key

Royal Greenwich Observatory

No OPAC at present

Southampton University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.soton.lib
At the login prompt, type library (lower case)

OPAC = URICA

To exit, type O at the main menu

Exeter University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.ex.lib
Username: LIBRARY
Enter 1 for VT100

OPAC = LIBERTAS

To exit, type EXIT

Leeds Metropolitan University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.lsply.lib
Username: LIBRARY
Select 1 for VT100

OPAC = LIBERTAS

To exit, type EXIT

London University, Royal Holloway and Bedford New College

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.rhbnc.lib
Username: LIBRARY
Enter 1 for VT100
```

OPAC = LIBERTAS

```
To exit, type EXIT
```

Oxford Polytechnic

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.oxpoly.lib

To exit, type E on the main menu
```

Staffordshire Polytechnic

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.staffs.lib

OPAC = GEAC

To exit, type BYE

University of Ulster

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.ulst.lib

To exit, type E
```

University of Wales College of Medicine

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.uwcm.lib
Type LOGIN OPAC
Select 1 for VT100

To exit, select L off the main menu
```

National Library of Wales

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.nat-lib-wales
At the LOGON prompt, enter ?
Select 5 for VT100.

To exit, select option 8
```

University of Hertfordshire

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.herts.libvax
Username: enter either HATFIELD, WALLHALL, or HERTFORD

For VT100, select 1 as your terminal model

OPAC = LIBERTAS

To exit, type EXIT

Bradford University

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.brad.lib
At the logon prompt,type LIBRARY
At the Screen Selection menu choose 4
At the Other options menu choose 1

OPAC = URICA

To exit, enter 7 at main menu

University of the West of England

TELNET SUN.NSF.AC.UK or 128.86.8.7
Login: janet
Hostname: uk.ac.brispoly.lib
At the Username prompt, type LIBRARY
Select 1 for vt100 terminal emulation

OPAC = LIBERTAS

To exit, type EXIT

University of Central England

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.uce.lib

To exit, type E on main menu
```

University of Central Lancashire

TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.lancsp.lib

OPAC = GEAC

To exit, type END

University of London Serials Database

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
Hostname: uk.ac.lon.flcs
Username: LIBRARY
Select 1 for vt100
```

OPAC = LIBERTAS

To exit, type EXIT

The University of London Union List of Serials contains details of the serials holdings of virually all the colleges, schools and institutes of the University of London. A complete list of these institutions, with addresses and telephone numbers, may be found on further information pages.

University of Sunderland

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.sundp.span
At SERVICE? enter library
```

OPAC = LS/2000

```
To exit, type /exit
```

University of Teesside

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.tees.lib
Type: login library
Password? library

To exit, type Q
```

London University, School of Oriental and African Studies

TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.lon.soas.lib
Username: LIBRARY
Select 1 for VT100

OPAC = LIBERTAS

To exit, type exit

United States

Consortia	
Other Libraries	
Law Libraries	
Medical Libraries	
Public/Community College Libraries	

United States Consortia

Abilene Library Consortium
Boston Library Consortium
Colorado Alliance of Research Libraries
DALNET (Detroit Area Library Network)
Florida State University System
ILLINET Online
KELLY: Regional Online Catalog for WESTNET
Maricopa Community Colleges
Nevada Academic Libraries Information System (NALIS)
OhioLink
OLLI: University System of Georgia On-Line Library Information System
Triangle Research Libraries
Tri-College Consortium
University of Maryland
Washington Research Library Consortium

Other United States Libraries

Abilene Christian University
Air Force Institute of Technology
Allegheny College
Alma College
Arizona State University
Auburn
Augusta College
Bates College
Baylor University
Beloit College
Boise State University
Boston University
Bowdoin College
Bowling Green State University
Brigham Young University
Brookhaven National Laboratory
Brown University
Bryn Mawr College
Bucknell University
Cal Poly State University
California Institute of Technology
California State University, Chico
California State University, Fresno
California State University, Hayward
California State University, Long Beach
California State University, Sacramento
California State University, San Marcos
Calvin College
Canisius College
Carleton College
Carnegie Mellon University
Case Western Reserve University
CATALYST
Central Michigan University
Central State University
Chadron State College
Citadel, the Military College of South Carolina
City University of New York
Claremont Colleges
Clemson University
Cleveland State University
Colby College
Colgate University
College of Charleston
College of Wooster
Columbia University
Connecticut College
Cornell
Creighton University
Dartmouth
Denison University
Desert Research Institute Libraries
Dickinson College
Dixie University

Drake University
Drew University
Duke University
Eastern Michigan University
Eastern Washington University
Emory University
Fairmont State College
Franklin and Marshall College
Georgia College
Georgia Southern University
Gettysburg College
Grinnell College
Guilford College
Hahnemann University
Hardin Simmons University
Hartwick College
Harvard University
Haverford College
Hofstra University
Idaho State University
Indiana University
Iowa State University
John Carroll University
Johns Hopkins University
Johns Hopkins University Applied Physics Lab
Kalamazoo College
Kansas State University
Kent State University
Kenyon College
Lafayette College
Lamar University
Lawrence University
Lehigh
Loyola University
Lunar and Planetary Institute
Marquette University
Massachusetts Institute of Technology
McMurry University
Memphis State University
Miami University Library
Michigan State University
Michigan Technological University
Middlebury College
Minnesota State University System
Mississippi State University
Montana State University
Nebraska State Colleges
New Mexico Highlands University
New Mexico State University
New York State Library
New York University
North Carolina State University
Northeast Missouri State University
Northwestern University
Norwich University / Vermont College
Oakland University
Oberlin College

Occidental College
OCLC
Ohio Northern University
Ohio State
Old Dominion University
Oregon State
Pennsylvania State
Peru State College
Portland State University
Princeton Manuscripts Catalog
Princeton University
Purdue
Research Libraries Information Network
Rensselaer Polytech Institute
Rice University
Rochester Institute of Technology
Rockefeller University
Rutgers University
Sam Houston State University
San Francisco State University
Shepherd College
Simmons College
Skidmore College
Smithsonian Institution
Snow College
Sonoma State University
Southern Methodist University
Southern Utah University
SouthWest Texas State University
St. Mary's University
St. Norbert College
Stanford University
SUNY-Albany
SUNY-Binghamton
SUNY-College at Buffalo
SUNY-College of Environmental Science and Forestry (via Syracuse)
SUNY-Stony Brook
Susquehanna University
Swarthmore College
Syracuse University
Texas A&M
Texas Christian University
Texas Woman's University
Thomas Jefferson University
Triangle Research Libraries (Duke, N.C.)
Trinity College
Tufts University
University of Akron
University of Alabama
University of Alabama, Huntsville
University of Arizona
University of Buffalo
University of California
University of California, Berkeley
University of California, Irvine
University of California, San Diego
University of California, San Francisco

University of California Northern Regional Library Facility
University of Chicago
University of Cincinnati
University of Colorado at Colorado Springs
University of Dayton
University of Delaware
University of Detroit
University of Georgia
University of Hawaii
University of Hawaii at Manoa
University of Houston
University of Illinois at Chicago
University of Illinois at Urbana/Champaign
University of Iowa
University of Kansas
University of Kentucky
University of Lowell
University of Maine System
University of Massachusetts, Boston
University of Massachusetts, Dartmouth
University of Miami
University of Michigan
University of Minnesota
University of Missouri at Columbia
University of Missouri at Rolla
University of Missouri at St Louis
University of Nebraska - Kearney
University of Nebraska - Lincoln
University of Nebraska - Omaha
University of Nevada, Las Vegas
University of Nevada, Reno
University of New Mexico
University of New Mexico General Library
University of North Carolina
University of North Carolina, Asheville
University of North Texas
University of Northern Iowa
University of Notre Dame
University of Oklahoma
University of Oregon
University of Pennsylvania
University of Pittsburgh
University of Puerto Rico
University of San Diego
University of San Francisco
University of Tennessee at Knoxville
University of Texas Arlington
University of Texas at Austin
University of Texas at Dallas
University of Texas-Pan American
University of Texas-Permian Basin
University of Toledo
University of Tulsa
University of Utah
University of Vermont
University of Virginia
University of Washington

University of Wisconsin
University of Wisconsin - Eau Claire
University of Wisconsin - Green Bay
University of Wisconsin - La Crosse
University of Wisconsin - Oshkosh
University of Wisconsin - Parkside
University of Wisconsin - Platteville
University of Wisconsin - Stevens Point
University of Wisconsin - Stout
University of Wisconsin - Superior
University of Wisconsin - Whitewater
U.S. Environmental Protection Agency
U.S. Military Academy
Valdosta State College
Vanderbilt University
Vermont State Colleges
Vermont State, Department of Libraries
Virginia Commonwealth University
Virgina Military Institute
Virginia Tech
Wake Forest University
Washington and Lee University
Washington State University
Washington University-St Louis
Waterways Online Library Facilities
Wayne State College
Wayne State University
Weber State University
Wellesley College
Wesleyan University
West Virginia University
Western Michigan University
Westminster College
Williamette University
Williams College
Wright State University
Yale University
Youngstown State University

United States Law Libraries

Columbia University Law Library
Fordham University Law School
Illinois Institute of Technology, Chicago Kent Law Library
New York University Law Library (JULIUS)
University of Michigan Law Library
University of New Mexico Law School
University of Pennsylvania Law School Library
University of Texas at Austin Tarlton Law Library (TALLONS)
University of Virginia Law Library

United States Medical Libraries

Audie L. Murphy Memorial Veterans' Administration Hospital
Georgetown University Medical Center
HSLC HealthNET (Health Sciences Information Network)
Medical College of Wisconsin
New York University, Ehrman Medical & Waldmann Dental Libraries
Northeastern Ohio Universities College of Medicine
Uniformed Services University of the Health Sciences
University of Alabama, Birmingham. Lister Hill Health Sciences
University of Medicine and Dentistry of New Jersey
University of Miami Medical Library
University of Nebraska Medical Center
University of Tennessee at Memphis Health Science Library
University of Texas Health Center at Tyler
University of Texas Health Science Center-San Antonio
University of Texas Medical Branch at Galveston
University of Texas Southwestern Medical Center
University of Utah, Eccles Health Sciences Library
University of Virginia Health Sciences Library
Washington University-St Louis, Medical Library

Public/Community College Libraries

Abilene Public Library
Cleveland Public Library
Community College of Southern Nevada
Detroit Public Library
New York Public Library
Northern Nevada Community College
Pima Community College
Truckee Meadows Community College
Utah Valley Community College
Western Nevada Community College

Auburn

TN3270 AUDUCACD.DUC.AUBURN.EDU or 131.204.2.13
Push {TAB} until the cursor is in the APPLICATION field
Type 01
Press {RETURN}

OPAC = NOTIS

To exit, hit the Telnet escape key

Boston University

TELNET BUPAC.BU.EDU or 128.197.130.100
login: library

OPAC=INNPOAC

To exit, type D

Brigham Young University

TN3270 LIB.BYU.EDU or 128.187.11.1
Userid: BYLINE
Enter e on the next screen

OPAC = NOTIS

To exit, use the TN3270 escape key

Brown University

TN3270 BROWNVM.BROWN.EDU or 128.148.128.40
At the BROWN logon screen: TAB to command field
Enter DIAL JOSIAH
TAB to the JOSIAH choice on the screen

To logoff:

Enter ESC 0.
Select option 4 from menu.
Enter ESC 3.
Enter CTRL-P 1.

Contact: Howard Pasternack BLIPS15@BROWNVM.BROWN.EDU

Cal Poly State University

```
TELNET LIBRARY.CALPOLY.EDU or 129.65.20.21
Login: polycat

To exit: hit CTRL-D.
```

California State University at Long Beach

TELNET COAST.LIB.CSULB.EDU or 134.139.50.1
Enter VT100 at ENTER TERMINAL TYPE prompt
Press RETURN a few times

OPAC = NOTIS

To exit, hit the TELNET escape key

CONTACT: Maria Sugranes msugran@calstate.bitnet

Carnegie Mellon University

TELNET CMULIBRARY.ANDREW.CMU.EDU or 128.2.232.60
Enter VT100 as terminal type
Press RETURN
Enter 1 at the menu

To exit, Type Q

Case Western Reserve University

TELNET CATALOG.CWRU.EDU or 129.22.138.1
login: library

OPAC = INNOPAC

To exit, type X

Clemson University

TN3270 CLEMSON.CLEMSON.EDU or 130.127.8.105
Choose option B on the menu
Push {RETURN}

OPAC = NOTIS

To exit, hit the TN3270 escape key

Contact: Richard Meyer rwmeyer@clemson.bitnet rwmeyer@clemson.clemson.edu

Cleveland Public Library

```
TELNET LIBRARY.CPL.ORG or 192.58.246.4
Select 1 on the menu
Select 1 on the next menu

To logoff:

Hit CTRL-Z
Select 5 on the menu
Select 5 on the menu
```

Colorado Alliance of Research Libraries

TELNET PAC.CARL.ORG or 192.54.81.128
When prompted for terminal type, enter 5 for VT100 emulation

To exit. type //exit

Member Libraries

Auraria University
Boulder Public Library
CC LINK Community Colleges
- Araphoe C.C.
- Front Range C.C.
- Lamar C.C.
- Morgan C.C.
- Otero Junior College
- Pikes Peak C.C.
- Pueblo C.C.
- Red Rocks C.C.
- Trinidad State Jr. College

Colorado Government Publications
Colorado Health Sciences Libraries
- Association of Operating Room Nurses
- C.U. Health Sciences Center
- Denver Medical Library
- Saint Joseph Hospital
- Swedish Medical Center

Colorado School of Mines
Colorado State Department of Education
Colorado State Publications
Colorado State University
Denver Public Library
Denver University
High Plains Regional Libraries
- Estes Park Public Library
- Fort Morgan Public Library
- Sterling Public Library

Luther College
MARMOT Library (Colorado Western Slopes)
Montegomery County (Rockville, MD)
Northeastern University
Northwest College
Pikes Peak Library (Colorado Springs)
Regis College/Teikyo Loretto University
University of Colorado at Boulder
University of Hawaii at Honolulu
University of Northern Colorado
University of Wyoming

Youngstown State University

TELNET LIBRARY.YSU.EDU or 192.55.234.14
At the DTC01 prompt, enter C LIB1
At the logon prompt, enter HELLO USER.CLAS01

OPAC = VTLS

To exit, hit the TELNET escape key

Bucknell University

```
TELNET QUARTZ.BUCKNELL.EDU or 134.82.1.48
At the Enter Class prompt, type library
Hit RETURN

To exit, hit the Telnet escape key
```

Sam Houston State University

TELNET LUB001.LAMAR.EDU or 140.158.128.2
Username: LIBRARY
Select 4 on the menu
Select 1 on the Remote menu

OPAC= DRA

To exit, hit CTRL-Z

Lamar University

TELNET LUB001.LAMAR.EDU or 140.158.128.2
Username: LIBRARY
On the menu, choose option 1

To exit:

Type QUIT
Select 0 on the menu

SouthWest Texas State University

TELNET 147.26.10.11 through 147.26.10.15
Usernam: SWTLIBRARY

OPAC = DRA

To exit, hit CTRL-Z

Mississippi State University

```
TELNET LIBSERV.MSSTATE.EDU or 130.18.248.1
Login: msu
Password: library
Select 2 for the catalog

To exit, hit 6 on the main menu
```

University of Texas Medical Branch at Galveston

Moody Medical Library Automated Catalog

TELNET IBM.GAL.UTEXAS.EDU or 129.109.1.12
Enter 0 for VT100
Type 3 at the enter code prompt
Hit return at the function code

To exit, hit the TELNET escape key

Southern Utah University

TELNET LIB.LI.SUU.EDU or 134.250.60.2
Login: public
Enter 1 for VT100
When asked if the screen was readable, type y

OPAC = DYNIX

To exit, hit 8

Utah Valley Community College

TELNET UVLIB.UVCC.EDU or 192.107.180.131
Login: opub
Enter 3 for VT100
When asked if screen was readable, type y

OPAC = DYNIX

To exit, hit the TELNET escape key

Washington State University and Eastern Washington University

```
TELNET JAGUAR.CSC.WSU.EDU or 134.121.1.3
Username: COUGALOG

To exit, hit the Telnet escape key

or

TN3270 WSUVM1.CSC.WSU.EDU
Hit TAB twice
Type DIAL VTAM
Choose option COUGALOG

To exit, hit the TN3270 escape key
```

University of Puerto Rico

```
TELNET 136.145.2.10
Hit TAB twice
Type DIAL VTAM
Enter NOTIS
Press RETURN
On the blank screen, type LUUP

To exit, hit the TELNET escape key
```

University Of Lowell

Telnet LIBVAX.ULOWELL.EDU or 129.63.72.1
Username: LIBRARY

OPAC = DRA

To exit type BYE

University of Miami

TELNET STACKS.LIBRARY.MIAMI.EDU or 129.171.32.28
Login: library
Type v
Type y

OPAC = INNOPAC

To exit, type QUIT

Columbia University

TELNET COLUMBIANET.COLUMBIA.EDU or 128.59.40.154
Select 2 for library catalog

OPAC = NOTIS

Cornell

TN3270 CORNELLC.CIT.CORNELL.EDU or 128.253.1.19
When userid/password screen appears, press RETURN
When CP READ appears on the screen, type LIBRARY

OPAC = NOTIS

To exit, type X

Dartmouth

TELNET LIB.DARTMOUTH.EDU or 129.170.16.11
When prompted for terminal type, enter VT100

OPAC = Z39.58

To exit, type BYE

CONTACT: Katharina Klemperer kathy.klemperer@dartmouth.edu

Emory University

TN3270 EMUVM1.CC.EMORY.EDU or 128.140.1.4
Press RETURN
When CP READ appears, type DIAL VTAM
When VTAM screen appears, type LIB
When CICS screen appears, hit ESC and then 1

To exit, hit the TN3270 escape key

Contact: Selden S. Deemer libssd@emuvm1.cc.emory.edu

Florida State University System

TN3270 NERVM.NERDC.UFL.EDU or 128.227.212.10
Press RETURN
Type DIAL VTAM
On the NERDC VTAM IS ACTIVE screen, enter NERLUIS FCLSKYA

OPAC = NOTIS

To exit:

TYPE %OFF
When NERDC VTAM IS ACTIVE appears, enter UNDIAL

Contact: Mary Ann Garlough fclmag@nervm.nerdc.ufl.edu

Member Libraries

Florida A&M
Florida Atlantic
Florida State
Florida International
University of Central Florida
University of Florida
University of North Florida
University of South Florida
University of West Florida

U.S. Military Academy

Telnet LIBRARY.USMA.EDU or 129.29.198.1
Hit return to bring up main menu

OPAC = GEAC

To exit, hit the telnet escape key

Central Michigan University

```
Telnet HME4.MERIT.EDU or 35.1.48.150
Which Host? cmu-ib
At the ENTER TERMINAL TYPE: enter vt100
For the CENTRA online catalog select G from the menu

To exit, hit the telnet escape key
```

University of Georgia and Georgia College

```
Telnet GSVMS2.CC.GASOU.EDU or 141.165.1.52
Username: info
Select 3 from menu
Enter vt100 for terminal type
Select L for library

or

TN3270 UGA.CC.UGA.EDU
Hit TAB twice
Type DIAL VTA on the command line
On the IBM Systems menu, type L
Hit RETURN on the next menu

To exit:

Type QUIT
On the IBM Systems menu, type X
```

Loyola University

TN3270 LIBRARY.LUC.EDU
Enter GUEST at the logonid prompt

OPAC = NOTIS

University of Northern Iowa

TELNET STARMASTER.UNI.EDU or 134.161.1.22
Enter 1 at the choose service prompt
Hit RETURN at one second intervals until it responds
Enter v for vt100
Enter y to confirm

OPAC = INNOPAC

To exit, enter D

University of Kentucky

```
TN3270 UKCC.UKY.EDU
Hit TAB twice to get to the command line
Enter DIAL VTAM
Enter L when prompted
Enter 4 for application
Press RETURN when prompted

To exit, hit the TN3270 escape key
```

Wellesley College

TELNET LUNA.WELLESLEY.EDU or 149.130.90.2
Login: library

OPAC = INNOPAC

To exit, type Q

DALNET

TELNET HME4.MERIT.EDU or 35.1.48.150
Which Host? WSUNET
At the WSUNET, type LUIS

or

TN3270 CMS.CC.WAYNE.EDU
Use TAB to move down to COMMAND line
At the COMMAND line, type DIAL VTAM
At the WSUNET menu, type LUIS

OPAC = NOTIS

To exit from tn3270, type LOGOFF. To exit from telnet, use the Telnet escape key

Member Libraries

DALNET is the Detroit Area Library Network. Members include Wayne State University, Oakland University, University of Detroit, Detroit Public Library, Oakland, Macomb, and Wayne County Community Colleges, Beaumont Royal Oak Hospital, Botsford Hospital, & Children's Hospital Libraries.

Williams College

TELNET LIBRARY.WILLIAMS.EDU or 137.165.4.10
Login: library

OPAC = INNOPAC

To exit, type Q

Harvard University

TELNET HOLLIS.HARVARD.EDU or 128.103.60.31
Press RETURN when Mitek Server screen appears
Type hollis on the Harvard Univ./Office for Information Technology screen

or

TN3270 HOLLIS.HARVARD.EDU or 128.103.60.31
Type hollis on the Harvard Univ./Office for Information Technology screen.

OP = Z39.58

To exit HOLLIS:

If you used TELNET, hit ESCAPE xx. If you used TN3270, then use the TN3270 escape key

Contact: library@harvarda.harvard.edu

Indiana University

TELNET IUIS.UCS.INDIANA.EDU or 129.79.2.203
Enter VT100 as the terminal type
Pick 4 on the menu

or

TN3270 IUIS3270.UCS.INDIANA.EDU or 129.79.210.200
Pick 4 on the menu

OPAC = NOTIS

To exit: Enter Q, Enter Q again

Kansas State University

TELNET TELNET.KSU.EDU or 129.130.1.10
Select destination as KSUVM
Enter VT100 at terminal type prompt
Type LYNX

or

TN3270 KSUVM.KSU.EDU or 129.130.1.1
Type LYNX

OPAC = NOTIS

To exit, type QUIT

Contact: Dan Scott dscott@ksuvm.ksu.edu

Kent State University

TELNET CATALYST.KENT.EDU or 131.123.1.9
Push {RETURN}
At the ENTER TERMINAL TYPE prompt, enter VT100
At the SELECT APPLICATION prompt, enter D
At the CICS screen, enter LUKS

OPAC = NOTIS

To exit, hit the TELNET escape key

Contact: Jeff Gatten jgatten@kentvm.bitnet

Lehigh

TELNET ASA.LIB.LEHIGH.EDU or 128.180.2.13

OPAC = GEAC

To exit, type END

Contact: ujluci@vax1.cc.lehigh.edu jp13@lehigh.bitnet

Michigan State University

TELNET MERIT-TELNET-GW.MSU.EDU or 35.8.2.56
At the Which Host? prompt, enter MAGIC
At the terminal id, enter VT100

or

TN3270 MAGIC.LIB.MSU.EDU or 35.8.2.99
At the VM370 screen, type DIAL MAGIC
At the Terminal Emulator screen, enter VT100

OPAC = NOTIS

To exit, use the TELNET or TN3270 escape key

CONTACT: Tom Albright 20676tea@msu.bitnet

New Mexico State University

TELNET LIBRARY.NMSU.EDU or 128.123.18.115
At the : prompt, type hello user.libr01
When asked for terminal type, enter 5
When asked for location code, enter 0100

OPAC = VTLS

To exit, enter /QUIT

New York University

TELNET BOBCAT.NYU.EDU or 128.122.138.2
Hit {RETURN}

OPAC = GEAC

To exit, type END

Contact: Diane Aquila, Systems Manager AQUILA@ACF1.NYU.EDU

Northwestern University

TELNET NUACVM.ACNS.NWU.EDU or 129.105.16.1
Enter 56 for VT100 when prompted for terminal type
TAB down to the COMMAND prompt
Type DIAL VTAM
When prompted for Application ID:, enter LUIS

OPAC = NOTIS

To exit:

Type STOP on the LUIS command line
On the University Computer Center menu, type EXIT

Old Dominion University

TELNET GEAC.LIB.ODU.EDU or 128.82.24.75

OPAC = GEAC

To exit: Type END or QUIT

Contact: Albert C. Liu HSW100U@ODUVM

Ohio State

```
TELNET LCS.US.OHIO-STATE.EDU or128.146.15.141
Choose 0 as your terminal type
Type HELP to see options

To exit, hit the TELNET escape key.

Contact: Susan Logan LOGAN@OHSTVMA
```

Oregon State

```
TELNET OASIS.KERR.ORST.EDU or 128.193.162.13
Login: oasis
Enter 1 for VT100 emulation

To exit, type 3 on main menu
```

Pennsylvania State

```
TELNET LIAS.PSU.EDU or 128.118.88.88
If you have terminal emulation problems, try typing TERMINAL VT100 at
the >>>prompt

To exit, hit the TELNET escape key
```

Princeton University

```
TELNET CATALOG.PRINCETON.EDU or 128.112.131.101
Type CALL 500 from # prompt

To exit, type LOGOFF.

Online Catalog help: fstcat@pucc.bitnet
```

Purdue

TN3270 LIB.CC.PURDUE.EDU or 128.210.9.8

OPAC = NOTIS

To exit, use the TN3270 escape key

CONTACT: Dan Ferrer dan@asterix.lib.purdue.edu

Rensselaer Polytechnic Institute

TELNET INFOTRAC.RPI.EDU or 128.113.43.199
On the "Welcome to InfoTrax" screen, type LIB
On the "Library Information" screen, type CAT

VT100 emulation required

To exit: Type STOP

Rice University

TN3270 LIBRARY.RICE.EDU or 128.42.73.2
When signon screen appears, hit TAB twice
On COMMAND ==> line, type DIAL LIBRIS
CTRL-Z to clear the screen

OPAC = NOTIS

To logoff, use the TN3270 escape key

Rutgers University

TELNET LIBRARY.RUTGERS.EDU or 128.6.241.3
Press {RETURN}

OPAC = GEAC

To exit, type END

University of Houston

Telnet UHOPAC.LIB.UH.EDU or 129.7.12.1

OPAC = GEAC

To exit, type END

SUNY-Binghamton

TN3270 BINGVMC.CC.BINGHAMTON.EDU or 128.226.1.4
Press TAB twice
At the COMMAND prompt, type DIAL VTAM
Enter ELIXIR
Press RETURN several times

OPAC = NOTIS

To exit, hit the TN3270 escape key

Texas A&M

TELNET VENUS.TAMU.EDU or 128.194.4.1
Username: VTAM
At the Texas A&M Statewide Network screen, type NOTIS
At the CICS screen, hit RETURN

or

TN3270 TAMVM1.TAMU.EDU 128.194.4.3
TAB down to Command prompt
Type DIAL VTAM
At the Texas A&M Statewide Network screen, type NOTIS
At the CICS screen, hit RETURN

OPAC = NOTIS

To exit, hit CTRL-Z

University of Texas-Pan American

TELNET PANAM2.PANAM.EDU or 129.113.1.3
Username: PACKEY

OPAC = DRA

To exit:

Hit CTRL-Z
At the main menu, enter QUIT

Triangle Research Libraries

TELNET LIBROT1.LIB.UNC.EDU or 128.109.181.2

To exit, use the TELNET escape key.

The Triangle Research Libraries include the libraries for Duke,
North Carolina State University, and University of North Carolina.

University of Virginia

TELNET UBLAN.ACC.VIRGINIA.EDU or 128.143.70.101
Press RETURN until the >> prompt appears
Type C VIRGO at the >> prompt
Enter VT100 at the terminal type prompt

OPAC = NOTIS

Note: You may need to hit the tab key to place the cursor on the command line.

To exit:

Use the STOP command or % to back out of menus
When you get the >> prompt, use the Telnet escape key

University of Washington

```
TELNET UWCAT.LIB.WASHINGTON.EDU
Hit KEYPAD ENTER to go to the next page

Note: You must use KEYPAD ENTER instead of RETURN for this system

To exit, hit the Telnet escape key
```

University of Texas-Permian Basin

TELNET PANAM2.PANAM.EDU or 129.113.1.3
This connects you to University of Texas-Pan American
At the Username prompt, enter PACKEY
At the main menu press 3 for Other Library Catalogs
Press 11 to connect

OPAC = DRA

To exit:

Hit CTRL-Z
Select option 6 on the main menu

The Following Options Are Currently Available:

1 = On-Line Catalogs For U.T. Permian Basin Library
2 = On-Line Catalog And Information Services For U.T. Austin
3 = On-Line Catalog And Information Services For
U.T. San Antonio Health Science Center Briscoe Library
4 = On-Line Catalog And Information Services For Texas A & M
5 = Help On Using The Various Catalogs
6 = Terminate This Session And Log Off

University of California and California State

```
TELNET MELVYL.UCOP.EDU or 31.1.0.1
When asked for terminal type, enter VT100
Press RETURN when prompted to
Type START LOOK for easy to use library system
- or -
Type START COM for command line library system

To exit:

Type END or STOP.
Type LOGOFF.

Contact: Clifford Lynch lynch@postgres.berkeley.edu
```

University of Texas Health Science Center-San Antonio

```
TELNET PANAM2.PANAM.EDU or 129.113.1.3
This connects you to University of Texas-Pan American
At the Username prompt, enter PACKEY
At the main menu press 3 for Other Library Catalogs
Press 10 to connect
At the Username Prompt, enter LIS
Select 1 from the menu

               BIOMEDICAL LIBRARY INFORMATION SYSTEM - UTHSCSA

     1   UTHSCSA, AMVAH, and UTHCT Library Catalogs
           (Books, Journals, Audiovisuals, Computer Software)
     2   miniMEDLINE
           (References to Articles from Selected Biomedical Journals)
     3   Drug Information (POISINDEX, DRUGDEX, etc.)
     4   NIH Information Sources (NIH Guide, Clinical Alerts, etc.)
     5   UTHSCSA Reserve Collection
     6   Library Hours/HELP
     7   Catalogs of Selected Libraries
     8   PlusNet 2 (MEDLINE and CINAHL)
```

University of California at Berkeley

TELNET GOPAC.BERKELEY.EDU or 128.32.159.19

To exit, type LOGOFF

CONTACT: Roy Tennant rtennant@library.berkeley.edu

University of Chicago

TELNET OLORIN.UCHICAGO.EDU or 128.135.12.95
At the ENTER CLASS prompt, type lib48
When CONNECTED appears on the screen, press RETURN

To exit, type LOGOUT

University of Delaware

TELNET DELCAT.UDEL.EDU or 128.175.13.6
Press RETURN
At TERMINAL TYPE prompt, type VT100
Press RETURN
Type NOTIS

OPAC = NOTIS

To exit, hit the TELNET escape key.

Contact: Stuart Glogoff epo27855@acsvm.acs.udel.edu

University of Hawaii at Manoa

University of Hawaii at Manoa requires a registration process. To use this system, send the following information to uhlib@uhccux.uhcc.hawaii.edu:

Your Name, Your Initials, Position/Title, Full Internet and/or BITNET electronic mail address(es), Campus/College, Dept. Address, and Dept. Phone Number.

Please allow at least 2 weeks for application processing. Your account and instructions will be emailed to you.

University of Illinois at Champaign/Urbana

TELNET GARCON.CSO.UIUC.EDU or 128.174.5.58
Enter LCS at the login prompt

or

Telnet GARCON.CSO.UIUC.EDU 620

To exit, type EXIT

CONTACT: Beth Sandore SANDORE@UIUCVMD.BITNET

University of Illinois at Chicago

TN3270 UICVM.UIC.EDU or 128.248.2.50
When signon screen appears, hit RETURN
Type DIAL PVM
Move the cursor on the first S of "S NOTIS" by using the TAB or arrow keys
Press RETURN

OPAC = NOTIS

To exit,

Type ####
Press CTRL-P 1

University of Iowa

TELNET OASIS.UIOWA.EDU or 128.255.254.2
Choose option 1 on the menu, OASIS
Choose LCAT on the Database selection menu

OPAC = NOTIS

To exit, type stop

University of Kansas

```
TELNET KUHUB.CC.UKANS.EDU or 129.237.1.10
Username: RELAY
At the SYSTEM? prompt, type OCAT
At the ENTER TERMINAL TYPE prompt, type VT100
On the CICS screen, type OCAT

To exit:

Type LOGOFF
Type Q

CONTACT: John S. Miller SP05@UKANVM
```

University of Maine System

TELNET URSUS.MAINE.EDU or 130.111.64.1
Login: ursus
Enter v for VT100
Enter y to confirm

OPAC = INNOPAC

To exit, type B

Libraries in the University of Maine System:

University of Maine
University of Southern Maine
University of Maine at Augusta
University of Maine at Farmington
University of Maine at Presque Isle
University of Maine at Fort Kent
University of Maine at Machias
University of Maine School of Law
Maine State Library
Maine State Law and Legislative Reference Library
Bangor Public Library

University of Maryland

```
TELNET VICTOR.UMD.EDU or 129.2.16.2
Select PAC from the Available Services Menu
Select 5 for VT100
Press RETURN twice

To exit, type //EXIT

---------------------- Library Catalogs of the UMS Campuses ------------------
   NOW AVAILABLE:
                                      12. Towson State Univ (TSU)
    2. UM Law Library (UMLL)          13. U of Baltimore (UB)
    3. UM Baltimore County (UMBC)     14. U of Baltimore Law (UBLL)
    4. UM College Park (UMCP)
    5. UM Eastern Shore (UMES)        FORTHCOMING CATALOGS:
    6. UM University College (UMUC)   (not currently available)
    7. Bowie State Univ (BSU)
    9. Coppin State College (CSC)      1. U of Maryland System (UMS)
   10. Frostburg State Univ (FSU)      8. Center for Environmental and
   11. Salisbury State Univ (SSU)         Estuarine Studies (CEES)
   ------------------------------------------------------------------------
                       15. Library & System News
   Other Databases:                  ***********************************
   16. UnCover (Article Access)      * This is a revised version of the *
   17. The CARL System (Colorado)    * new library catalog;             *
   18. Other Library Systems         * Expect continuing enhancements   *
                                     ***********************************
```

University of Massachusetts, Boston

```
TELNET LIBRA.CC.UMB.EDU or 192.12.26.143
Username: CATALOG
Select your terminal type, enter 1 for VT100

To exit, type EXIT, END, or QUIT
```

University of Michigan

TELNET HERMES.MERIT.EDU or 35.1.1.6
At the HOST? prompt, enter MIRLYN
At the terminal type prompt, type VT100
On the UofM screen, press RETURN

OPAC = NOTIS

To exit, hit the TELNET escape key

Contact: mirylninfo@vm.cc.umich.edu

University of Minnesota

TELNET LUMINA.LIB.UMN.EDU or 128.101.92.3
When prompted for terminal type, enter 0 for VT100 emulation
When prompted to do so, type PA
Select 1 at the Please indicate Your Menu Selection Here ===>

OPAC = NOTIS

To exit, hit the TELNET escape key

University of Missouri at Columbia

```
TN3270 UMCVMB.MISSOURI.EDU
TAB down to command prompt
Enter DIAL VTAM
Atthe VTAM LOGON prompt, enter LIBCICS

To exit:

Type #LOGOFF
When VTAM LOGON or UNDIAL appears on the screen, type UNDIAL
```

University of Missouri at Rolla

```
TN3270 UMRVMB.UMR.EDU or 131.151.1.1
Press {RETURN}
At the CP READ prompt, enter DIAL VTAM
Enter LUMIN
Press {RETURN}

To exit:

Type #LOGOFF
Enter /NET at the Enter Application Name prompt
Enter UNDIAL
```

University of Missouri at St. Louis

```
TN3270 UMSLVMA.UMSL.EDU
TAB down to COMMAND prompt
Enter DIAL VTAM
At the VTAM LOGON prompt, enter LIBCICS

To exit:

Type #LOGOFF
When VTAM LOGON appears, enter UNDIAL
```

University of Nebraska

TELNET UNLLIB.UNL.EDU or 129.93.16.1
Login: LIBRARY
Select V for type of terminal
Enter Y to confirm

OPAC = INNOPAC

To exit, enter D

Brookhaven National Laboratory

```
Telnet SUNTID.BNL.GOV or 130.199.129.69
Username: brookhaven
Select 1 from the main menu

To exit, type Q from the main menu

                                WELCOME TO
                                  INFORM
                    THE ELECTRONIC LIBRARY AT BROOKHAVEN

    BNL DATABASES                           INTERNET GATEWAY

    1.  LIBRARY CATALOGS                    A. STONY BROOK CATALOG
    2.  BNL REPORTS                         B. OTHER CATALOGS
    3.  JOURNAL SUBSCRIPTIONS ONSITE
    4.  CD-ROM PRODUCTS ONSITE
    5.  EAP OUTREACH PROGRAM AUDIO TAPES
    6.  NATIONAL NUCLEAR DATA CENTER
    7.  BNL WEEKLY CALENDARS

                    S - SUGGESTION/MESSAGE TID STAFF
                    T - TID SERVICES DIRECTORY
```

University of New Mexico

TELNET BOOTES.UNM.EDU or 129.24.8.2
Username: STUDENT1
At the terminal type prompt, type VT100
On the Main menu, choose option 3
On the Library menu, choose option 1

To exit:

Press CTRL-] C
Enter 0 on the Library menu
Enter 0 on the Main menu

Contact: Stephen Rollins srollins@bootes.unm.edu

University of North Texas

TELNET LIBRARY.UNT.EDU or 129.120.1.210
Type HELLO USER.LIB

OPAC = VTLS

To exit, type /QUIT

Contact: Billy Barron billy@vaxb.acs.unt.edu

University of Notre Dame

TELNET IRISHMVS.CC.ND.EDU or 129.74.4.5
At the ENTER COMMAND OR 'HELP': prompt, enter library

OPAC = NOTIS

To exit:

Type x
At the ENTER COMMAND OR 'HELP' prompt, type bye

University of Oregon

TELNET JANUS.UOREGON.EDU or 128.223.24.86
Press {RETURN} several times
Login: janus
When asked for terminal type, enter v
Enter y to confirm

OPAC = INNOPAC

To exit, type x

University of Pennsylvania

TELNET PENNLIB.UPENN.EDU or 128.91.200.32
Enter VT100 as terminal type

OPAC = NOTIS

To exit, hit the TELNET escape key

University of Pittsburgh

TELNET GATE.CIS.PITT.EDU or 130.49.1.252
At the Service: prompt, type PITTCAT
At the Select: prompt, type V100

OPAC = NOTIS

To exit, hit CTRL-\

University of Tennessee at Knoxville

TELNET LIBRARY.UTK.EDU or 128.169.202.177

OPAC = GEAC

To exit, type END

University of Tennessee at Memphis

Health Science Library

TELNET UTMEM1.UTMEM.EDU or 132.192.1.1
Username: HARVEY

To exit, just press RETURN on the main screen

Contact: Lois Bellamy lbellamy@utmem1.bitnet

University of Texas Arlington

TELNET ADMIN.UTA.EDU or 129.107.1.103
As soon as you are connected, hit RETURN
At the TERMINAL TYPE prompt, type VT100
At the VTAM selection menu, type NOTIS
At the CICS Logo Screen, press RETURN
On the next screen, type LUUT

OPAC = NOTIS

To exit, hit the Telnet escape key

University of Texas Austin

TELNET UTCAT.UTEXAS.EDU or 128.83.186.104
You will see a blank screen
Press RETURN once (more more if needed)
At the GO prompt press RETURN
At the ENTER TERMINAL TYPE prompt, enter vt100
Follow screen instructions

OPAC = UTCAT

University of Texas at Dallas

TELNET IBM.UTDALLAS.EDU or 129.110.102.1
At the TERMINAL TYPE: prompt, type VT10X
Hit ENTER to clear the login screen
Type library to enter the library computer system

or

TN3270 VM.UTDALLAS.EDU
Hit ENTER to clear the login screen
Type library to enter the library computer system

OPAC = NOTIS

To exit:

Type QUIT if using TN3270
Hit the TELNET escape key

Audie L. Murphy Memorial Veterans' Administration Hospital

TELNET PANAM2.PANAM.EDU or 129.113.1.3
This connects you to University of Texas-Pan American
At the Username prompt, enter PACKEY
At the main menu press 3 for Other Library Catalogs
Press 10 to connect.
At the Username Prompt, enter LIS
Select 1 from the menu
This brings up the main menu for the University of Texas Health Science Center-San Antonio
Select 1 from the menu
Select 0 from the Library Catalogs menu
Select 3 from the Change Locations menu

To exit,

Type EXIT
Press RETURN
Type QUIT

University of Texas Health Center at Tyler

TELNET PANAM2.PANAM.EDU or 129.113.1.3
This connects you to University of Texas-Pan American
At the Username prompt, enter PACKEY
At the main menu press 3 for Other Library Catalogs
Press 10 to connect.
At the Username Prompt, enter LIS
Select 1 from the menu
This brings up the main menu for the University of Texas Health Science Center-San Antonio
Select 1 from the menu
Select 0 from the Library Catalogs menu
Select 2 from the Change Locations menu

University of Toledo

1. TN3270 UOFT01.UTOLEDO.EDU or 131.183.1.2
2. Press RETURN on UT logo screen.
3. When "enter one of the following commands..." appears, enter DIAL MVS.
4. When "dialed to mvs ####" appears, enter UTMOST.

OPAC = NOTIS

To exit, type DISC.

FOR MORE INFORMATION, CONTACT:

Gary Klein
Business Librarian
FAC2813@UOFT01
(419) 537-2629 - voice
(419) 537-2726 - FAX

University of Utah

TN3270 LIB.UTAH.EDU or 128.110.124.1
Hit TAB to get to COMMAND line
At the COMMAND line, type DIAL UNIS

OPAC = NOTIS

To exit, hit the TELNET escape key

CONTACT: Kenneth Luker KLUKER@LIB.UTAH.EDU

University of Wisconsin

TELNET NLS.ADP.WISC.EDU or 128.104.198.20
Hit {RETURN} when prompted for terminal type
At the menu, TAB to the left of the NLS1 selection
Push {RETURN}
At the next prompt, just push {RETURN} for the Madison Catalog. For the Milwaukee catalog, type MIL and press {RETURN}

or

TN3270 BLUE.ADP.WISC.EDU or 128.104.198.10
At the menu, TAB to the left of the NLS1 selection
Push {RETURN}
At the next prompt, just push {RETURN} for the Madison Catalog. For the Milwaukee catalog, type MIL and press {RETURN}.

To exit:

Type EXIT.
At the menu, TAB to the left of the QUIT selection.
Push {RETURN}.

Contact: glshelp@vms.macc.wisc.edu

Vanderbilt University

TELNET CTRVAX.VANDERBILT.EDU or 129.59.1.21
Username: ACORN
Answer Y to the "are you ready to proceed?" question
Press RETURN when "SysAvl Appl" appears on the screen

OPAC = NOTIS

To exit, hit CTRL-Z

Contact: Ramona J. Steffey STEFFERJ@CTRVAX.VANDERBILT.EDU

Virginia Commonwealth University

TN3270 VCUVM1.UCC.VCU.EDU or 128.172.1.25
On the VM screen, TAB down to the Command prompt
Type DIAL VTAM
Enter L on the VTAM screen
Press ENTER when prompted to

OPAC = NOTIS

To exit:

Hit CTRL-Z
When the screen blanks, type LOGOFF
At the VTAM screen, type UNDIAL

Contact: Janet Woody BITNET: jwoody@vcuvax

Virginia Tech

TELNET VTLS.VT.EDU or 128.173.16.7
Hit {RETURN} once or twice

OPAC = VTLS

To exit, hit the TELNET escape key

CONTACT: Harry M. Kriz, KRIZ@VTVM1

Washington University-St. Louis

TELNET WUGATE.WUSTL.EDU or 128.252.120.1
Login: LUIS
Choose VT100 as the terminal type
On the menu, choose option 1

OPAC = NOTIS

To exit hit the TELNET escape key

Wayne State University

TELNET HME4.MERIT.EDU or 35.1.48.150
Which Host? WSUNET
At the WSUNET, type LUIS

or

TN3270 CMS.CC.WAYNE.EDU
Use TAB to move down to COMMAND line
At the COMMAND line, type DIAL VTAM
At the WSUNET menu, type LUIS

OPAC = NOTIS

To exit from tn3270, type LOGOFF. To exit from telnet, use the Telnet escape key

University of New Mexico General Library

TELNET LIBRARY.UNM.EDU or 129.24.14.143
login: library

OPAC = INNOPAC

To exit, type D

Research Libraries Information Network

TELNET RLIN.STANFORD.EDU for a full-duplex connection
TELNET RLG.STANFORD.EDU for a half-duplex connection

Note: You must have an account to use RLIN. Call (800) 537-RLIN or send e-mail to bl.ric@rlg.stanford.edu for more information

California State University at Fresno

```
TELNET CATICSUF.CSUFRESNO.EDU or 129.8.100.15
Login: public

To exit, type 0
```

City University of New York

TN3270 CUNYVM.CUNY.EDU
Press RETURN at the login screen
Type DIAL VTAM
Tab cursor to CUNYPLUS and press RETURN
Hit CTRL-Z (clear screen)
Type lucu

OPAC = NOTIS

To exit, hit the TN3270 escape key

Johns Hopkins University

TELNET JHUVM.HCF.JHU.EDU or 128.220.2.2
Enter 56 at the "Please enter your terminal id" prompt
Hit RETURN at the JHU/HAC logo screen
At the command prompt, type DIAL JANUS
When the port assignment appears in the upper left corner of the screen, press RETURN

OPAC = NOTIS

To exit, type ####

Marquette University

TELNET LIBUS.CSD.MU.EDU or 134.48.20.1
Login: m
Select v at the TERMINAL prompt
Confirm with y

OPAC = INNOPAC

To exit, select the Q option off the menu

Occidental College

TELNET KITTY.OXY.EDU or 134.69.1.10
Type OASYS at the ENTER RESOURCE NAME prompt
Login: oasys
Pick v as your terminal type
Enter y to confirm

OPAC = INNOPAC

To exit, type D

OCLC

TELNET EPIC.PROD.OCLC.ORG

You will need an authorization code to use OCLC

Southern Methodist University

TN3270 VM.CIS.SMU.EDU or 129.119.64.2
Hit TAB twice to get to the COMMAND line
Type DIAL VTAM
When the sign-on screen appears, enter PONI
On the CICS screen, press CTRL-Z (the clear key)
Enter lusm

OPAC =NOTIS

To exit, use the TN3270 escape key

University of Arizona

TELNET LIBRARY.ARIZONA.EDU or 128.196.228.10
To connect to INNOPAC, enter 'library' at "login:" prompt

OPAC = INNOPAC

To exit,at the main menu choose option: B

Innopac is the online catalog for the Science/Engineering Library and the Center for Creative Photography of the University of Arizona. It does not currently include holdings for the Main Library or other branches.

.....
GEAC is the circulation system for all the University Libraries. GEAC contains brief records, access is limited to author, title, or call number.

TELNET IDX.TELCOM.ARIZONA.EDU or 129.196.252.3
Press RETURN repeatedly until something happens
Type geac for the main circulation system

OPAC = GEAC

To exit, use the TELNET escape key

Contact: Cheech Calenti achilles@ccit.arizona.edu

University of Colorado at Colorado Springs

```
TELNET ARLO.COLORADO.EDU or 128.198.26.129
Login: ARLO
At the logo screen, hit RETURN

To exit:

Pick option 12 on the menu
Use the TELNET escape key
```

Wright State University

TELNET WSUOL2.WRIGHT.EDU or 130.108.120.23
login: library

OPAC = INNOPAC

To exit, type H

Iowa State University

TELNET ISN.IASTATE.EDU or 129.186.99.37
At the DIAL prompt, type LIB
At the ENTER TERMINAL TYPE prompt, type VT100
At the MVS welcome screen, type SCHOLAR

OPAC = NOTIS

To exit, on the SCHOLAR command line, type QUIT

University of Dayton

TELNET UDAPRL.OCA.UDAYTON.EDU or 131.238.1.14
At blank screen or the ! prompt , type LOGIN PUB
Password? type PUBLIC, press [return]
You will be asked to choose a terminal type, choose VT100
When you see the "Welcome to the University of Dayton" screen you will be able to access Help Screens by typing ? and pressing [return]

OPAC = DYNIX

To logoff, choose LOGOFF from the Main menu or type Q, and press [enter]

Northeastern Ohio Universities College of Medicine

TELNET SCOTTY.NEOUCOM.EDU or 140.220.1.2
The initial prompt will request you to login to the system
Enter the "neocat" login id and press the [RET] key
The system will request your terminal type and provide a NEOCAT main menu from which to choose
Once you've done that and pressed [return], it's self-explanatory

To exit, type the word "quit" at any prompt to get back to the NEOCAT main menu. Select item "4" from the NEOCAT main menu.

Oberlin College

TELNET OBIS.LIB.OBERLIN.EDU or 132.162.37.11
Use vt100 terminal emulation

OPAC = GEAC

To exit, type CONTROL-D at any prompt

Contact: Alan Boyd alanboyd@ocvaxc.cc.oberlin.edu

University of Akron

TELNET LIBRARY.UAKRON.EDU or 130.101.3.170
The initial system prompt (:) will request your response.
At the colon prompt, enter the "hello user.clas01" sign-on command followed by a carriage return.
At the prompt "Enter line number of the TERMINAL TYPE", the number 5 is the best first choice.
If the "Enter Location Code" prompt appears after the system banner, enter the "0100" code to access the BIERCE library online catalog.

Once you've done that and pressed [return], it's self-explanatory.

OPAC = VTLS

To exit, use the TELNET escape key

OLLI: the University System of

Georgia On-Line Library Information System

TELNET LIBRARY.GSU.EDU or 131.96.1.20

OPAC = PALS

To exit, type $$SOFF

Member libraries

Armstrong State College - Savannah
GST Law Library - Atlanta
Clayton State College - Morrow
Columbia Seminary - Decatur
DeKalb Col - Clarkston/Decatur/Dunwoody
Georgia College - Milledgeville
Georgia Southern Univ. - Statesboro
GST Instr Resource Ctr - Atlanta
North Georgia College - Dahlonega
Oglethorpe University - Atlanta
GST Pullen Library - Atlanta
Southern Tech - Marietta
Georgia Tech Gilbert Library - Atlanta
University of Georgia - Athens
West Georgia College - Carrollton

Libraries which are planned for addition to the University System of Georgia Union Catalog Project:

Agnes Scott College - Decatur	August 1992
Emory University: 5 Libraries - Atlanta	August 1992
State Dept of Archives & History - Atlanta	May 1992
Brunswick College - Brunswick	April 1992
Gainesville College - Gainesville	- Planned -
Augusta College - Augusta	- Planned -
Mercer Law Library - Macon	April 1992
U.S. Government Printing Office records	- Testing -
Georgia Southwestern College - Americus	- Planned -
Kennesaw State College - Marietta	April 1992
Macon College - Macon	- Planned -
Middle Georgia College - Cochran	- Planned -

Air Force Institute of Technology

TELNET SABRE.AFIT.AF.MIL or 129.92.1.10
USERNAME: AFITPAC
PASSWORD: LIBRARY

OPAC = DRA

To exit:

Hit CTRL-Z
Type QUIT

Bates College

TELNET LADD.BATES.EDU or 134.181.1.8
Enter v for VT100
Enter y to confirm

OPAC = INNOPAC

To exit, type D

Bowdoin College

TELNET LIBRARY.BOWDOIN.EDU or 139.140.1.2
Login: library
Enter v for VT100
Enter y to confirm

OPAC = INNOPAC

To exit, select D on the menu

Colby College

TELNET LIBRARY.COLBY.EDU or 137.146.1.4
Login: library

OPAC = INNOPAC

To exit, select X on the menu

Massachusetts Institute of Technology

TELNET LIBRARY.MIT.EDU or 18.84.1.12
Press RETURN
Enter /V
Press RETURN

OPAC = GEAC

To exit, hit the TELNET escape key

Princeton Manuscripts Catalog

```
TN3270 PUCC.PRINCETON.EDU
At the VM370 logo screen, hit RETURN
Type FOLIO
On the FOLIO welcome screen, hit RETURN
When the list of choices appear, choose 3

To exit, type LOGOFF
```

Rockefeller University

```
TELNET LIBRARY.ROCKEFELLER.EDU or 129.85.1.20
Login: library
At the TERM prompt, enter vt100

To exit, choose the menu option for exit
```

University of Buffalo

TELNET BISON.CC.BUFFALO.EDU or 128.205.2.22
At the terminal type prompt, enter VT100
Hit RETURN

OPAC = NOTIS

To exit, type BYE

University of Cincinnati

TELNET UCOLK3.OLK.UC.EDU or 129.137.108.5
login: uclid

OPAC = INNOPAC

To exit, type D

University of Hawaii

```
TELNET STARMASTER.UHCC.HAWAII.EDU or 128.171.7.8
At the Enter Class prompt, type LIB
At the terminal type menu, select 5 for VT100

To exit, type //EXIT
```

University of Virginia Law Library

TELNET UBLAN.VIRGINIA.EDU or 128.143.70.101
Press RETURN until >> prompt appears
Type CONNECT LAW at >> prompt
Enter v for VT100 terminal emulation
Enter y to confirm

OPAC = INNOPAC

To exit:

Enter D
At the >> prompt, enter QUIT

Yale University

```
Telnet 130.132.21.64 06520  or
Telnet umpg.ycc.yale.edu 6520 or
whatever connects you directly to the port number
At the terminal type prompt, enter VT100

or

TN3270 orbis.yale.edu
Press RETURN

To exit, use the TN3270 or TELNET escape key
```

Arizona State University

TELNET CARL.LIB.ASU.EDU or 129.219.10.8
At the destination prompt, enter CARL
Enter 5 for VT100
Press RETURN twice

To exit, type //EXIT twice

Maricopa Community Colleges (Libraries and Media Centers)

TELNET LIB.MARICOPA.EDU or 140.198.8.18
At the Username prompt enter LIB
At the "Which College?" prompt enter one of PC, GC, GW, MC, SC, RS, SM, CG, PV, EM, DO, or EXIT

To exit use CTRL/Z or hit the telnet escape key

Member Libraries

Chandler Gilbert Community College Center Library
Glendale Community College Library
Gateway Community College Library
Mesa Community College Library
Phoenix Community College Library
Paradise Valley Community College Library
Rio Salado Community College Library/Media Services
Scottsdale Community College Library
South Mountain Community College Library
Maricopa Center for Learning & Instruction

Portland State University

```
TELNET PSULIB.CC.PDX.EDU or 131.252.129.52
Login: DIALIN
At the enter terminal type, enter VT100

OPAC = UNICORN

To log off, hit End at the main menu or the Telnet escape key

To pick a new button, press TAB or button's first letter.
To begin using the library system, press RETURN or ENTER now.

HELP
BEGIN         END
--------------------------------------------------------------------------------
---
                     UNICORN COLLECTION MANAGEMENT SYSTEM

                       Portland State University Library
                         Unicorn is very simple to use.
                Above the line are buttons such as HELP and BEGIN.
    Simply select a button using the TAB key, then press RETURN or ENTER.
                  Or just type the first letter of a button.
          With some buttons you may also choose a number from a list
           using the up and down arrow keys or by typing the number.
  Every screen has helpful messages letting you know what the buttons can do.

To pick a new button, press TAB or button's first letter.
Enter a number from below, then press RETURN or ENTER.

HELP          GOBACK        STARTOVER
CHOOSE:1
--------------------------------------------------------------------------------
---
                          PUBLIC ACCESS CHOICES:


                           1) LIBRARY CATALOG
                           2) BULLETIN BOARD
                           3) RESERVE DESK
                           4) USER STATUS
                           5) SUGGESTION BOX

To pick a new button, press TAB or button's first letter.
Enter the number of the lookup you want to do, then press RETURN or ENTER.

HELP          GOBACK        STARTOVER
CHOOSE:1
--------------------------------------------------------------------------------
---
                          LOOKUP IN CATALOG BY:

                           1) WORDS OR PHRASE
                           2) AUTHOR
                           3) TITLE
```

4) SUBJECT
5) AUTHOR WITH TITLE
6) OTHER COMBINATIONS
7) BROWSING

Tufts University

TELNET LIBRARY.TUFTS.EDU or 130.64.128.1
Username: TULIPS

OPAC = DRA

To exit:

Hit CTRL-Z
Type QUIT

University of Vermont

TELNET LUIS.UVM.EDU or 132.198.101.120
Hit RETURN
Enter VT100 as terminal type
Hit RETURN

OPAC = NOTIS

To exit, type QUIT

CATALYST

TELNET CATALYST.IDBSU.EDU or 132.178.18.2
Login: catalyst
Press RETURN
Select 4 for VT100 emulation

CATALYST is the combined library system for Boise State University and Idaho State University

To exit:

Type E until you get back to the main menu
Select Log Off (option 4)

Eastern Michigan University

TELNET HME4.MERIT.EDU or 35.1.48.150
Which Host? EMU-VAX
At the username prompt, enter NOTIS

You must use keypad enter instead of return on this system

OPAC = NOTIS

To exit, hit CTRL-Z

Georgetown University Medical Center

```
TELNET GUMEDLIB2.GEORGETOWN.EDU or 141.161.40.92
Login: medlib
Password: dahlgren
Enter netguest
Hit RETURN several times
Select option 1

To exit:

Press RETURN on the menu
Enter Q
```

Johns Hopkins University Applied Physics Lab

TELNET LIBRARY.JHUAPL.EDU or 128.244.192.4
Enter LIB at the APL Group ID prompt
Enter something appropriate at the institutional afflication prompt
At the terminal type prompt, hit RETURN

To exit, hit the TELNET escape key

Kalamazoo College

TELNET HME4.MERIT.EDU or 25.1.48.150
Which Host? KZOO-LIB

OPAC = INNOPAC

To exit, type H from the main menu

Michigan Technological University

TELNET HME4.MERIT.EDU or 35.1.48.150
Which Host? FOCUS
Press RETURN
Enter VT100 as terminal type
Press RETURN again

OPAC = NOTIS

To exit, use the telnet escape key

Minnesota State University System

TELNET MSUSGW.UMN.EDU or 128.101.63.10
At the "enter destination" prompt, enter PALS

OPAC = PALS

To exit, type EN

The PALS system contains information on many libraries including Austin Community College, Anoka-Ramsey Community College, Bemidji State University, Bethany Lutherian College/Seminary, Brainerd Community College, College of St. Scholastica, Concordia College in Moorhead, Fergus Falls Community College, Gustavus Adolphus College, Hibbing Community College, Itasca Community College, Inver Hills Community College, Fire Center, Lakewood Community College, Mankato State University, Minneapolis Community College, Minnesota Attorney General's Office, Minnesota Center for the Arts, Minnesota Dept of Health, Minnesota Dept of Human Services, Minnesota Dept of Jobs & Training, Minnesota Dept of Natural Resources, Minnesota Dept of Revenue, Minnesota Dept of Trade & Economic Development, Minnesota Dept of Transportation, Minnesota Historical Society, Minnesota Law Library, Minnesota Legislative Reference Library, Minnesota Office of Library Development and Services, Minnesota Planning Agency, Minnesota Pollution Control Agency, Mesabi Community College, Moorhead State University, Normandale Community College, North Dakota State University, North Hennepin Community College, Northland Community College, Rainy River Community College, Rochester Community College, Southwest State University, St. Mary's College of Winona, St. Olaf College, University of Minnesota Crookston, University of Minnesota Waseca, Vermilion Community, Willmar Community College, Winona State University, and Worthington Community College.

Rochester Institute of Technology

TELNET RITVAX.ISC.RIT.EDU or 129.21.200.5
Username: LIBRARY
Press RETURN
Type 1

OPAC = INNOPAC

To exit:

Type D
After the "connection closed" message, type 9

Texas Christian University

TELNET GAMMA.IS.TCU.EDU or 138.237.1.7
Username: TCUCAT

OPAC = DRA

To exit:

Hit CTRL-Z
Select option 6 (exit) off the menu

University of Wisconsin Superior

TELNET SAIL.UWSUPER.EDU or 137.81.1.2
At TERMINAL: VT100/ hit RETURN

OPAC = LS/2000

To quit, type /exit

Western Michigan University

TELNET HME4.MERIT.EDU or 35.1.48.150
Which Host? WMU-FINDER
Enter VT100 as terminal type
Select 1

OPAC = NOTIS

To exit:

Type X from the Finder menu
Type X again

University of Wisconsin - Green Bay

Telnet GBLS2K.UWGB.EDU or 143.200.128.32
At TERMINAL: VT100/ hit RETURN

OPAC = LS/2000

To quit, type /exit

New York Public Library

```
TELNET NYPLGATE.NYPL.ORG or 192.94.250.2
Login: nypl
Password: nypl

To exit, hit 4 on the main menu
```

Cleveland State University

TELNET VMCMS.CSUOHIO.EDU or 137.148.2.2
At Please enter your terminal id: enter 8
After the CSU logon screen is displayed enter SCHOLAR
Press ENTER

OPAC = NOTIS

To exit, hit the Telnet escape key

San Francisco State University

TELNET OPAC.SFSU.EDU or 130.212.18.200
Login: sfsu
At the Password: hit the enter key
At the dec vt100 (vt100) line hit the enter key

OPAC = GEAC ADVANCE

To exit:

Enter E
Select option 3

Miami University Library

TELNET WATSON.LIB.MUOHIO.EDU or 134.53.24.2
Login: library

Can also be reached via Wright State University

OPAC = INNOPAC

To exit type H on main menu

Stanford University

```
TELNET FORSYTHETN.STANFORD.EDU or 36.54.0.12
At the Account? prompt type    socrates
At the Type of terminal? prompt type   VT100

To exit type END
```

Texas Woman's University

TELNET TWU.THE.NET or 129.117.12.2
Username: IRIS

OPAC = GEAC

To exit, hit CTRL-\

Lunar and Planetary Institute

```
TELNET LPI.JSC.NASA.GOV or 146.154.14.11
Username: lpi
To access the catalog, select "Information & Research Services" from the
Main Menu. Then "Card Catalogs" from the CIRS Information Menu

To exit, select Exit & Logout from the Main Menu

   L U N A R  &  P L A N E T A R Y  I N S T I T U T E  M A I N  M E N U
    General Information
    Information & Research Services
    Lunar & Planetary Bibliography
    Image Retrieval & Processing System (IRPS)
    ?????
    Help
    Exit & Logout


                C I R S  I N F O R M A T I O N  M E N U

                 General Information
                 Serial Holdings
                 Latest Arrivals
                 Card Catalogs
                 Special Indexes
                 Requests
                 ???
                 Help
                 Exit (return to main menu)
```

University of Texas Southwestern Medical Center

```
TELNET LIBRARY.SWMED.UTEXAS.EDU or 129.112.7.1
Login: medskul
Password: library
Hit RETURN on the next menu
If the main menu looks wrong, hit CTRL-O

To exit, hit the TELNET escape key
```

Montana State University

TELNET CATALOG.LIB.MONTANA.EDU or 192.105.205.3
At the : prompt type hello msu.library

OPAC = INLEX

To exit, Type EX at any point

Montana State University is the state land grant institution with the largest library in the state. The collection is appropriate to a land grant curriculum and features collections in Montana history, Montana documents, and Yellowstone National Park.

Questions or technical difficulties can be referred to Steve Steckel
root@renne.lib.montana.edu

Carleton College

TELNET LIB1.CARLETON.EDU or 137.22.1.192
At the -> prompt, type START

Note: Sometimes when you first connect, you will get disconnected. If that happens, please just connect again

OPAC = Z39.58

To exit, type END

Contact: rmiller@carleton.edu

New York University

Ehrman Medical and Waldmann Dental Libraries

TELNET MCLIB0.MED.NYU.EDU or 128.122.135.70
Login: library

OPAC = INNOPAC

To exit, hit D on the main menu

Allows connections to JULIUS: the online catalog of the NYU Law Library

and BOBCAT: the online catalog of New York University

New York University Law Library (JULIUS)

(Current connection is made via New York University Ehrman Medical and Waldmann Dental Libraries' catalog)

TELNET MCLIB0.MED.NYU.EDU or 128.122.135.70
Login: library
Hit A on the main menu, then hit menu item 2

OPAC = INNOPAC

To exit, hit D on the main menu

```
                    Welcome to MEDCAT
              Catalog of NEW YORK UNIVERSITY'S
          Ehrman Medical and Waldmann Dental Libraries

                    N > NAME
                    T > TITLE
                    M > MeSH
                    W > KeyWORD
                    C > CALL NO
                    G > GOVT DOC #
                    R > RESERVE Lists
                    I > Library INFORMATION
                    A > Other Information Resources/NYU Libraries
                    D > Disconnect
               Choose one (N,T,M,W,C,G,R,I,A,D) : a
                    Connect to another system

                       1 > BOBCAT
                       2 > JULIUS
                       3 > Research Computing Resource
                       R > Return to previous screen
                       Choose one (1-3,R)  2

                     Welcome to JULIUS,
            the online catalog of the NYU Law Library.
      Please check the Card Catalog for materials before 1979.

    You may search for library materials by any of the following:
                       A > AUTHOR
                       T > TITLE
                       S > SUBJECT
                       W > WORDS
                       R > Search Reserve Lists
                       D > Disconnect
                       I > Library INFORMATION

                    Choose one (A,T,S,W,R,D,I) :
```

Washington Research Library Consortium

TN3270 GMUIBM.GMU.EDU
Type W at the Application Name prompt

To exit, hit the TN3270 escape key

WRLC includes American University, Catholic University of America, University of DC, Gallaudet University, George Mason University, George Washington University, Georgetown University, and Marymount University.

University of Medicine and Dentistry of New Jersey

Telnet LIBRARY.UMDNJ.EDU or 130.219.2.100
Username: LIBRARY
Turn on CAPS LOCK key
Select OC on the Main Menu
Select 0 to change locations

To exit, select QU on Main Menu

SUNY-Albany

TELNET LIBCAT.LIBRARY.ALBANY.EDU or 128.204.11.3
Press RETURN when connected

OPAC = GEAC

To exit, type END

University of Oklahoma

TN3270 UOKMVSA.BACKBONE.UOKNOR.EDU
Hit TAB three times
Enter olin on the application id line
Hit RETURN on the OLIN screen
At the enter selection prompt, enter A

OPAC = NOTIS

To exit:

Hit CTRL-Z
Enter X at the enter selection prompt

SUNY-Stony Brook

Telnet TID.BNL.GOV or 130.199.129.45
Username: Brookhaven
Select A from the main menu
Press RETURN
Press TAB twice
At the COMMAND ===> prompt, enter STARS
At the CICS screen hit RETURN

or

TN3270 CCVM>SUNYSB.EDU
Press TAB twice
At the COMMAND ===> prompt, enter STARS
At the CICS screen hit RETURN

To exit, hit the TN3270 escape key

OPAC = NOTIS

To exit STARS hit CTRL-C, then type QUIT
To exit BNL type Q from the main menu

St. Mary's University

TELNET VAX.STMARYTX.EDU or 192.83.250.1
Username: DYNIX
Password: CATALOG
Logon: DIALUP
At Enter Selection, pick 3 for VT100
When asked if screen was readable, type Y

OPAC = DYNIX

To exit:

Type SO to return to the main menu
Select 10 (Logoff) from the main menu
At the Logon Please prompt, hit CTRL-D

Columbia University Law Library

TELNET PEGASUS.LAW.COLUMBIA.EDU or 128.59.176.5
Login: pegasus
Enter v for vt100
Enter y to confirm

OPAC = INNOPAC

To exit, select J on the main menu

California State University at Chico

```
TELNET LIBCAT.CSUCHICO.EDU or 132.241.80.87
Login: libcat

To exit, hit the TELNET escape key
```

Dixie University

TELNET LIB.DIXIE.EDU or 144.38.12.2
Login: pub
At the Enter Selection prompt, enter 3
Type y when asked if screen is readable
Hit RETURN

OPAC = DYNIX

To exit, hit the telnet escape key

Sonoma State University

TELNET VAX.SONOMA.EDU or 130.157.2.3
Username: opac

To exit, select 6 on the main menu

University of Tulsa

```
TELNET VAX2.UTULSA.EDU or 129.244.1.34
Username: LIAS

To exit, type QUIT
```

Syracuse University and

SUNY College of Environmental Science & Forestry

TELNET ACSNET.SYR.EDU or 128.230.1.21
At the > prompt, type SUMMIT
At the Enter Terminal Type prompt, type VT100
At the Enter Summit prompt, type SUMMIT
Hit RETURN on the next screen

or

TN3270 SUVM.ACS.SYR.EDU
Hit TAB twice
On the COMMAND line, type DIAL VTAM
At the Enter Summit prompt, type SUMMIT
Hit RETURN on the next screen

OPAC = NOTIS

To exit:

Type LOGOFF.
Type UNDIAL.

University of Pennsylvania Law School Library

TELNET LOLA.LAW.UPENN.EDU or 128.91.26.1
Login: lola
Enter v for VT100
Enter y to confirm

OPAC = INNOPAC

To exit, type D on main menu

University of Michigan Law Library

TELNET LEXCALIBUR.LIB.LAW.UMICH.EDU or 141.211.220.2
Login: um-lex
Enter v for vt100
Enter y to confirm

OPAC = INNOPAC

To exit, type D at the main menu

Virginia Military Institute

Telnet VAX.VMI.EDU or 144.75.2.25
Username: LIBRARY

OPAC = DRA

To exit, type CTRL-Z

Contacts: Janet Holly (FLIHOLLY%FACULTY%VMI@ist.vmi.edu)
Alice H. Buchanan (AISBUCHANAN%IST%VMI@ist.vmi.edu)

Washington and Lee University

TELNET III.LIBRARY.WLU.EDU or 137.113.20.11
Login: library

OPAC = INNOPAC

To exit, enter D on the main menu

University of Alabama

TN3270 UA2MVS.UA.EDU
Logon as library
Hit RETURN on the next screen

OPAC = NOTIS

To exit, type EXIT

University of Wisconsin - Eau Claire

Telnet LIB.UWEC.EDU or 137.28.2.129
Press {RETURN}
At the TERMINAL: VT100/ prompt, press {RETURN}

OPAC = LS/2000

To exit, type /EXIT and press {RETURN} or hit the Telnet escape key

Lawrence University

TELNET LUCIA.LIB.LAWRENCE.EDU or 143.44.32.1
Username: LUNET

OPAC = DRA

To exit, type exit or CTRL-Z

Contact: Kathy Isaacson ISAACSOK@LAWRENCE.EDU

Colgate University

TELNET LIBRARY.COLGATE.EDU or 149.43.1.3
Login: library

OPAC = INNOPAC

To exit, type B on main menu

College of Wooster

TELNET WOOLIB.WOOSTER.EDU or 140.103.2.1
Login: library
Enter v for VT100
Enter y to confirm

OPAC = INNOPAC

To exit, type B on main menu

University of Utah

Eccles Health Sciences Library

TELNET ECCLES.MED.UTAH.EDU or 128.110.78.1
Username: GUEST
At the Kermit prompt, hit RETURN
At the Select Destination prompt, type CAT96 and hit RETURN
At the TERMINAL: VT100/ prompt, hit RETURN

OPAC = LS/2000

To exit, hit the Telnet escape key

University of San Diego

TELNET SALLY.ACUSD.EDU or 192.55.87.20
Login: library

OPAC = INNOPAC

To exit, type H on the main menu

University of North Carolina, Asheville

TELNET UNCAVX.UNCA.EDU or 152.18.1.1
Username: DHRAMSEY

OPAC = GvB

To exit, type 9 at the Main Menu

U.S. Environmental Protection Agency

EPA National Online Library System

TELNET EPAIBM.RTPNC.EPA.GOV or 134.67.208.25
Select 6 from first menu
Select 1 for EPA National Online Library System

THE NATIONAL CATALOG DATABASE

THE NATIONAL CATALOG DATABASE (NCAT) CONTAINS EPA REPORT BIBLIOGRAPHIC DATA AND ABSTRACTS EXTRACTED FROM NTIS (NATIONAL TECHNICAL INFORMATION SERVICE), AND CATALOG AND HOLDINGS INFORMATION FROM OCLC (ONLINE COMPUTER LIBRARY CENTER).

THE HAZARDOUS WASTE DATABASE

THE HAZARDOUS WASTE DATABASE (HAZW) IS A COPY OF THE DBASE HAZARDOUS WASTE COLLECTION THAT IS ADMINISTERED BY EPA HEADQUARTERS. THIS DATABASE CONTAINS REFERENCES TO KEY MATERIALS ON HAZARDOUS WASTE IN THE EPA LIBRARY NETWORK. BIBLIOGRAPHIC DESCRIPTIONS, KEYWORDS, ABSTRACTS, LOCATIONS AND OTHER INFORMATION ARE LISTED FOR BOOKS, EPA REPORTS, OFFICE OF SOLID WASTE AND AND EMERGENCY RESPONSE (OSWER) POLICY AND GUIDANCE DIRECTIVES, PERIODICALS AND COMMERCIAL DATABASES CONTAINING INFORMATION ON HAZARDOUS WASTE.

THE CLEAN LAKES DATABASE

THE CLEAN LAKES DATABASE (LAKE) IS A RESOURCE FOR OBTAINING INFORMATION CONCERNING LAKE MANAGEMENT PROTECTION, AND RESTORATION. THE DATABASE WAS INITIATED IN JANUARY 1988 IN ORDER TO PROVIDE INFORMATION DEALING WITH TOPICS SUCH AS RESTORATION TECHNIQUES, WATER QUALITY ASSESSMENT, LAKE PROBLEMS, MODELING, LAKE ECOLOGY, AND OTHER RELATED TOPICS. THE DATABASE IS MADE AVAILABLE TO ALL RESEARCHERS, EPA PERSONNEL, LAKE MANAGERS, AND STATE AND LOCAL GOVERNMENTS.

THE REGION I DATABASE

THE REGION I DATABASE (EHAL) CONTAINS THE HOLDINGS OF THE REGION I LIBRARY IN BOSTON, AND IS MAINTAINED BY REGION I LIBRARY PERSONNEL. (EHAL IS THE LIBRARY CODE FOR THE REGION I REGIONAL OFFICE.)

THE CHEMICAL COLLECTION SYSTETM

THE CHEMICAL COLLECTION SYSTEM (CHEM) CONTAINS CITATIONS FOR ITEMS RELATING TO CHEMICALS.

California State University at Hayward

Telnet LIBRARY.CSUHAYWARD.EDU or 134.154.30.10
Login: library

OPAC = INNOPAC

To exit, type D on the main menu

Gettysburg College

Telnet LIBCAT1.LIBRARY.GETTYSBURG.EDU or 138.234.100.2
Login: lib

OPAC = INNOPAC

To exit, type D on main menu

University of California, San Diego

Telnet LIBRARY.UCSD.EDU or 132.239.50.100
Login: library
Select V for VT100 terminal
Hit ENTER when The Library is highlighted
Hit ENTER on the Library menu screen

OPAC = INNOPAC

To exit:

Type Q on Library menu
Move cursor to QUIT and hit Enter

Williamette University

Telnet 192.82.120.34
Login: library

OPAC = INNOPAC

To exit, type H on the main menu

Drake University

Telnet LIB.DRAKE.EDU or 192.84.11.4
To search Cowles Library, type COWLES at username prompt
To search the Law Library, type LAWLIB at username prompt

OPAC = DRA

To exit, type Control-Z anytime

University of California, San Francisco

TELNET UCSFCAT.LIB.UCSF.EDU or 128.218.15.5
Login: ucsfcat
Enter v for VT100
Enter y to confirm

OPAC = INNOPAC

To exit, type D

Idaho State University

Telnet CSC.ISU.EDU or 134.50.254.3
Login: hello user.clas01

OPAC = VTLS

To exit, enter /QUIT

Contact: Janet Higgins at (208)236-2697

Washington University-St Louis

Medical Library

TELNET MCFTCP.WUSTL.EDU or 128.252.152.1
At the PLEASE ENTER DESTINATION CODE > prompt, type CATALOG

To exit, hit the Telnet escape key

WELCOME TO THE BACS ONLINE CATALOG

You will be using the online catalog of the Washington University Library and Biomedical Communications Center to look for books, journals and media. The collections of five Medical Center and two St. Louis hospitals as well as the St. Louis College of Pharmacy libraries are listed in BACS.

Member Libraries

The following libraries have their collections listed in the Online Catalog. Please select the location(s) whose collections are of interest to you. Enter ? for a descriptive list of locations or enter ALL for all locations. Separate locations by commas.

WASHINGTON UNIVERSITY MEDICAL CENTER LIBRARIES:
1=Washington University Medical Library--------(WUM0,WUM5)
2=Mallinckrodt Institute of Radiology Library--(RAD5)
3=St. Louis Children's Hospital Library--------(SCH0)
7=Jewish Hospital Medical Library--------------(JHM0)
8=Jewish Hospital School of Nursing Library----(JHN0)
9=Barnes College Library-----------------------(BHN0)

ST. LOUIS AREA MEDICAL CENTER LIBRARIES:
4=St. Mary's Health Center Library-------------(MAM0)
5=St. John's Mercy Medical Center Library------(SJC0)
6=St. Louis College of Pharmacy Library--------(SLP0)

Drew University

Telnet DREW.DREW.EDU or 192.107.39.1
Username: LIBRARY

OPAC = DRA

To exit type Control-Z

Contact person:
Searching: Jody Caldwell JCALDWEL@DREW.DREW.EDU
Technical: Scott Wood SWOOD1@DREW.DREW.EDU

Waterways Online Library Facilities

TELNET LIBRARY.WES.ARMY.MIL or 134.164.7.21
Login: guest
Password: wolflib

OPAC = CLSI

To exit, enter 4 on main menu

ILLINET Online

Telnet 128.174.5.58 625
At "Type the number of your terminal" prompt, type 5 for vt100
Enter B for ILLINET Online on the IO screen

To exit, type quit at any point

Contact: paul-gibbs@uiuc.edu

ILCSO Libraries

Library	Scope	Library	Scope
Aurora University	AR	Illinois State Library	SL
Barat College	BA	Illinois State University	IS
Bradley University	BR	Illinois Wesleyan University	IW
Catholic Theological Union	CT	Joliet Junior College	JO
Chicago State University	CS	Judson College	JU
Columbia College	CL	Kankakee Community College	KK
Concordia University	CN	Lake Forest College	LF
DePaul University	DP	McKendree College	MK
Eastern Illinois University	EA	Millikin University	ML
Elmhurst College	EL	National-Louis University	NL
Governors State University	GS	North Central College	NC
Ill. Benedictine College	IB	Northeastern Ill. University	NU
Ill. Institute of Technology	IT	Northern Illinois University	NI
Ill. Math and Science Academy	IM	Oakton Community College	OA
Roosevelt University	RU	Ctr. for Research Libraries	CRL
Rosary College	RO	Chicago Public Library	CPL
Saint Xavier College	SX	Northwestern University	NW
Sangamon State University	SS	University of Chicago	UOC
School of the Art Institute	SA	Research and Ref. Centers	RRC
So. Ill. Univ.-Carbondale	SC		
So. Ill. Univ.-Edwardsville	SE		
So. Ill. Univ.-Medical Ctr.	SM		
Triton College	TC		
Univ. of Illinois-Chicago	CC		
Univ. of Illinois-Medical	MC		
Univ. of Illinois-Urbana	UC		
Western Illinois University	WE		
Bur Oak Library System	BOLS	Lincoln Trail Library System	LTLS
Chicago Library System	CLS	North Suburban Library System	NSLS
Corn Belt Library System	CBLS	Northern Ill. Library System	NILS
Cumberland Trls Library Syst.	CTLS	River Bend Library System	RBLS
DuPage Library System	DLS	Rolling Prairie Library Syst.	RPLS
Great River Library System	GRLS	Shawnee Library System	SHLS
Ill. Valley Library System	IVLS	Starved Rock Library System	SRLS
Kaskaskia Library System	KLS	Suburban Library System	SLS
Lewis & Clark Library System	LCLS	Western Ill. Library System	WILS

University of Massachusetts, Dartmouth

Telnet LIBRARY.UMASSD.EDU or 134.88.120.61
Username: LIBRARY

OPAC = MULTILIS

To exit, hit the Telnet escape key

University of Wisconsin - Stout

Telnet LIB.UWSTOUT.EDU or 144.13.12.1
Accept vt100 terminal emulation
Select 1 for Catalog

OPAC = LS/2000

To exit, type //exit, then q

Claremont Colleges

Telnet BLAIS.CLAREMONT.EDU or 134.173.4.11
Login: library

OPAC = INNOPAC

To exit, type H on main menu

Wake Forest University

Telnet LIB.WFUNET.WFU.EDU or 128.109.87.1
Login: wake
Select vt100 terminal emulation

OPAC = DYNIX

To exit, type 9 on main menu

Contact: wake@lib.wfunet.wfu.edu

Georgia Southern University

Telnet GSVMS2.CC.GASOU.EDU or 141.165.1.52
Username: info
Select 1 for Henderson Library

OPAC = DRA

To quit, type EXIT

Also has links to the Union catalog of 16 Georgia libraries running at Georgia State University; the University of Georgia Library (GALIN); worldwide information services, running the Sonoma State software.

Contact: Ken Williams kenwms@gsvms2.cc.gasou.edu

John Carroll University

TELNET JCVAXC.JCU.EDU or 143.105.1.4
Username: JCU_OPAC
Password: grasselli

OPAC = DRA

To exit, type 6 on main menu

Valdosta State College

Odum Library

```
TELNET GRITS.VALDOSTA.PEACHNET.EDU or 131.144.8.206
login: guest
select DRAGON from the menu

                    Welcome to HYTELNET  version 6.0
            Valdosta State College Academic Computing Services

      Up/Down arrows move    Left/Right arrows select   q quits

                     Key-stroke commands     HELP
     Valdosta State College Odum Library     DRAGON
           University of Georgia Library     UGALIB
 University System Union Library Catalog     UNION
   Ga. Southern University Info Services     GASOU
       Internet Gopher (U. of Minnesota)     GOPHER
        Scholarly Electronic Conferences     AL000
                        What is HYTELNET?    WHATIS
                  Other Library catalogs     SITES1
                         Other resources     SITES2
                  Help files for catalogs    OP000
                        Internet Glossary    GLOSSARY
                Online Catalog interfaces    SYS000
                             Telnet tips     TELNET
                          ......................
                    HYTELNET 6.0 was written by Peter Scott,
       U of Saskatchewan Libraries, Saskatoon, Sask, Canada.  1992
   Unix and VMS software by Earl Fogel, Computing Services, U of S 1992

or for direct access:

TELNET 131.144.8.233
Username: LIBRARY
```

OPAC = DRA

To exit: enter EXIT at the prompt

Wesleyan University

Connecticut College and Trinity College

TELNET LIBRARY.WESLEYAN.EDU or 129.133.21.252
Type LUCT

OPAC = NOTIS

To exit, type STOP

Thomas Jefferson University

TELNET JEFLIN.TJU.EDU or 147.140.128.114
Username: JEFFLINE

To exit, hit E on the main menu.

Note: MEDLINE & CINAHL not available to remote users

MAIN MENU

1) Scott Library Catalog
2) Catalogs of Other Libraries
3) MEDLINE
4) CINAHL (Nursing and Allied Health)
5) Additional Databases and Services
6) Library News and Services (Updated 5/11/92)
7) NIH Clinical Alerts (Updated 3/9/92)
H) HELP
E) Exit

Hahnemann University

```
TELNET HAL.HAHNEMANN.EDU or 192.54.238.37
Username: HAL

To exit, type Q on main menu

Note: MEDLINE not available to remote users

                        CAT    HAL Online Catalog
                        MED    HAL-MEDLINE Database
                        HSLC   HSLC HealthNET(SM) System
                        CLIN   NIH Clinical Alerts
                        SMP    Set HAL-MEDLINE Password
                        HELP   HELP
                        Q      QUIT from HAL
```

HSLC HealthNET

Health Sciences Information Network

TELNET SHRSYS.HSLC.ORG or 192.100.94.3
Login: SALS

OPAC = DRA

To exit, type EX

The Shared Automated Library System, the online catalog of six health sciences institutions, contains the holdings of eight health sciences libraries:

College of Physicians of Philadelphia
    Library
Hershey Medical Center/Penn State University
    George T. Harrell Library
Medical College of Pennsylvania
    Eastern Pennsylvania Psychiatric Institute Library
    Florence A. Moore Library of Medicine
Philadelphia College of Osteopathic Medicine
    O.L. Snyder Memorial Library
Philadelphia College of Pharmacy and Science
    Joseph W. England Library
Temple University
    Dental/Allied Health/Pharmacy Library
    Health Sciences Center Library

New York State Library

```
TELNET NYSL.NYSED.GOV or 149.10.128.2
Login: library
Password: catalog2
When connected type  L1

To exit, type CTRL-X
```

University of Wisconsin - Platteville

TELNET LIB.UWPLATT.EDU or 137.104.128.44
At TERMINAL: VT100/ hit RETURN

OPAC = LS/2000

To quit, type /exit

Nebraska State Colleges

TELNET NSCS.UNL.EDU or 129.93.16.3
login: library

OPAC = INNOPAC

To exit, type H on main menu

University of Wisconsin - Oshkosh

TELNET POLK.CIS.UWOSH.EDU or 141.233.128.18
Hit RETURN
At CONNECTED TO, hit RETURN
At TERMINAL: enter VT100

OPAC = LS/2000

To exit, type /exit

University of Wisconsin - Parkside

TELNET LIBRARY.UWP.EDU or 131.210.1.5
Hit RETURN
At CONNECTED TO, hit RETURN
At TERMINAL: enter VT100

OPAC = LS/2000

To exit, type /exit

Northeast Missouri State University

TN3270 ACADEMIC.NEMOSTATE.EDU
TAB twice down to the COMMAND prompt
Type DIAL VTAM
Type A

OPAC = NOTIS

To exit:

Type STOP
Type UNDIAL

University of Wisconsin - Whitewater

TELNET LIB.UWW.EDU or 140.146.32.10
Hit RETURN
At CONNECTED TO, hit RETURN
At TERMINAL: enter VT100

OPAC = LS/2000

To exit, type /exit

Pima Community College

TELNET LIBCAT.PIMA.EDU OR 144.90.1.20
login: lib

OPAC = INNOPAC

To exit, type D

University of Nebraska Medical Center

TELNET LIBRARY.UNMC.EDU or 137.197.33.1

To exit, hit the Telnet escape key

University of Nebraska - Kearney

TELNET 144.216.1.5
login: library

OPAC = INNOPAC

To exit, type D on main menu

University of Nebraska - Omaha

TELNET GENISYS.UNOMAHA.EDU or 137.48.70.1
login: genisys

OPAC = INNOPAC

To exit, type D on main menu

University of Texas at Austin Tarlton Law Library (TALLONS)

TELNET TALLONS.LAW.UTEXAS.EDU or 128.83.212.10
login: library
Press v
Press y

OPAC = INNOPAC

To exit, type D on main menu

University of New Mexico Law School

TELNET LIBROS2.UNM.EDU or 129.24.14.107
login: library
Press v
Press y

OPAC = INNOPAC

To exit, type D on main menu

Boston Library Consortium

TELNET BLC.LRC.NORTHEASTERN.EDU or 129.10.62.50
Select BLC
Select 5 for VT100

Member Libraries

The Boston Library Consortium (BLC) is a cooperative association of academic and research libraries in the greater Boston area. Members are:

Boston College	State Library of Massachusetts
Boston Public Library	Tufts University
Boston University	University of Massachusetts/Amherst
Brandeis University	University of Massachusetts/Boston
Northeastern University	Wellesley College
Massachusetts Institute of Technology	

Developed by the Colorado Alliance of Research Libraries
Marketed and supported by CARL Systems, Inc.
Denver, Colorado

Franklin and Marshall College

TELNET LIBRARY.FANDM.EDU or 155.68.4.2
Username: LIBCAT

OPAC = DRA

Type Control/Z to exit LIBCAT

Baylor University

TELNET LIBRARY.BAYLOR.EDU or 129.62.1.1
Username: BAYLIS

OPAC=MULTILIS

KELLY: Regional Online Catalog for WESTNET

```
TELNET HME4.MERIT.EDU or 35.1.48.150
Which Host? wmu-finder
Select VT100
Select KELLY

The  KELLY  Regional Online Catalog is used to find and display:

      -Information held by the participating libraries of the
       West Michigan Information Network  (WESTNET)
      -The libraries owning the item
      -Call numbers for the item

  KELLY  is a regional online catalog for the following libraries:

_ ALLEGAN PUBLIC LIBRARY                  _ AUGUSTA/MCKAY LIBRARY
_ BERRIEN SPRINGS COMMUNITY                 AUGUSTA-ROSS TOWNSHIP
  LIBRARY                                 _ BORGESS HEALTH INFORMATION
_ BRIDGMAN PUBLIC LIBRARY                   LIBRARY
_ BUCHANAN PUBLIC LIBRARY                 _ BRONSON HOSPITAL HEALTH
_ CLIMAX/LAWRENCE MEMORIAL                  SCIENCES LIBRARY
  LIBRARY                                 _ CLIMAX-SCOTTS SCHOOLS
_ COMSTOCK TOWNSHIP LIBRARY               _ COLOMA PUBLIC LIBRARY
_ EAU CLAIRE DISTRICT LIBRARY             _ DOWAGIAC PUBLIC LIBRARY
_ GALESBURG MEMORIAL LIBRARY              _ GALIEN TOWNSHIP PUBLIC LIBRARY
_ GLEN OAKS COMMUNITY COLLEGE             _ GULL LAKE COMMUNITY SCHOOLS
_ HACKETT CATHOLIC CENTRAL                _ HARTFORD PUBLIC LIBRARY
  HIGH SCHOOL                             _ KALAMAZOO REGIONAL PSYCHIATRIC
_ KALAMAZOO CHRISTIAN HIGH                  HOSPITAL
  SCHOOL                                  _ LINCOLN TOWNSHIP PUBLIC
_ LAWTON PUBLIC LIBRARY                     LIBRARY
_ MARCELLUS/WOOD MEMORIAL LIBRARY         _ MATTAWAN CONSOLIDATED SCHOOLS
_ NEW BUFFALO PUBLIC LIBRARY              _ OTSEGO DISTRICT PUBLIC LIBRARY
_ PARCHMENT COMMUNITY LIBRARY             _ PARCHMENT PUBLIC SCHOOLS
_ PAW PAW DISTRICT LIBRARY                _ PAW PAW PUBLIC SCHOOLS
_ PLAINWELL/CHARLES A. RANSOM             _ PLAINWELL COMMUNITY SCHOOLS
  PUBLIC LIBRARY                          _ RICHLAND COMMUNITY LIBRARY
_ ST. JOSEPH/MAUD PRESTON PALENSKE        _ SODUS TOWNSHIP LIBRARY
  MEMORIAL LIBRARY                        _ SOUTH HAVEN MEMORIAL LIBRARY
_ SOUTH HAVEN PUBLIC SCHOOLS              _ SOUTHWESTERN MICHIGAN COLLEGE
_ STATE TECHNICAL INSTITUTE               _ STURGIS PUBLIC SCHOOLS
_ THREE OAKS TOWNSHIP LIBRARY             _ VICKSBURG COMMUNITY LIBRARY
_ W.E. UPJOHN INSTITUTE FOR               - VICKSBURG COMMUNITY SCHOOLS
  EMPLOYMENT RESEARCH                     _ WATERVLIET DISTRICT LIBRARY
```

Fordham University Law School

TELNET LAWPAC.FORDHAM.EDU or 150.108.2.22
login: lawpac
Type v

OPAC = INNOPAC

To exit, type Q

Denison University

TELNET DEWEY.LIBRARY.DENISON.EDU or 140.141.130.2
login: library

OPAC = INNOPAC

To exit, type D

Central State University

TELNET HALLIE.CES.EDU or 144.50.30.1
login: library

OPAC = INNOPAC

To exit, type Q

Allegheny College

TELNET ALLECAT.ALLEG.EDU or 141.195.5.180
login: library

OPAC = INNOPAC

To exit, type D

Bowling Green State University

TELNET ROBIN.BGSU.EDU or 129.1.3.2
login: library

OPAC = INNOPAC

To exit, type H

California Institute of Technology

TELNET LIBOPAC.CALTECH.EDU or 131.215.139.74
login: library

OPAC = INNOPAC

To exit, type Q

California State University - Sacramento

TELNET EUREKA.LIB.CSUS.EDU or 130.86.12.1
login: library

OPAC = INNOPAC

To exit, type G

Wayne State College

TELNET NSCS.UNL.EDU or 129.93.16.3
login: library

OPAC = INNOPAC

To exit, type H on main menu

Illinois Institute of Technology

Chicago Kent Law Library

TELNET CLARK.KENTLAW.EDU or 192.148.222.6
login: library

OPAC = INNOPAC

To exit, type D

Medical College of Wisconsin

TELNET ILS.LIB.MCW.EDU or 141.106.32.19
login: library

OPAC = INNOPAC

To exit, type Q

Ohio Northern University

TELNET POLAR.ONU.EDU or 140.228.25.1
login: library

OPAC = INNOPAC

To exit, type Q

Simmons College

TELNET LIB.SIMMONS.EDU or 134.140.112.9
login: library

OPAC = INNOPAC

To exit, type D

St. Norbert College

TELNET SNCLIB.SNC.EDU or 138.74.0.55
login: library

OPAC = INNOPAC

To exit, type Q

University of California - Irvine

TELNET ANTPAC.LIB.UCI.EDU or 128.200.33.2
login: library

OPAC = INNOPAC

To exit, type C

Canisius College

TELNET 138.92.8.41
login: cando

OPAC = INNOPAC

To exit, type D

Grinnell College

TELNET 132.161.10.60
login: library

OPAC = INNOPAC

To exit, type D

Hartwick College

TELNET 147.205.85.30
login: library

OPAC = INNOPAC

To exit, type D

Lafayette College

TELNET 139.147.42.4
login: library

OPAC = INNOPAC

To exit, type H

University of California

Northern Regional Library Facility

TELNET 128.48.48.14
login: library
Type V
Type Y

OPAC = INNOPAC

To exit, type D

About NRLF

The Northern Regional Library Facility (NRLF) is a cooperative library storage facility, the first of its kind in California. It is owned and operated by the University of California and is located on the grounds of UC Berkeley's Richmond Field Station. The 98,000 square foot main building was completed in 1982; an annex was completed in 1990. NRLF offers high-density, low cost housing for infrequently used library materials belonging to northern California libraries. At this time, depositors to NRLF are libraries on the University's Berkeley, Davis, San Francisco, and Santa Cruz campuses, and the California State Library. At the beginning of 1992, more than 2.8 million items were shelved at NRLF. To provide the best possible environment for the books, the stack area is climate controlled to maintain a constant temperature (60 F) and relative humidity (50%). Materials are stored in the stacks by four size classifications in the order in which they are received by the NRLF. As an additional space saving measure, books are placed two-deep on each shelf.

Tri-College Consortium

TELNET TRIPOD.BRYNMAWR.EDU or 130.58.85.10
login: library

OPAC = INNOPAC

To exit, type Q

Contains the holdings of Haverford College, Bryn Mawr College, and Swarthmore College

SUNY-College at Buffalo

TELNET SNYBUFVB.CS.SNYBUF.EDU or 136.183.10.3
login: library

OPAC = INNOPAC

To exit, type D

California State University - San Marcos

```
TELNET 144.37.1.4
login: library
Type V
Type Y
```

OPAC = INNOPAC

```
To exit, type D
```

Susquehanna University

TELNET BEN.SUSQU.EDU or 192.70.186.5
login: library

OPAC = INNOPAC

To exit, type D

University of Miami Medical Library

TELNET CALLCAT.MED.MIAMI.EDU or 129.171.78.1
login: library

OPAC = INNOPAC

To exit, type D

Uniformed Services University of the Health Sciences

TELNET 131.158.2.160
login: catalog
Type v
Type y

OPAC = INNOPAC

To exit, type D

OhioLink

TELNET OLC1.WRIGHT.EDU or 130.108.120.20
login: ostaff
Type v
Type y

OPAC = INNOPAC

To exit, type D

OhioLINK is a statewide library and information network of 15 state-assisted universities and several other institutions.

The main features of OhioLINK include:
* An online central database of the holdings of member libraries
* Online access to other research databases
* A document delivery service for books, periodical articles, and other materials

University of San Francisco

TELNET 138.202.29.1
login: library

OPAC = INNOPAC

To exit, type H

Bryn Mawr College

TELNET TRIPOD.BRYNMAWR.EDU or 130.58.85.10
login: library

OPAC = INNOPAC

To exit, type Q

Contains the holdings of Haverford College, Bryn Mawr College, and Swarthmore College

Swarthmore College

TELNET TRIPOD.BRYNMAWR.EDU or 130.58.85.10
login: library

OPAC = INNOPAC

To exit, type Q

Contains the holdings of Haverford College, Bryn Mawr College, and Swarthmore College

Haverford College

TELNET TRIPOD.BRYNMAWR.EDU or 130.58.85.10
login: library

OPAC = INNOPAC

To exit, type Q

Contains the holdings of Haverford College, Bryn Mawr College, and Swarthmore College

Peru State College

TELNET NSCS.UNL.EDU or 129.93.16.3
login: library

OPAC = INNOPAC

To exit, type H on main menu

Chadron State College

TELNET NSCS.UNL.EDU or 129.93.16.3
login: library

OPAC = INNOPAC

To exit, type H on main menu

Hofstra University

TELNET VAXA.HOFSTRA.EDU or 147.4.1.2
Username: LIBRARY
Select 1 for LEXICAT the library catalog

OPAC = DRA

To exit, type exit or Control-Z

University of Virginia Health Sciences Library

```
TELNET UBLAN.ACC.VIRGINIA.EDU or 128.143.70.101
>>connect health

To exit, hit RETURN on main menu
```

Nevada Academic Libraries Information System (NALIS)

TELNET LIBRARY.NEVADA.EDU or 131.216.1.82

OPAC = INNOPAC

To exit, type D on Main Menu

Gives access to:

Community College of Southern Nevada
Desert Research Institute Libraries
Northern Nevada Community College
Truckee Meadows Community College
University of Nevada, Las Vegas
University of Nevada, Reno Library
Western Nevada Community College

Abilene Library Consortium

TELNET ALCON.ACU.EDU or 150.252.19.2
Username: acupac

OPAC = DRA

To exit, type exit on main menu

Libraries represented:

Abilene Christian University - Abilene, Texas USA
City of Abilene Public Library System - Abilene, Texas USA
Hardin Simmons University - Abilene, Texas USA
McMurry University - Abilene, Texas USA

Citadel, the Military College of South Carolina.

TELNET CITADEL.EDU or 155.225.6.2
Username: INFO
Select Library from Main Menu

OPAC = DRA

To exit, type EXIT

Weber State University

TELNET LIB.WEBER.EDU or 137.190.1.101
login: pac
Select 2 for VT200

OPAC = DYNIX

To exit, type 12 on main menu

Skidmore College

TELNET LUCY.SKIDMORE.EDU or 141.222.1.2
login: pac
Select 3 for VT100
Type y

OPAC = DYNIX

To exit, type 13 on main menu, then type 'later'

Kenyon College

TELNET KCVAX2.KENYON.EDU or 138.28.1.4
Username: NISO
Select A from main menu

OPAC = DRA

To exit, hit the Telnet escape key

Snow College

TELNET LIB.SNOW.EDU or 144.17.2.2
login: public

OPAC = DYNIX

To exit, type 13 on main menu, then hist the Telnet escape key

Guilford College

TELNET PALS.GUILFORD.EDU or 128.109.78.6
Username: HEGEPAC

OPAC = DRA

To exit, type <EXIT

Middlebury College

TELNET LIB.MIDDLEBURY.EDU or 140.233.1.90
Username: LIB
Type 1 for main catalog

OPAC = DRA

To exit, type 0 on main menu

New Mexico Highlands University

TELNET VENUS.NMHU.EDU or 192.132.89.3
Username: ATLAS
Type 0 for catalog

OPAC = DRA

To exit catalog, type exit. To exit system, type Q on main menu

Augusta College

```
TELNET ACVAX.AC.EDU or 134.224.1.36
Username: ACPAC
Enter Terminal Type or press ENTER for VT320

OPAC = DRA
To exit, type <EXIT
```

Alma College

TELNET MARK.ALMA.EDU or 192.101.250.4
Username: DYNIXPAC

OPAC = DYNIX

To exit, type 12 on main menu, then hit the Telnet escape key

Westminster College

TELNET LIBR.WCSLC.EDU or 146.86.1.18
login: pac
Select 3 for VT100

OPAC = DYNIX

To exit, type 11 on main menu, then hit the Telnet escape key

University of Wisconsin - La Crosse

TELNET LIBRARY.ACS.UWLAX.EDU or 138.49.128.117
Type LIB
Wait for the connection to open, then hit the Telnet escape key
Type send brk
Type VT100

OPAC = LS/2000

To exit, type /exit, then hit the Telnet escape key

West Virginia University

TELNET E3270.WVNET.EDU or 129.71.1.31
ENTER TERMINAL TYPE: vt100
Hit ENTER at WVNet screen
Select Application 5 for catalog

OPAC = NOTIS

To exit, hit the Telnet escape key

University of Wisconsin - Stevens Point

TELNET LIB.UWSP.EDU or 143.236.1.35
login: lib
At vDIAL prompt, type library
Enter VT100 for terminal type

OPAC = LS2000

To exit, type /exit. At vDIAL prompt, hit CTRL-D

Smithsonian Institution

TELNET GANDALF.SI.EDU or 160.111.86.40
What service do you wish? sibis
Hit RETURN
Enter selection (or HLP for help): CA1

OPAC = GEAC

To exit, hit the Telnet escape key

Dickinson College

```
TELNET VAX.DICKINSON.EDU or 192.102.232.1
Username: AUTOCAT

To exit, type  quit at the Command> prompt
```

University of Alabama, Birmingham

Lister Hill Health Sciences Library

TELNET LHHOST2.LHL.UAB.EDU or 138.26.210.4
login:lpub

OPAC = DYNIX

To exit, type 5 on main menu, then hist the Telnet escape key

University of Alabama, Huntsville

TELNET LIBRARY.UAH.EDU or 146.229.1.23
At the > prompt, type HE for help

OPAC = PALS

To exit, hit the Telnet escape key

College of Charleston

TELNET LIBRARY.COFC.EDU or 153.9.11.11
Username: PATRON

OPAC = DRA

To exit, type <EXIT

Vermont State Colleges

```
TELNET LIB.MIDDLEBURY.EDU or 140.233.1.90
Username: LIB
Select 1 on main menu
Select d5 on Additional databases menu

                VERMONT STATE COLLEGES LIBRARY SYSTEM

Castleton State College
Vermont Technical College
Lyndon State College
Johnson State College
```

Norwich University / Vermont College

TELNET LIB.MIDDLEBURY.EDU or 140.233.1.90
Username: LIB
Select 1 on main menu
Select d6 on Additional databases menu

Norwich University Library, Northfield, Vt.
Vermont College, Montepelier, Vt.

Vermont State, Department of Libraries

```
TELNET LIB.MIDDLEBURY.EDU or 140.233.1.90
Username: LIB
Select 1 on main menu
Select d4 on Additional databases menu

                VERMONT STATE DEPARTMENT OF LIBRARIES

Montpelier
DOL Reference Unit
Northeast Regional Lib
Southeast Regional Lib
Northwest Regional Lib
Southwest Regional Lib
```

Beloit College

TELNET LIB.BELOIT.EDU or 144.89.85.1
Username: belcat

OPAC = DRA

To exit, type exit

Memphis State University

```
TELNET MSUVX1.MEMST.EDU or 141.225.1.2
Username: MSULBRY
After you see two lines beginning with a "%LAT", press RETURN for the
"Title?" prompt.
At "Title?" prompt, enter help

To exit, hit Control-D
```

Creighton University

TELNET OWL.CREIGHTON.EDU or 147.134.2.2
At TELNET: ENTER ATTACH COMMAND enter attach pals

OPAC = PALS

To exit, hit the Telnet escape key

Calvin College

TELNET L.CALVIN.EDU or 153.106.4.59
At the OK, prompt, type login pub
Select 5 for VT100

OPAC = DYNIX

To exit, select 12 on main menu

Wide Area Information Servers (WAIS)

American Mathematical Society SWAIS Preprints Demo
Finnish Academic and Research Network Project FUNET
NISSWAIS
NNSC.NSF.NET
Thinking Machines
University of North Carolina BBS

WAIS (Wide Area Information Server) at NNSC.NSF.NET

```
TELNET HUB.NNSC.NSF.NET
Username: wais

The screen-mode WAIS interface that I have been working on is now ready
for alpha testing.  I am aware of several outstanding problems, but am
looking for feedback on the general interface and interaction model at
this time.

The "swais" (simple wais) program currently supports:

   Selection of multiple sources for a query.
   Specification of keywords for query on screen.
   Itemization of resulting documents with attributes.
   Retrieval and display (via more) of any selection documents.
   Repeat current search specifying new keywords and/or sources.

It will soon support:

   Retreival of documents into a local file or to a filter program.
   Ability to select retrievied source descriptions in future queries.
   Scrolling source and document displays for >15 items.
Send any comments to jcurran@nnsc.nsf.net.
```

Wide Area Information Server at Thinking Machines

```
Telnet QUAKE.THINK.COM or 192.31.181.1
login: wais
Please type user identifier (optional, i.e user@host):
TERM = (unknown) vt100

The WAIS (Wide Area Information Service) system is a collection of
programs which provide for convenient information distribution over wide
area networks. Tools for both "publishing" and accessing information
sources are provided. The Simple WAIS (SWAIS) interface is a basic
access tool designed for those focused on data retreival and not
computer operation. It provides most of the functionality of the more
complicated interfaces but features a simple and potentially more
natural interface.  The functionality supported includes source
selection, keyword entry, and automatic document retrieval. I hope that
this tool may be of use.  Enjoy.

The WAIS system is the result of a joint project between Thinking
Machines, Apple Computer, and Dow Jones.  For more information on WAIS,
send mail to "wais-discussion@think.com".  The current release of the
WAIS software is available via anonymous ftp from think.com in
subdirectory wais.

Simple Wais 1.8 [built with WAIS release 8 b5]

John Curran (jcurran@nnsc.nsf.net)
```

WAIS on University of North Carolina BBS

```
TELNET SAMBA.ACS.UNC.EDU or 128.109.157.30
Login with bbs
Go to item 4 in main menu
```

Finnish Academic and Research Network Project FUNET

```
TELNET WAIS.FUNET.FI or 128.214.6.100
login: wais
```

American Mathematical Society SWAIS Preprints Demo

```
TELNET E-MATH.AMS.COM or 130.44.1.100
Login: waisdemo
Password: waisdemo

To illustrate WAIS technology, test databases with representative
material have been created for:

      o Duke University Preprint Abstracts
      o Los Alamos Laboratory Preprint Abstracts
      o Mathematical Reviews Abstracts
      o Current Mathematical Publications Citations
      o Kyoto Preprint Papers
      o University of Nebraska Press Catalog     [done for AAUP meeting
      o American Mathematical Society Catalog     but may be of general
                                                  interest]

If you have questions or experience difficulties, send electronic mail
to: support@e-math.ams.com
```

NISSWAIS

```
TELNET SUN.NSF.AC.UK or 128.86.8.7
login: janet
hostname: uk.ac.niss
Select G on main menu

             Trial service    Welcome to NISSWAIS     Trial service

NISS is making a substantial proportion of its information available
using WAIS (Wide Area Information Server). Some initial WAIS databases
include the NISS Bulletin Board, the CHEST Directory and the software
description files from HENSA. These will supplement, not replace, the
current NISS services. It is expected that other datasets will be made
available under the NISSWAIS service.

NISSWAIS               Information Sources Selection      No. of Sources:   6
No.     Source Name       Description

001: CHEST_Directory   Directory of commercial software, hardware and dataset
002: ESRC_Data         Directory to ESRC data archive holdings
003: HENSA_Micros      Index to the software archive holdings at Lancaster
004: ICL_Unix_SW       Directory of ICL Unix Software
005: IUSC_Documents    Reports and minutes from IUSC meetings
006: NISSBB            NISS Bulletin Board information in WAIS form
```

What is The Desktop Internet Reference?

The Desktop Internet Reference is a hypertext reference to
the Internet. Its eighteen thousand pages cover the
following topics:

 1) What is the Internet? How does it work?
 2) How can I get connected to the Internet?
 3) What resources are available? How can I find things?
 4) How do I use these resources?
 5) Where can I find more about these topics?

This reference is based on Peter Scott's Hytelnet, an
excellent DOS and UNIX reference to the Internet. Other documents
included are: The Hitchhikers Guide to the Internet
NSF's Internet Resource Guide, Zen and the Art of the Internet,
Introduction to the Internet: A Reading List, Putting your home
PC on the Internet, the Public Dialup Internet Access List,
The Totally Unofficial List of Internet Muds, High Weirdness
on the Internet, ARCHIE user commands, Individual access to the
Internet and a List of all known anonymous FTP sites. Each of
these documents is included here in its entirity, with all
original copyrights retained.

I feel that The Desktop Internet Reference is special
because it brings together a large number of useful
documents into a single cross-linked, easily accessed form.
I hope it will make the Internet more accessible to
the average computer user.

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-> It may be freely distributed without restiction. A duplication
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-> included here.

The latest version of the Desktop Internet Reference is available via
anonymous FTP at various sites worldwide. The FTP site "FTP.UWP.EDU"
always carries the latest version in the directory /pub/msdos/dir. Or,
send the author a check for $10 for the latest version on a 3.5"
MS-DOS disk.

The author wishes to solicit documents for inclusion in the next
version of The Desktop Internet Reference. The author would also
like to make versions of this program available for other computing
platforms. Please contact him if you are interested in helping.

If you have any questions about or suggestions for
The Desktop Internet Reference, you can contact the author at:

  John Buckman
  3520 Connecticut Ave, Apt 33
  Washington, DC 20008

jbuckman@aas.org

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INTERNET RESOURCE GUIDE

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BBN Systems and Technologies
10 Moulton Street
Cambridge, MA 02138

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November 11, 1992

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Introduction

The growth of National Science Foundation Network (NSFNET) in the last few years has brought the benefits of networking to researchers at hundreds of academic, government and industrial sites. Network users have improved access to research tools, and there are greater possibilities for collaboration among members of the research community. But in order to take maximum advantage of more widespread and improved connectivity, users have to be aware of the resources that are available to them.

When the NSF Network Service Center (NNSC) began to publish the "Internet Resource Guide" in 1989, our goal was to increase the visibility of the resources that are accessible via NSFNET and other parts of the Internet. We have depended on the population of resource providers on the Internet to furnish us with the information for the guide.

We have just finished an extensive update of many of the entries to the Internet Resource Guide. We hope that this new November 1992 edition of the printed version of the guide will inspire its readers, many of whom surely maintain resources we haven't yet mentioned, to submit descriptions of their resources for the guide.

If you wish to submit a new entry to the Internet Resource Guide, send a message to "resource-guide@nnsc.nsf.net", and we will send you a template and instructions for preparing your entry.

How to Use and Maintain This Guide...

Using the Guide...

The Internet Resource Guide is intended to help Internet users learn what services on the network are available to them.

Each service is listed in a separate section, which

describes the resource, explains who can use the resource, how the network is reached via the Internet and lists contacts for more information.

To assist users trying to find a particular type of resource, similar resources are grouped into chapters. For example, Chapter 1 lists all the special computing resources on the Internet, including supercomputer centers and centers for parallel computing. Thus, users interested in finding a supercomputer to work on can browse through the sections in Chapter 1, in search of a supercomputer center that can accomodate their needs. Users interested in locating a particular service can check the tables of contents at the start of each chapter.

The resource guide is indexed in WAIS (the Wide Area Information Server system), which can be accessed on quake.think.com, nnsc.nsf.net, and many other Internet host computers. Telnet to the host computer, and login as "wais".

Maintaining the Guide...

The resource guide is designed to be kept in a loose-leaf notebook, to make it easy to add or replace sections of text. Users can add new sections to their collection, or replace the existing sections, with updated entries. The guide is also designed to be stored on a host computer, with each section in a separate file.

The guide is distributed electronically by the NNSC. To get on one or more of the distribution lists for the guide, send a note to "resource-guide-request@nnsc.nsf.net".

- o + The "text" list receives a Text (ASCII) copy of each new or updated entry in an email message.

- o + The "PostScript" list receives a Postscript copy of each new o updated entry in an email message.

- o + The "ftp" list receives announcements of new or updated entries that are available for anonymous ftp on nnsc.nsf.net.

Please specify which list or lists you prefer. (The text in both the Text and PostScript versions is the same; the Postscript version is generally easier to read, but it cannot be read on-line or searched by computer, unless you have

a computer uses PostScript for its screen display.)

For More Information...

For more information about the Internet Resource Guide, including instructions for obtaining the guide by anonymous ftp, send a message to "info-server@nnsc.nsf.net", with the following text in the body of the message:

```
request: resource-guide
topic: overview
topic: readme
request: end
```

You will receive automatic replies by email.

Copyright Notice

The Internet Resource Guide is compiled by the NSF Network Service Center (nnsc@nnsc.nsf.net) at BBN Systems and Technologies from contributions by members of the networking community. This work is supported by a subcontract with the University Corporation for Atmospheric Research (UCAR), which operates under agreement with the National Science Foundation (NSF). The editors have made reasonable efforts to provide correct information, but neither UCAR, NSF, NNSC nor BBN is responsible for the accuracy of the listings in this guide. Copyright 1989, 1990, 1991, 1992 BBN Systems and Technologies.

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Chapter 1: Computational Resources

This section lists computational resources on the Internet. These are centers or particular machines that serve users with special computing requirements. A good example of such

a resource is a supercomputer center.

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The Air Force Supercomputer Center at Kirtland AFB, New Mexico (AFSCC-K)

_ A_ d_ d_ r_ e_ s_ s:
Air Force Supercomputer Center, Kirtland
User Services Group
General Atomics
AFWL/SCI
Kirtland AFB, NM 87117-6008

_ E-_ m_ a_ i_ l: consulting@ddnvx1.afwl.af.mil

_ P_ h_ o_ n_ e: (505) 844-0831, (AV) 244-0831

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Our mission at AFSCC-K is to support and promote the use of supercomputing throughout the Air Force. To this end, we will provide the most modern supercomputers and auxiliary computing equipment to our users, wherever they may be. Access to our computers is available either locally at Kirtland AFB or remotely, through high-speed data communication networks. In addition, we will provide training in supercomputing to users and potential users both at Kirtland and at remote sites.

Facilities at AFSCC-K include the following systems:

- o + Cray-2: 4 CPUS, each capable of 488 Mflops peak speed, 256 MW common memory, 24.4 GB of local disk space, CTSS operating system with UNIX utilities running under CTSS.

- o + Cray-1/S: 1 CPU capable of 160 Mflops peak speed, 4 MW memory, 4.8 GB local disk space, CTSS operating system

- o + Common File System (CFS): Controlled by dedicated IBM 4381 computers, it offers 120 GB of online disk storage and unlimited offline tape storage.

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- SEQUENT BALANCE 21000: 16 32-bit processors, 24 MB memory, 1 GB disk space, UNIX 4.2 operating system.

- Graphics Output Devices: the center has support for laser printers (240 dot per inch resolution) and high-resolution file output devices.

Network Access

The center is accessible via the Internet.

Who Can Use AFSCC-K

Any organization working under a government contract may use the computing facilities at AFSCC-K. The governmental organization overseeing the contract must provide the funding and management for the computer accounts. To establish an account, have your government project officer contact the Computer Accounting Branch of the Applications Division (SCPR) at the following address:

WL/SCPR
Kirtland AFB, NM 87117-6008
(505) 846-5354
(AV) 246-5354

Miscellaneous Information

Telephone consulting is available Monday through Friday from 0730 to 1700 Mountain time: (505) 844-0831, (AV) 244-0831. Multiple telephone lines help insure access to the consultants without delays.

Training programs both on and off-site are also available. Contact Mr. Roger Perkins at (505) 844-5722 or (AV) 244-5722 for more information.

Cornell Theory Center, Cornell National Supercomputer Facility

_ A_ d_ d_ r_ e_ s_ s:
Cornell University
Engineering and Theory Center Building
Ithaca, NY, USA 14853-3801

_ E_ m_ a_ i_ l: consult@eagle.tc.cornell.edu

_ P_ h_ o_ n_ e: (607) 254-8686

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Cornell Theory Center at Cornell University is one of four National Advanced Scientific Computing Centers supported by the National Science Foundation. The Theory Center's resources have been used by more than 5,000 researchers in fields as diverse as aerospace engineering, economics, and epidemiology. Its staff offers technical expertise in software, visualization, vectorization, and parallel processing to its users, and investigates new, highly parallel processing resources for the scientific community in order to increase the usability of these computers through systems development and through examination of techniques to improve performance. A variety of education and training programs are also offered to high school, undergraduate, and graduate students, and their professors.

The Theory Center, through its Cornell National Supercomputer Facility (CNSF), provides a world-class supercomputing environment that includes traditional vector-scalar supercomputing resources, in addition to scalable, parallel systems. Theory Center resources were recently upgraded to include a single six-way IBM ES/9000-900 supercomputer (with 2.66 Gflops peak aggregate performance, 9 Gbytes shared memory). An important feature for many users who now access 1 Gbyte of virtual memory is that each user process may access up to 2 Gbytes of virtual memory on the ES/9000. Parallel resources at the Theory Center include a 32-processor KSR1, the 32-processor Parallel Visualization Server (PVS) and a Scalable Cluster of RISC Systems. The

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dance with the copyright notice appearing at the front of this guide.

KSR1 is a scalable parallel system manufactured by Kendall Square Research and offers 1.28 Gflops peak aggregate performance, and a 1 Gbyte shared memory and 1000 Gbyte address space per processor.

The Theory Center is a national center of expertise for IBM's PVS and the visual programming interface Data Explorer (DX). The PVS is a parallel computer that implements DX across 32 processors using a large global memory, and performing up to 2.5 Gflops. This processing speed combined with the portable, user-friendly DX software allows an enormous range of performance levels with no change in function for the user. The same DX is available, for example, on the Center's Scalable Cluster of RISC Systems (SCRS), which consists of multiple RS/6000 workstations connected via high speed networking.

This RISC Cluster is being used for multiprocessing and parallel computing. The cluster presently consists of eight model 550s, each with at least 128Mb of memory and all running AFS (Andrew File System). PVM is available to affect a message- passing parallelism. For those with X-capable devices, the Center has a PVM workbench to facilitate use of the cluster. Express will also be available in the near future.

In addition to the production operating environments, full support for communications across the NSFNET is provided via TCP/IP. Interprocess communications, including remote logins, FTP file transfer, and X Window System, are supported. FORTRAN is the primary language, and is supported in scalar, vector, and parallel modes, with interactive debug and execution analysis. Scientific subroutine libraries are available, including vectorized and parallelized versions. Online HELP facilities, UNIX man pages, and a Cornell set of TUTOR examples assist users. Graphics software supports both local hardware and remote facilities. Several well-known application packages and a list of software are available upon request.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The Theory Center's resources can be reached via the Internet (supporting remote login, file transfer, electronic mail, and graphics). Users can access the CNSF via direct dialups: 607-255-4141 provides 300, 1200, and 2400 baud service; 607-254-5454 provides 9600 baud service.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ e_ n_ t_ e_ r

All proposals for time on the Theory Center's resources are subject to peer review through the Theory Center's National Allocations Committee; researchers must submit an application for supercomputer time directly to the Theory Center. Corporations interested in using the Theory Center through the Center's Corporate Research Institute may contact Linda Callahan at the address and phone number above.

[Discontinued] John von Neumann National Supercomputer Center

The John von Neumann National Supercomputer Center is no longer in operation.

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

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NCAR - National Center For Atmospheric Research

_ A_ d_ d_ r_ e_ s_ s:
Visitor/User Information
NCAR/Scientific Computing Division
P.O. Box 3000
Boulder, Colorado 80307-3000

_ E_ m_ a_ i_ l: scdinfo@ncar.ucar.edu

_ P_ h_ o_ n_ e: (303) 497-1225

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Scientific Computing Division (SCD) of the National Center for Atmospheric Research (NCAR) provides supercomputing resources and services that support research in the atmospheric, oceanographic, and related sciences. We emphasize facilities for the development and execution of large models and for the archival and manipulation of large datasets.

Computer Hardware

- o + CRAY Y-MP8/864 with 8 processors; CRAY Y-MP2D with 2 processors

- o + 64 Mwords of main memory for the Y-MP8, 16 Mwords for the Y-MP2

- o + 48 Mword maximum memory per job for batch; 16 Mwords for interactive

- o + 6.0-ns clock for both Crays; a measured peak rate of over 1 Gflops has been achieved with a multitasked ocean model

- o + Vector processing hardware for both Crays

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- o + 256 Mword SSD for Y-MP8 (1000 Mbyte/sec channel), 128 Mword SSD for Y-MP2

- o + 78 Gbytes of local storage for the Y-MP8, 20 Gbytes of local storage for the Y-MP2

- o + Unix front end

- o + NCAR Mass Storage System (MSS) is a hierarchical file storage system with no limit per user. The MSS has a 120 Gbyte disk farm and 115,000 IBM 3480/3490 cartridges. It features a StorageTek 4400 Automated Cartridge System capable of holding 6,000 cartridges, or a terabyte of information. Currently, MSS stores 29 terabytes of data. Extremely high data transfer to the Crays; accessible from front end

- o + Connection Machine 2 (8,000 processors and floating-point hardware)

- o + Gateway for NCAR's Internet Remote Job Entry System (IRJE). Allows users to create and submit Cray jobs from their local hosts connected to the Internet. Output is automatically shipped back to the remote host

Application Libraries

Application libraries and documentation are available via the Distributed Software Libraries (dsl) utility. To access dsl, telnet to dsl.ucar.edu and log in as dsl. When prompted for the password, type software.

ALFPACK	AMOSLIB*	ECMFFT	EDA
EISPACK	EISPKD	FISHPAK	FITPACK*
FUNPACK	IMSL*	CRAYFISH*	LINPACK
FFTPACK	MINPACK	MUDPACK*	NAG*
ODEPACK	SPHERE	SLATEC	SSDLIN
STARPAC*	NCARM	NCARO	

*Documentation only available for these libraries over the dsl utility.

Graphics

NCAR Graphics, Version 3.1

Training

- o + UNICOS Orientation Class: One-day class to introduce Unix/UNICOS programming tools and the NCAR computing environment.
- o + Unix Basics Class: Two-day introduction to the basics of Unix
- o + Remote site visits are granted to sites with a significant number of users
- o + User conference held every two years to update users on new developments and new directions in computing at NCAR
- o + Site liaison workshops held biennially: intensive, in-depth presentations on specific aspects of the NCAR computing facility
- o + NCAR Graphics on and off-site workshops and Fortran

optimization workshops

Collaborative Research

- o + Real-time computing during field programs
- o + Classroom grants of computer time
- o + Computer Hardware, Advanced Mathematics, and Model
- o + Model Evaluation Consortium for Climate Assessment (MECCA). MECCA is evaluating the reliability of current global climate simulation models.

Documentation

- o + Documentation available via anonymous FTP to ftp.ucar.edu. Listing is in /docs/README file.
- o + User Documentation Catalog containing references both to SCD-supported and vendor documentation. Available online via anonymous FTP to ftp.ucar.edu with the filename /docs/catalog/userdoc.catalog
- o + Online documentation available for most of the

utilities in the supported libraries via dsl

- o + Scientific Computing Division (SCD) hardcopy documentation available free except for the Graphics manual
- o + NCAR UNICOS Primer: contains necessary basic information to begin computing at NCAR. Uses step- by-step examples to create, submit, and receive output from the Crays
- o + Daily Bulletin: Online source of up-to-date information on the computing systems
- o + Newsletter: SCD Computing News (free)
- o + Annual planning report: Supercomputing: The View From NCAR

- o + NCAR Annual Report
- o + NCAR Annual Scientific Report

Consulting

- o + Phone, 8-5 MST weekdays; walk-in consulting available for visitors and local users. Extended consulting available by appointment
- o + Email consulting available from Internet, BITNET, and Omnet
- o + Specialized consulting for software libraries, networking and data communications, optimization, multitasking, Cray I/O optimization, segmentation (overlaying) of large applications, math algorithms, NCAR Graphics, IBM PC/AT and Macintosh terminal emulators, and Unix and UNICOS operating systems
- o + Visitor facilities include access 24 hrs/day, 7 days/week, SUN Workstations, IBM PCs, and Macintoshes for terminal or standalone use, Canon microfilm/fiche reader/printers, community telephone for business use, documentation library (including vendor documentation)

Graphics Support

- o + Text and Graphics System for both on-site and off-site users, providing 16-mm film, 35-mm color slides, 4x5" color film, microfiche, b&w hardcopy, and videotape (VHS, SVHS, Umatic-SP).
- o + Xerox 4050 laser printers for paper graphical output
- o + Color hardcopy output is planned soon
- o + CGM metafile support
- o + Remote graphics support includes an NCAR Graphics translator (ctrans) on the front end
- o + Output mailed to users at remote sites

Strengths and Limitations

Strengths

- o + High-performance vector processing
- o + Extensive user support services
- o + SSD for large I/O applications
- o + Extensive data archives for atmospheric and oceanographic research
- o + High-volume, fast access mass storage system
- o + Extremely high volume graphics output capabilities
- o + Video support and 16-mm movie making
- o + Remote job entry system

Limitations

- o + Few applications outside atmospheric sciences
- o + Limited memory

Administrative

- o + Allocations are open to university researchers with NSF grants in atmospheric, oceanographic, and related sciences; grant requests are reviewed by a peer review board composed of NCAR staff and university researchers
- o + Allocations are also available to government agencies on a cost-recovery basis

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

NCAR has access to several national networks using the

TCP/IP protocol, including NSFNET (backbone node) and NASA's Science Network.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ C_ e_ n_ t_ e_ r

SCD's computing resources are available to scientists and researchers with NSF projects in the atmospheric, oceanographic, and related sciences. Accounts must be approved through SCD. Once approved, resources are allocated. Time on the Y-MP8/864 is available to government agencies on a cost-recovery basis. Users with NSF grants should contact John Adams, NCAR/SCD, P.O. Box 3000, Boulder CO 80303, for an application form.

National Center for Supercomputing Applications

_ A_ d_ d_ r_ e_ s_ s:
National Center for Supercomputing Applications

152 Computing Applications Building
605 E. Springfield Ave.
Champaign, Il. 61820

_ E-_ m_ a_ i_ l: consult@ncsaa.ncsa.uiuc.edu

_ P_ h_ o_ n_ e: (217) 244-0072

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The National Center for Supercomputing Applications is located at the University of Illinois in Champaign, Illinois. Funding is provided by the National Science Foundation, the University of Illinois, the State of Illinois and Industrial Partners of the center. Grants and equipment loans from major computer vendors enhance the resources of NCSA and foster new research and development programs. The Interdisciplinary Center (IRC) is a ``think tank'' for researchers using NCSA equipment.

NCSA offers these resources:

- o + CRAY X-MP/48 with a 128 Mword SSD running the UNICOS operating system. The clock speed is 8.5 nsec.

- o + CRAY-2S/4-128 running the UNICOS operating system. The clock speed is 4.1 nsec and the static memory speed is 45 nsec

  parallel processing is available on both CRAY systems.

- o + Common File System (CFS) from Los Alamos running on an Amdahl 5860

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- o + DEC VAX 11/785 cluster running VMS as front-ends for file transfer, tape handling and electronic mail and notesfile conferencing

- o + Workstations for visitors including IBM PC/ATs, Apple Macintosh, Sun systems, DEC VAXstations, and Silicon Graphics IRIS systems

NCSA offers these services:

- o + systems consultants, applications specialists, and research scientists in various disciplines to assist researchers

- o + visitors program to allow researchers to come and work in an intensive manner and interact with NCSA staff

- o + training via monthly training sessions, summer institutes, outreach visits and various workshops and conferences

- o + strategic users program for researchers interested in partnership with NCSA to help the general research community

- o + publications including two center newsletters, a technical resources catalog, and reference materials on all of NCSA's systems

- o + documentation and reference materials on all of NCSA's systems

- o + workstation software developed at NCSA including telnet software and graphics tools

- o + scientific visualization program to carry out research and work with academic and industrial researchers to visualize data

- o + output in the form of photographic prints and slides, and videotapes

- o + Affiliates program to train support personnel at academic institutions, scientific institutes and government agencies - there are over 80 affiliate institutions.

Network Access

NCSA facilities are accessible via:

- Internet networks (NSFnet and ARPAnet) for file transfer, electronic mail and interactive access
- direct dial up to 9600 BAUD
- BITNET for file transfer and electronic mail

Who Can Use the Center

Any academic researcher may apply for time to use the center. All requests are peer reviewed monthly for allocations under 100 hours and quarterly for allocations of 100 or more hours. Industrial partnership programs are also available.

Miscellaneous Information

Further information can be obtained through the following contacts at NCSA or at the address above:

Main Receptionist	(217) 244-0072
Applying for time	(217) 244-0635
Consulting Office	(217) 244-1144
Academic Affiliates	(217) 244-2341
Industrial Affiliates	(217) 244-0474

National Energy Research Supercomputer Center

_ A_ d_ d_ r_ e_ s_ s:
National Energy Research Supercomputer Center
Lawrence Livermore National Laboratory
PO Box 5509 L-561
Livermore, CA 94550

_ E_ m_ a_ i_ l: consultant@nersc.gov

_ P_ h_ o_ n_ e: (415) 422-1544

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The NERSC provides state-of-the-art computational, network, and file storage resources including four Cray supercomputers-a Cray XMP-22, a Cray-2 4/64, a Cray-2 4/128, and a Cray-2 8/128. All four Crays use the CTSS time-share operating system. This system also currently provides more than 150 UNIX utilities and is becoming POSIX compliant. The center operates twenty-four hours a day, seven days a week.

Archival storage includes an online fully automated storage system with 200 gigabytes of high-speed disk storage, and a magnetic tape cartridge system with a total of 3.6 terabytes of slower access storage. The slowest accesses are still under three minutes.

An online information retrieval system is provided, offering more than 23,000 pages of documentation on use of the center. Printed hardcopy of all information is also available to all users. The BUFFER is published as a monthly newsletter. Short notes in the form of printed summaries are available. Electronic bulletin boards are available for information about specialized topic areas. A NEWS capability is provided for daily or short-term information. Several consultants are available during normal working hours for individual help.

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_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The NERSC supports TCP/IP access and limited (interactive only) DECnet network access in addition to its own "NSP" protocol suite. Access is available through ESnet, the Internet, the Energy Sciences DECnet, Bitnet for electronic mail, TYMNET, and via dial-up modems.

The NERSC also operates ESnet, a T1-based backbone network supporting both IP and DECnet.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ C_ e_ n_ t_ e_ r

The NERSC provides computational resources to researchers and collaborators sponsored by the Department of Energy, Office of Energy Research. Access to resources is provided through a DOE allocation. For information about applying contact JoAnne Revelli at revelli%nersc@nersc.gov or (415) 422-4228, or Anita Winfield at winfield%nersc@nersc.gov or (415) 422-4022.

NPAC - Northeast Parallel Architectures Center

_ A_ d_ d_ r_ e_ s_ s:
Northeast Parallel Architectures Center
111 College Place
Syracuse University
Syracuse, New York 13244-4100

_ E-_ m_ a_ i_ l: npac@nova.npac.syr.edu

_ P_ h_ o_ n_ e: (315) 443-1723

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Northeast Parallel Architectures Center, under contract to RADC with funding from DARPA, promotes and explores advanced computing technology by providing parallel architectures and research support to university, corporate and government researchers nationwide.

NPAC provides a focal point for:

- testing existing parallel architectures
- developing new machines and software tools
- providing the local and national research community with a rich environment in which to explore and utilize large scale parallel computers
- conducting applied research which requires parallel machines

NPAC currently offers:

- two Connection Machines from Thinking Machines Corporation: a CM1 and a CM2 with 2 framebuffer graphic display systems; two 5 gigabyte Data Vault

storage systems; and a VAX 8800 and 2 Symbolics front-ends.

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- o + two Encore Computer Corporation Multimax computer: an 16 processor (XPC) Model 520 running Umax and a 20 processor (APC) Model 320 running Mach.

- o + an Alliant Computer Systems Corporation FX/80

- o + a Stellar Graphics Supercomputer Model GS1000

NPAC also offers a variety of support services including research consultation, training programs, documentation, a newsletter, and reference materials.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

All systems are accessible via the Internet

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ C_ e_ n_ t_ e_ r

The computing resources at the Center are made available to academic, government and corporate researchers upon submission of a project request. Information about the Center and the Resource Allocation Process are available through the telephone and electronic contact points listed above.

OSC - Ohio Supercomputer Center

_ A_ d_ d_ r_ e_ s_ s:
Ohio Supercomputer Center
1224 Kinnear Road
Columbus, OH 43212

_ E_ m_ a_ i_ l: oschelp@osc.edu

_ P_ h_ o_ n_ e: (614) 292-9248

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Ohio Supercomputer Center (OSC) is a state-funded, shared supercomputer resource for researchers at Ohio colleges and universities. Commercial industry uses the CRAY on a cost-recovery basis. In September 1989 a CRAY Y-MP8/864 will be available to users.

The Ohio Supercomputer Graphics Project is a major component of the OSC's program. The Project has developed a graphics visualization toolkit, apE, for displaying and animating results of scientific computation on several supported workstations. This developing product is commercially available through the Center.

The Ohio Visualization Laboratory (OVL) houses hardware for visualizing scientific results of projects conducted on the CRAY. The OVL includes high-end (e.g., Abekas, Pixar, and

Stellar) workstations and paper output devices; display equipment and software; and video equipment, including display, conversion, and animation storage facilities. Users generally come to the Laboratory to use equipment, although much equipment can be used over TCP/IP networks.

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Full login availability over Internet and the Ohio Academic Resources Network (OARnet). Jobs may also be submitted over Bitnet from VMS Cray Station Sites.

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_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ C_ e_ n_ t_ e_ r

The Ohio Supercomputer Center is a state-funded resource for researchers at Ohio colleges and universities. OSC Visitors Program allows out-of-state researchers to use resources while visiting Ohio institutions. Commercial industry uses the CRAY Y-MP on a cost-recovery basis.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Charles F. Bender, Director (and Industry Contact)
Alison Brown, Associate Director for Scientific Development
Lawrence Cooper, Associate Director for Administration
(Grants and Allocations Contact)
Alvin E. Stutz, Associate Director for User Services

PSC - The Pittsburgh Supercomputing Center

_ A_ d_ d_ r_ e_ s_ s:
Pittsburgh Supercomputing Center
Mellon Institute Building
4400 Fifth Avenue
Pittsburgh, PA 15213

_ E_ m_ a_ i_ l: consult@a.psc.edu.sp

_ P_ h_ o_ n_ e: (412) 268-4960

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Pittsburgh Supercomputing Center (PSC), one of the national centers established by the National Science Foundation, provides advanced supercomputer resources to the scientific and engineering research communities. PSC provides computing resources and support facilities for work in many branches of science. To date, it has supported work by

over 1900 researchers at 375 institutions in 49 states, and the District of Columbia, representing virtually all fields of scientific and engineering endeavor.

The Center currently offers:

- o + a Cray Y-MP/832 supercomputer which features eight processing units sharing common memory of 32 million 64-bit words
- o + a Solid-state Storage Device (SSD) which will hold 128 million words and can transfer data at 156 Mwords per second on each of two parallel channels
- o + an IBM 4381-P21 with 30GB of disk storage for CFS, an archiving system
- o + a Connection Machine CM-2, with 32,768 processors and one gigabyte of memory

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- o + a DataVault with 10 gigabytes of high speed storage
- o + a Digital Equipment Corporation VAX, CMVAX, and two SUN 4470s, SUNA and SUNB, running Ultrix and Unix, as front ends to the CM-2
- o + two Digital Equipment Corporation VAXes running VMS as front ends to the Y-MP, CMVAX and SUNs
- o + two Digital Equipment Corporation VAXes running Ultrix as front ends to the Y-MP, CMVAX, and SUNs
- o + the Andrew File System, a distributed network file system, serving the Ultrix front ends and the CM front ends
- o + high-function engineering workstations, personal computers, and special-purpose graphics devices, such as a Silicon Graphics IRIS workstation, SUN Sparcstation, IBM RS6000, DECStation 5000, Canon CLC500 color

copier/printer, and Postscript laser printers, and

- o + CGM-based animation system producing VHS tape and and videodisk animations, plus the ability to produce 35mm color slides using a Matrix Instruments SlideWriter.

The Center provides experienced user services and training in scientific research. Consultants are available to answer users' questions Monday through Saturday. The Center offers classes and workshops on different aspects of supercomputing, provides online and hardcopy documentation, produces a monthly newsletter and a technical bulletin, and annually publishes a booklet which highlights some of the scientific research done at the Center. The systems and software staff selects and installs new software and spearheads system development efforts.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The center is on the Internet.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ C_ e_ n_ t_ e_ r

Requests for supercomputing services may be made directly to the PSC.

SDSC - San Diego Supercomputer Center

_ A_ d_ d_ r_ e_ s_ s:
San Diego Supercomputer Center
PO Box 85608
San Diego, CA 92138-5608

_ E-_ m_ a_ i_ l: consultant@sdsc.edu

_ P_ h_ o_ n_ e: (619)534-5000

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The San Diego Supercomputer Center (SDSC) is one of five national supercomputer centers funded primarily by the National Science Foundation. Its mission is to provide supercomputer time to scientists and researchers around the country. SDSC is located on the campus of the University of California at San Diego and is administered by General Atomics. Major policy guidance comes from a steering committee representing the 25 SDSC consortium institutions, which include major California universities and all campuses of the University of California and the California State University.

Computer resources. SDSC offers access to

o + A CRAY X-MP/48 supercomputer (peak speed 840 MFLOPS), running the Cray Time-Sharing System (CTSS) operating system and 120 UNIX utilities, with 8 million words of memory and 13.2 GBytes of local disk storage.

o + An SCS-40 minisupercomputer (peak speed 44 MFLOPS), running CTSS, with 16 million words of memory, 16 million words of extended memory, and 4 GBytes of local disk storage.

o + A Supertek S-1 minisupercomputer (peak speed 25 MFLOPS), running CTSS, with four million words of memory and 2.4 GBytes of local disk storage. (This

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machine is being used for system development and testing but will be made available to users at some point in the future.)

o + A long-term file storage system (CFS) consisting of 60 Gbytes of disk storage and essentially infinite tape cartridge storage.

These systems are available 24 hours a day, 7 days a week, except during scheduled maintenance and system development. In 1988, these systems were available nearly 97% of the

time.

Two printed manuals (An Introductory User Guide and Summaries) are mailed to all new users. Two-day introductory workshops are held approximately once per month on-site but are also available at your location with confirmed attendance of at least 20. Other sources of information include SDSC's monthly newsletter, Gather/Scatter, an annual report of science highlights, more than 130 online documents, and 40 electronic bulletin boards.

SDSC offers telephone and E-mail consulting 8:00 a.m.-5:00 p.m. (Pacific time) M-F at (619)534-5100.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

SDSC is on the Internet. It is also attached to SPAN, HEPnet, MFEnet and CSUnet.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ C_ e_ n_ t_ e_ r

How to apply for time. 31,000 CPU hours each year are available for academic and industrial use. Most of the time is allocated at no charge to researchers on the basis of peer review by the SDSC Allocation Committee or by the SDSC consortium institutions. Allocations by the committee are made independent of institutional affiliation or funding source. The projects must be non-proprietary. Applications are accepted four times per year (for 12-month allocations) for time beginning 1 January, 1 April, 1 July, or 1 October. Applications must be received at least 45 days prior to the quarter in which you request your allocation to begin (e.g., the deadline is 15 February for time beginning 1 April). For more information, contact the SDSC consultants at (619)534-5100 and request the Overview brochure (which contains the application form).

A small fraction of time for allocation is available on a non-peer-reviewed basis to industrial cost-sharing participants. Such projects may be proprietary but must be unclassified. For more information, contact Bob Randall at (619)534-5060.

BRL - US Army Research Laboratory (Ballistic Research Lab)

_ A_ d_ d_ r_ e_ s_ s:

Director
US Army Ballistic Research Laboratory
ATTN: Tom Crimmins
Aberdeen Proving Ground, MD 21005-5066

_ E_ m_ a_ i_ l: crimmins@brl.mil

_ P_ h_ o_ n_ e: (410) 278-6267, (DSN) 298-6267

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Ballistic Research Laboratory (BRL) has a long history of participation in the forefront of computing technology. At present, the BRL Super Computing Facility includes two High Speed Processors: a Cray X-MP4/8 operating in unclassified mode and a Cray-2 operating in classified. Both systems utilize the UNICOS 6.1.12 operating system and implement Cray's Network Queing System (NQS) for batch processing and Data Migration (DM) software.

The Cray X-MP/48 has four processors with an 8.5 nanosecond clock rate, 8 Million 64-bit words of main memory, and a 128 Million 64-bit word Solid State Disk (SSD) available to all through logical device caching and swap space. The clock rate enables the machine to operate in the range of 250 MFLOPS. There are approximately 40 Gigabytes of on-line mass storage, and interfaces to IBM 3480 and IBM 3420 magnetic tape devices. Available applications software include: DISSPLA; DISSPOP; IMSL; MPGS; BRLCAD; PICSURE; ABAQUS; LINDO; MSC/NASTRAN; MSC/DYNA; MSC/PISCES; and LQGALPH. Available compilers include: CFT; CF77; Pascal; and C. The Cray X-MP/48 is available 24 hours per day, 365 days per year; however, it is not attended during evening or midnight shifts on weekends or holidays.

The Cray-2 has four processors operating with a 4.1 nanosecond clock rate. This machine has 256 Million 64-bit

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words of main memory, and operates in the range of 500 Million Floating Point Operations per Second (MFLOPS). There are approximately 60 Gigabytes of on-line mass storage, and an interface to IBM 3480 magnetic tape and to a MASSTOR M860 robotic tape device. Available applications software include: DISPPLA; DISSPOP; IMSL; MPGS; BRLCAD; PICSURE; CADPAC; and GAMESS. Available compilers include: CFT; CF77; Pascal; SIMSCRIPT; and C. The Cray-2 is available and attended 24 hours a day, 7 days a week.

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The Cray X-MP is accessible via the Internet, and has dial-up accessibility. The Cray-2 occupies a node on the Defense Secure Network (DSNET), and has dial-up accessibility via Secure Telephone Units (STU-III).

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_ R_ e_ s_ o_ u_ r_ c_ e_ s

BRL resources are available to DOD Agencies and qualified Government Contractors.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Further information about the Cray X-MP/48 is available by writing:

Director
US Army Ballistic Research Lab
ATTN: SLCBR-SE-A (Denice Brown)
Aberdeen Proving Ground, MD 21005-5066

or

Phoning (410) 278-6269, or sending electronic mail to
sys-admin-xmp.brl.mil (Internet)

Further information about the Cray-2 is available by writing:

Director,
US Army Ballistic Research Lab
ATTN: SLCBR-SE-A (Mark Williams)
Aberdeen Proving Ground, MD 21005-5066

or

Phoning (410) 278-6664, or sending electronic mail to
sys-admin-cray2.brl.mil (Internet)

Information Systems and Technology
University of California, Berkeley

_ A_ d_ d_ r_ e_ s_ s:
Information Systems and Technology
Central Systems Consulting, 206 Evans Hall
University of California
Berkeley, California 94720

_ E_ m_ a_ i_ l: consult@cmsa.berkeley.edu

_ P_ h_ o_ n_ e: (510) 642-4072

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Information Systems and Technology (IST) provides computing services to the Berkeley campus and beyond, including the following supercomputing resources:

- Cray X-MP running the UNICOS operating system. The Berkeley Cray has highly optimizing and vectorizing Fortran, C, and Pascal compilers; extensive mathematical and statistical subroutine libraries, including IMSL, NAG, and SCILIB; GKS graphics and the X Window System; and the UNICOS versions of the standard UNIX utilities.

- IBM 3090 model 300E running the VM/XA SP operating system. The CMS system has many general purpose packages, such as BMDP, SAS, and SPSS-X for statistics, TELL-A-GRAF and DISSPLA for graphics, and the FOCUS database management system. It has a highly optimizing Fortran compiler as well as C, COBOL, PL/1, and Pascal compilers.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

These facilities are available via:

- Internet networks for file transfer, electronic mail,

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and interactive access.

- o + BITNET for file transfer and electronic mail.
- o + Direct dial modems at 1200 and 2400 baud.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ e_ n_ t_ e_ r

Researchers affiliated with U.S. academic institutions are eligible to use these resources at "non-university" rates. For further information, please call IST's Computing Account and Revenue Services at (510) 642-0334.

SuperComputing Services
The University of Calgary

_ A_ d_ d_ r_ e_ s_ s:
SuperComputing Services
The University of Calgary
390 - 1620, 29th Street N.W.
Calgary, Alberta CANADA T2N 4L7

_ E-_ m_ a_ i_ l: Super@UNCACDC.BITNET

_ P_ h_ o_ n_ e: (403) 221-8900

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Supercomputing facilities for reservoir engineering, pipeline analysis, seismic data processing, finite element analysis, computational chemistry and other science and engineering applications.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The center is on NETNORTH (Bitnet) which can be reached via the Bitnet-Internet gateways.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e
_ R_ e_ s_ o_ u_ r_ c_ e

The resource is available to anyone. There is a varied rate structure according to affiliation (academic, government research, commercial)

Provincial government program to provide ``free time'' for commercial research and development projects to benefit Alberta economy.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Information

Manager: Rod Wittig (403) 221-8900

Project Coordinators: Pat Comer (403) 221-8903, Doug Baker

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(403) 221-8904

CERPASS - Center for Experimental Research in
Parallel Algorithms, Software and Systems

_ A_ d_ d_ r_ e_ s_ s:
CERPASS
USC - Information Sciences Institute
4676 Admiralty Way
Marina del Rey, CA 90292-6695

_ E-_ m_ a_ i_ l: cerpass@isi.edu

_ P_ h_ o_ n_ e: (213) 822-1511

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Center for Experimental Research in Parallel Algorithms, Software and Systems (CERPASS) provides an experimental facility for researchers on the Internet.

The Center's parallel computing resource includes a Connection Machine CM-2 and a Symult Series 2010.

The Connection Machine Model CM-2 is a massively parallel SIMD machine. Its hardware consists of 16,384 data processors interconnected via a hypercube network. Each processor has a bit-serial ALU and a 64K-bit local memory. This CM-2 has two front-end subsystems - one VAX 6210 and one Symbol-

ics 3600, a 5-Gigabyte mass storage system and a graphic color display device. Half of the machine (i.e., 8,192 processors) is also equipped with floating-point accelerator. Programming languages available on this machine include *Lisp, C* and Paris interfaces to Commonlisp and C.

The Symult S2010 is a message-passing, distributed memory MIMD machine. Its hardware consists of 32 computational nodes. Each node has a 32-bit Motorola 68020 microprocessor as its CPU, augmented by the Motorola 68881 floating-point coprocessors. Each node has 8MB local memory, and is connected with other nodes via a high-speed message-routing network (GigaLink). This machine uses a Sun-3 front-end, and can be programmed in C and the parallel extension

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written for this machine.

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Both the CM-2 and the Symult S2010 can be accessed from Internet via their VAX and SUN front-ends, respectively.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ C_ e_ n_ t_ e_ r

Any organization working under a government contract or grant may apply for use of the CERPASS facility for parallel processing research. To establish an account, please contact the address above.

CHPC - University of Texas System High Performance Computing

_ A_ d_ d_ r_ e_ s_ s:
UT System CHPC
Balcones Research Center, Commons Bldg
10100 Burnet Rd
Austin, TX 78758-4497

_ E_ m_ a_ i_ l: remark@chpc.utexas.edu

_ P_ h_ o_ n_ e: (512) 471-2472
FAX: (512) 471-2445

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The CHPC provides access to a CRAY Y-MP/864, currently running the UNICOS 6.1.4 operating system, a CONVEX C220 run-

ning CONVEX/OS 9.1, a cluster of two IBM RS/6000s running AIX 3.1. Our life sciences community also can access our Sun SPARCserver 690 MP running SunOS 4.1 for molecular biology and genetics research applications. Staff and onsite researchers can access a network of over 30 Sun workstations, a Sun SPARCserver 670, a Sun Sparc 2 GS, a SGI 4D310/GTX and a Stardent Titan P3000/G3 graphics workstations. Service offerings include supercomputing, visualization, and biomedical algorithm design and support.

Network Access

All CHPC systems are on the Internet. Publicly accessible systems are:

Cray Y-MP	charon.chpc.utexas.edu
CONVEX C220	hermes.chpc.utexas.edu
IBM RS6000	ethyl.chpc.utexas.edu
	methyl.chpc.utexas.edu
Sun 690	almach.chpc.utexas.edu

Anonymous FTP: ftp.chpc.utexas.edu

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The Center also provides Gopher services.

Who Can Use The CHPC

The Center is available to researchers within The University of Texas System, including the following academic components:

The University of Texas at Arlington

The University of Texas at Austin

The University of Texas at Brownsville

The University of Texas at Dallas

The University of Texas at El Paso

The University of Texas-Pan American

The University of Texas of the Permian Basin

The University of Texas at San Antonio

The University of Texas at Tyler

and the following health component institutions:

The University of Texas Southwestern Medical Center at Dallas

The University of Texas Medical Branch at Galveston

The University of Texas Health Science Center at Houston

The University of Texas Health Science Center at San Antonio

The University of Texas M.D. Anderson Cancer Center

The University of Texas Health Center at Tyler

System accounts are reserved for UT System faculty, students, staff, and their academic collaborators. Special arrangements to use the supercomputing facilities are possible, as for example with Sematech and MCC. Also, state agencies and other academic institutions by contract. No commercial accounts.

The CHPC is the development site of the GenTools (TM) Genomic Computational Tool Suite.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ o_ u_ s

The adminstrative staff members at the Center are:

Director:
Dr. James Almond (j.almond@chpc.utexas.edu)

Associate Director, Technical Services:
Mr. Gary Smith (g.smith@chpc.utexas.edu)

Associate Director, Applications Research and Development:

Dr. Matthew Witten (m.witten@chpc.utexas.edu)

Assistant Director, User Services:
Mr. Luther Keeler (l.keeler@chpc.utexas.edu)

Manager, Computing Services:
Mr. Dean Nobles (d.nobles@chpc.utexas.edu)

Manager, Administrative Services:
Mrs. Janet McCord (j.mccord@chpc.utexas.edu)

NCSC - North Carolina Supercomputing Center

_ A_ d_ d_ r_ e_ s_ s:
North Carolina Supercomputing Center
P.O. Box 12889 - 3021 Cornwallis Road
Research Triangle Park, North Carolina 27709

_ E_ m_ a_ i_ l: info@flyer.ncsc.org

_ P_ h_ o_ n_ e:
(919) 248-1100
FAX: (919) 248-1101

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The mission of the North Carolina Supercomputing Center (NCSC) is to promote the growth of computational science, education, and research in North Carolina institutions and to foster the economic development of North Carolina through high-performance computing and its applications. The primary focus of NCSC is to promote economic growth, computational science and education in North Carolina through cooperative agreements with industry and research collaborations with academic institutions at all levels. NCSC is a division of MCNC, a non-profit company. NCSC offers high-performance computing on the following platforms:

Cray YMP8/464	128 MWords SSD	62 GBytes of disk storage
Convex C220	128 MBytes of memory	10 GBytes of disk storage

An IBM 3090-180J provides mass storage services for the Center using Unitree. The Center's computers are connected via a high-speed UltraNet network.

The NCSC visualization lab includes a Silicon Graphics 4D/280 GTX with stereo display, UltraNet network interface, eight processors, 128 megabytes of memory and three gigabytes of disk storage; a Silicon Graphics 320 VGX-Turbo with

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32 megabytes of memory and 8 gigabytes of disk storage; a Sun 4/490 with 64 megabytes of memory and 7.3 gigabytes of disk storage; a DECStation 5000/200 PXG-Turbo with 96 megabytes of memory and 850 megabytes of disk storage; and a Stardent Titan 3040 P3 G3 with four processors, 64 megabytes

of memory and 2 gigabytes of disk storage. The lab also includes a NeXT computer with color monitor, a Macintosh IIci with color monitor, a Kodak XL7700 color printer, an optical scanner, a film recorder, two commercial-grade component video recorders, a video digitizer, a scan converter and a digital frame store, and a multi-format video transcoder.

NCSC was chosen as the site of the International AVS Center in 1991. Two of the International AVS Center's goals are to broaden the user base and the functionality of Application Visualization System, the current "de facto" standard visualization environment, and to be vender-neutral. The International AVS Center plans to reach this goal by fostering discipline-specific AVS module development and developing new uses for AVS. The International AVS Center collects, ports and distributes user-contributed public domain AVS modules and serves as a liason between AVS users and vendors. The International AVS center manages an International AVS Users Group to work with users from around the world to form local user groups.

NCSC provides user support through e-mail and telephone contacts; it also provides training courses on a wide variety of supercomputing topics. NCSC has a complete training facility with lecture facilities, video taping capability, and a hands-on training laboratory populated with 16 workstations. NCSC is a partner in the VISTAnet project, a component of the NREN project sponsored by the National Science Foundation. NCSC is installing a HIPPI based internal network for high-speed visualization and mass storage services. The Research Institute within NCSC pro- motes interdisciplinary and computational approaches to challenging problems through collaboration with industrial and academic partners.

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NCSC is a member of CONCERT, a state-wide network with bandwidth up to T3, operated by MCNC's Communications Division (see section 5.23 of the Internet Resource Guide). CONCERT accesses the Internet through SURAnet (see section 5.17 of the Guide). A state-wide two-way video and voice conferencing network, also operated by MCNC's Communications

Division, connects NCSC with universities across the state for collaboration and training.

The network address of the NCSC Cray is "flyer.ncsc.org". The mail server is "ncsc.ncsc.org".

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ C_ e_ n_ t_ e_ r

Academic resources are allocated on a peer-review basis to researchers affiliated with North Carolina's education system at no cost to the researchers. Resources for industrial affiliates are granted according to individual cooperative agreements.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Executive Director
   Lawrence Lee, Executive Director
   (larrylee@ncsc.org).
   (919) 248-1149
Deputy Director
   Jeff Huskamp, Deputy Director
   (huskamp@ncsc.org)
   (919) 248-1164
Education/Outreach
   Curt Edge, Outreach Project Manager
   (edge@ncsc.org)
   (919) 248-1148
Industry Partnerships
   Bill Coe, Director of Industry Partnerships
   (coe@ncsc.org).
   (919) 248-1166
Operations
   Rob Silvia, Manager of Operations
   (rjs@ncsc.org)
   (919) 248-1132
Peer Review Allocations
   Bruce Loftis, Research Staff
   (bruce@ncsc.org).
   (919) 248-1124
Research Collaborations
   Ken Flurchick, Research Staff
   (kenf@ncsc.org).
   (919) 248-1121
Scientific Support
   Jeff Huskamp, Acting Manager of Scientific Support
   (huskamp@ncsc.org)
   (919) 248-1164

Technology
Nathan Hillery, Manager of Operations
(hillery@ncsc.org)
(919) 248-1106

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

NCSC forms, documents, CONCERT training material, utility programs and more are available through anonymous ftp. The anonymous ftp account is located on the Convex C220 at NCSC. The IP address is 128.109.178.1 or cardinal.ncsc.org. After you ftp to the server, enter the account name anonymous. You are then prompted for a password or identification name. At this prompt, you should enter your e-mail address. When you type in your e-mail address at this prompt, it will not be echoed on the screen. Once you are logged into the anonymous account, a limited set of UNIX commands are available, such as ls, cd, help, and get.

For additional information and instructions on using the account, see the pub/README.ftp file or enter man ftp at the system prompt to see the man page. Copy this file to your directory on the machine where you initiated the ftp session. Type quit to log out of the ftp session.

Arizona State University Supercomputing Services

_ A_ d_ d_ r_ e_ s_ s:
ECA-311, ODP-0101
Arizona State University
Tempe, AZ 85287-0101

_ E_ m_ a_ i_ l:
kgrmc@asucray.inre.asu.edu
(manager, supercomputing services)
kgbat@asucray.inre.asu.edu
(supercomputing consultant, Cray)
kgdlw@asucray.inre.asu.edu
(supercomputing consultant, Cray)
kgzxk@asuvm.inre.asu.edu
(supercomputing consultant, IBM)

_ P_ h_ o_ n_ e:
(602) 965-1205 (manager, supercomputing services)
(602) 965-2900 (supercomputing consultant, Cray)
(602) 965-2761 (supercomputing consultant, Cray)
(602) 965-5626 (supercomputing consultant, IBM)
(602) 965-5677 (general secretary)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

o + Cray X-MP/18 supercomputer running Unicos 5.1, VAX station software, 8 Mwords main memory, 8.4 Gbytes DD39 disk storage. The Cray supports both interactive and batch access. SUPERLINK access to 85 Gbytes of IBM-3380 disk storage. Fortran, C, and Pascal vectorizing and parallelizing compilers. X-Window interface. Software: IMSL, MPGS, MATLAB, other packages installed upon demand.

o + IBM-3090/500E/3VF supercomputer running MVS/XA, 256 Mbytes main memory, 85 Gbytes of IBM-3380 disk storage, 8 tape drives, Memorex tape robot. Software: ESSL, OSL, BMDP, DI-3000, CalComp, ACSL, and numerous other

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packages.

- High-speed graphics visualization laboratory (SGI, Macintosh, film recorders, etc.)

- CalComp, Versatec, Tekronix, LaserWriter printers and plotters

- Campus-wide TCP/IP local area network

- Training, seminars, workshops, classes, and documentation available.

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Both supercomputers are accessible via Internet, Bitnet, WestNet, USEnet, and dial-up modems. For details contact the center.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ e_ n_ t_ e_ r

Supercomputing facilities are available to ASU faculty, staff, and students. Commercial and industrial accounts are available on a cost-recovery basis. ASU is particularly interested in forming research partnerships with commercial organizations that need the processing and simulation capabilities of high-speed computers.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

ASU is an Academic Affiliate of the National Center for Supercomputer Applications (NCSA), the Pittsburgh Supercomputer Center (PSC), the San Diego Supercomputer Center (SDSC), and the Cornell National Supercomputer Facility (CNSF).

Administrative staff members:

Manager, Supercomputing Services (principal point of contact):
Dr. Richard M. Casey
(602) 965-1205
kgrmc@asucray.inre.asu.edu
Supercomputer Consultants:
Dr. Dale Wutz
(602) 965-2761

kgdlw@asucray.inre.asu.edu

Mr. Bruce Tachoir
(602) 965-2900
kgbat@asucray.inre.asu.edu

Mr. Zafer Kadioglu
(602) 965-5626
kgzxk@asuvm.inre.asu.edu

Assistant VP, Information Resources Management:
Dr. Lee Alley
(602) 965-6398

Director, Computing and Network Consulting Services:
Mr. Neil Armann
(602) 965-5677
icsnra@asuvm.inre.asu.edu

UCLA Office of Academic Computing

_ A_ d_ d_ r_ e_ s_ s:
Office of Academic Computing
5628 Math Sciences Addition
University of California
405 Hilgard Avenue
Los Angeles, CA 90024-1557

_ E-_ m_ a_ i_ l:
Internet: calloac@oac.ucla.edu
BITNET: calloac@uclamvs

_ P_ h_ o_ n_ e:
(213) 825-7452 Consulting
(213) 825-7548 User Relations

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Office of Academic Computing (OAC) provides mainframe and supercomputer services through its computing services group, microcomputer support services through its Microcomputer Support Office, and campus backbone network services through its Campus Network Services. OAC operates an IBM 3090-600S supercomputer with six vector facilities, running under MVS/ESA and VM/XA-SP, to provide computing services in support of UCLA's instructional and research activities.

OAC provides access to a wide variety of software facilities, including mathematical and engineering applications (ESSL, IMSL, ACRITH, EISPACK FUNPACK, LINDO, MPS360, and SPEAKEASY), computational chemistry (Gaussian 88, GAMESS,

HONDO 7, MOPAC, and BATCHMIN), fluid dynamics analysis (AMES PNS, FLUENT/BFC, NS57, ROTOR2, TAIR and VSAERO), seismic analysis (MODMIG, PREMIG, and STARPAK), and structural analysis (ADINA, ASTROS, CSA/NASTRAN, NIKE2D, MAZE, and SAM-CEF).

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For development of numerically intensive applications, the VS FORTRAN and Parallel FORTRAN (PF) compilers provide vectorization and parallel programming, respectively. Other compilers provided by OAC include C, PASCAL, PL/I, COBOL, APL, ALGOL, IBM Assembler, and Waterloo BASIC.

Other areas of interest include graphics software (Interactive Chart Utility, SAS/GRAPH, GDDM, DISSPLA, SPEAKEZ Graphics, GKS), and text processing (SCRIPT/VS). Popular software products such as TSO and ISPF/PDF, and statistical packages (SAS, SPSSx, and BMDP) are also available, as are electronic mail and access to ORION (the UCLA Library's online information system).

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

OAC's facilities are available via:

+ Internet

+ BITNET for file transfer and electronic mail

+ Direct dial modems at 300, 1200, and 2400 baud

+ Hardwired workstations in OAC's public access facilities and in UCLA campus departments

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ O_ A_ C?

Computing services are provided to the UCLA community, other educational institutions, and state and federally funded projects. Accounts are available to other outside users on a case-by-case basis. Open-access computing accounts are available free to UCLA students and faculty to access ORION

and electronic mail. For further information, call the OAC User Relations Office, (213) 825-7548.

Chapter 2: Library Catalogs

A large number of libraries allow access to their library catalogs via the Internet. Such catalogs can be very useful for finding uncommon books not available at a local library. Once a book is located, it can often be borrowed by your local library through Interlibrary Loan. Another popular use of library catalogs is to check citations or references. Many catalogs also support more extended reference facilities.

Please note that on-line catalogs often have a limited number of ports. Users are asked not to abuse their access.

We would like to acknowledge the considerable assistance of Ron Larsen, Art St. George, and Joe St. Sauver in compiling this section.

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Congress [Aug92]

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2.26 BUBL - The Bulletin Board for Libraries [Sep92]

2.27 WUGate Services - Washington University Library/Database Access System [Sep92]

Boston University Library Catalog

_ A_ d_ d_ r_ e_ s_ s:
Boston University Libraries
771 Commonwealth Avenue
Boston, MA 02215

_ E_ m_ a_ i_ l: dbp@bu-it.bu.edu

_ P_ h_ o_ n_ e: (617) 353-3710

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Boston University Online Catalog provides access to over 1.5 million volumes and 2.5 million microforms. The collection represents the holdings for all libraries on campus.

The Online Catalog is made by Innovative Interfaces, Inc., located in Berkeley, California. The system provides

records for books, periodicals, musical scores and recordings, rare books and microforms.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The Online Catalog is accessible via "telnet" to host:
library.bu.edu (128.197.130.200)

Primary terminal emulations include VT100 and TVI925.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ O_ n_ l_ i_ n_ e _ C_ a_ t_ a_ l_ o_ g

The Online Catalog is available to all members of the Internet community.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Mugar Memorial Library reference desk: (617) 353-3704
Pappas Law Library reference desk: (617) 353-3151
Medical Center Library reference desk: (617) 638-4230
School of Theology Library reference desk: (617) 353-3034

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MELVYL (R) System - The University of California Catalog

_ A_ d_ d_ r_ e_ s_ s:
Division of Library Automation
University of California
Office of the President
300 Lakeside Drive, 8th floor
Oakland, California 94612-3550

_ E_ m_ a_ i_ l: melvyl@dla.ucop.edu

_ P_ h_ o_ n_ e: (510) 987-0555 (MELVYL Catalog Helpline)

FAX: (510) 987-0328

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The MELVYL catalog is a computer-based library catalog of more than 5.5 million unique book titles representing 11 million holdings of all libraries in the nine-campus UC system and the California State Library. The catalog contains records of book and periodical (serial) holdings, and other materials such as maps, films, musical scores, and sound recordings. Collections strengths include agriculture, dry lands, oceanography, entomology, performing arts (especially film and television), photography, Californiana, materials on Mexico and Central America, 17th and 18th century British literature, health sciences, science fiction, and many others.

The periodical file, containing more than 640,000 unique titles of newspapers, journals, proceedings, etc., includes the holdings of Stanford University, the University of Southern California, the nineteen-campus California State University system, and selected other libraries.

The MELVYL catalog also includes two article abstracting and indexing files-MEDLINE and Current Contents. Use of these files, unlike the books and periodicals files, is restricted to the UC community. The MELVYL MEDLINE database contains the current five-year file of the National Library of

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Medicine's MEDLINE database, which includes article citations indexed from health sciences journals. The Current Contents file, from the Institute for Scientific Information, contains one year of citations to journals in seven disciplines.

The "DLA Bulletin" and "Mynd of the MELVYL Catalog", two publications describing the online catalog and its development and use, are also available online. The MELVYL Online Catalog also provides TELNET access to other remote library systems.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The system is on the Internet, on host "melvyl.ucop.edu" (31.1.0.1, 31.0.0.11, 31.0.0.13, 31.1.0.11)

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

The MELVYL Online Catalog and CALLS are universally available. Access to MEDLINE and Current Contents files are restricted under a license agreement to the University of California faculty, staff, and students.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

For additional information, contact:

Clifford Lynch, Director
(calur@uccmvsa.bitnet, lynch@postgres.berkeley.edu)
(510) 987-0522

Mike Berger, Assistant Director for Planning
(mgbuc@uccmvsa.bitnet)
(510) 987-0563, (510) 642-3466

Mary Engle, Programmer/Analyst
(meeur@uccmvsa.bitnet, engle@cmsa.berkeley.edu)
(510) 987-0552

Laine Farley, MELVYL User Services
(lxfol@uccmvsa.bitnet)

MELVYL is a trademark of the Regents of the University of California.

CARL - Colorado Alliance of Research Libraries

_ A_ d_ d_ r_ e_ s_ s:

CARL
777 Grant, Suite 304
Denver, CO 80203

_ E-_ m_ a_ i_ l: help@carl.org

_ P_ h_ o_ n_ e: (303) 861-5319

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

CARL provides online public access catalogs for a number of academic, institutional, and public libraries in Colorado and surrounding states.

Additional databases include UnCover[tm], CARL's guide to the current contents of more than 10,000 journals, the union list of the Boston Library Consortium, and several data bases of local and regional interest.

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

CARL is available on the Internet via telnet at pac.carl.org (192.54.81.128).

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g_ s

There are currently no restrictions on any access except the use of Grolier's Encyclopedia, which may be used only by the patrons of particular member libraries, and the UnCover database. (Note: special arrangements to use UnCover may be made by contacting CARL.)

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

For information on UnCover or access to other restricted data bases please send e-mail to uncover@carl.org or contact

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UnCover is a trademark of Carl Systems, Inc.

Rebecca T. Lenzini at (303) 861-5319.

RLIN - Research Libraries Information Network

_ A_ d_ d_ r_ e_ s_ s:
RLIN Information Center
Research Libraries Group, Inc.
1200 Villa St.
Mountain View, CA 94041-1100

_ E-_ m_ a_ i_ l: bl.ric@rlg.stanford.edu, bl.ric@rlg.bitnet

_ P_ h_ o_ n_ e: 1-800-537-RLIN (RLIN Information Center)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

RLIN is the information management and retrieval system of The Research Libraries Group, Inc. It includes an online bibliographic database cataloging the holdings of well over one hundred research libraries, archives, and special collections-a total of over forty million records in August 1990. Entries are divided among eight files: books, serials, archival materials (e.g., personal papers, governmental records), maps, music scores, sound recordings, visual materials (e.g., films and photographs), and computer files. Smaller subject-oriented databases contain citations for articles in art and architectural periodicals; eighteenth-century English-language publications; art sales catalogs dating from the 1500s to the present; and research in the humanities scheduled for publication within the next two years.

Users search RLIN with command-line searches rather than from a menu, by specifying index terms. Indexes available include title, subject, author, conference or corporation, ISBN, LC number, and many more; some are specific to the file being searched (such as the index to music publishers' unique numbers on sound recordings and scores). Search results can be further restricted by language, date of publication, publisher, terms found in notes fields, etc.

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_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

RLIN is available to subscribers over the Internet. It can also be dialed into through the public packet network, SprintNet. A private packet network supports RLIN users who maintain entries in the database.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ R_ L_ I_ N

Charges for Internet access:

For individuals: $119 for 10 hours connect time

For libraries: $200 one-time start-up fee plus per-search charges ranging from 50 to 80 cents.

Subscribers for RLIN searching receive an account ID and password, descriptions of RLIN and its files, step-by-step directions for accessing the system, and assistance from the RLIN Information Center via a toll-free service number: 1-800-537-7546 (537-RLIN).

Florida Center for Library Automation

_ A_ d_ d_ r_ e_ s_ s:
2002 NW 13th. Street, Suite 320
Gainesville, Florida. 32609

_ E-_ m_ a_ i_ l: fcla@nervm.nerdc.ufl.edu

_ P_ h_ o_ n_ e: (904) 392-9020

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Contains online catalogs of the nine state-funded universities, with 5.4 million bibliographic records plus serial holdings.

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

Use tn3270 (telnet supporting 3270 emulation) to nervm.nerdc.ufl.edu.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

Anyone can search the catalogs. Please contact FCLA for an authorization code.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

Mary Ann Garlough (OPAC Support) fclmag@nervm.nerdc.ufl.edu
Mark Hinnebusch (Technical Support) fcla@nervm.nerdc.ufl.edu

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MIRLYN - MIchigan Resource LibrarY Network

_ A_ d_ d_ r_ e_ s_ s:
Graduate Library Reference & Information Center
209 Harlan Hatcher Graduate Library, North
University of Michigan
Ann Arbor, MI 48109-1205

_ E_ m_ a_ i_ l: MIRLYNINFO@um.cc.umich.edu [Grad.Lib.Ref.& Info.Center]

_ P_ h_ o_ n_ e: (313) 764-9373 [Grad.Lib.Ref.& Info.Center]
FAX: (313) 763-5080 [Library Administration]

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

MIRLYN is a computer-based system incorporating an OPAC and other files. MIRLYN currently contains bibliographic, holdings, and circulation records for most of the University Library's collection. It also contains commercial journal index files (six Wilson files as one file, "PsycInfo", "MathSci", "PAIS", "National Newspaper Index", "A Matter of Fact") and local files, all with links to the OPAC bibliographic file.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Telnet to host "hermes.merit.edu". This system provides access to UMNet, the University of Michigan's wide area network. Users will receive the prompt: "WHICH HOST?" and should respond "MIRLYN". Terminal or communications pack-

ages must be set to emulate a VT100.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

The OPAC is available to all. Commercial and local files are accessible in all University of Michigan Libraries and to all off-site users who are University of Michigan students, faculty, or staff. Commercial and local files are generally not accessible to non-University of Michigan off-

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site users, except by special prior arrangement; contact Graduate Library Circulation, 104 Hatcher Graduate Library, Ann Arbor, MI 48109-1205 or call (313) 764-0400 for information.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

The contents of MIRLYN are growing, both in terms of OPAC records (where efforts are being made to include previously uncataloged library collections) and other files, both commercial and local. Access to full text files, on another Library resource, is now being implemented.

University of New Mexico Gateway

_ A_ d_ d_ r_ e_ s_ s:
2701 Campus Blvd. NE
Albuquerque NM 87131
(attn:St.George)

_ E-_ m_ a_ i_ l: stgeorge@bootes.unm.edu

_ P_ h_ o_ n_ e: (505) 277-8046

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The general and medical libraries are available as are a variety of databases ranging from the university catalog and phone directory to specialized ones such as that on Latin America.

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

Telnet to host bootes.unm.edu (129.24.8.2) and log in as student1, student2, student3, student4, student5, or stu-

dent6. No password required. You will then be prompted for a terminal type and then put into a menu system from which you can select the libraries or databases.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

With one exception, all of the databases are free.

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Emory University Libraries Online Public Access Catalog

_ A_ d_ d_ r_ e_ s_ s:
Selden S. Deemer
University Libraries
G21 Woodruff Library
Emory University
Atlanta, GA 30322

_ E-_ m_ a_ i_ l:
libssd@emuvm1.bitnet

_ P_ h_ o_ n_ e:
(404) 727-0271

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The online catalog system is based on IBM DOBIS/Leuven software. The catalog contains the union catalog for 5 library units: General Libraries (Woodruff, Candler, and Chemistry Libraries), Health Sciences Center Library, Law Library, Oxford College Library, and Theology Library.

The online catalog database currently contains more than 500,000 bibliographic records, representing approximately 40% of the total holdings. A retrospective conversion project has been started.

It is located on host emuvm1.cc.emory.edu (128.140.1.4).

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

Use tn3270 or other telnet supporting 3270 protocols to connect to emuvm1.cc.emory.edu (128.140.1.4). After the VM screen is displayed, press ENTER (normally the RETURN key) to get a CP READ. Type DIAL VTAM and press ENTER. At the VTAM screen, type LIB and press ENTER. When the CICS screen appears, press the PF1 key. The next screen will be the initial library system screen. All references to pressing RETURN on the library screens mean to press the key which

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sends ENTER (normally the RETURN key). To exit, terminate the telnet connection.

Context-sensitive help is available throughout the Online Public Access Catalog with the PF2 key.

No account or password is required.

Scheduled availability: Monday - Saturday 0800 - 0200; Sunday Noon - 0200

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

The Emory Online Public Access Catalog is available to all members of the internet community.

_ A_ d_ d_ i_ t_ i_ o_ n_ a_ l _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

For assistance in searching the Emory University Online Catalog, contact the reference desk at Woodruff Library, 404-727-6875.

DOBIS is a trademark of IBM Corporation.

MAGIC

_ A_ d_ d_ r_ e_ s_ s:
Michigan State University Libraries
East Lansing, MI 48824-1056

_ E-_ m_ a_ i_ l: Thomas Albright, Head Library

Systems:
20676tea@msu.bitnet

_ P_ h_ o_ n_ e: 517-383-8700 (MSU Libraries Information/Reference)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

MAGIC is a computer-based library catalog of more than 1.3 million unique book, serial, microform, and other non-book titles in the Michigan State University Libraries.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

To access using IBM 3270 emulation:
TN3270 to magic.msu.edu (35.8.2.99).
At the VM 370 screen press the _ e_ n_ t_ e_ r key.
At the logon screen enter "Dial MAGIC".
Press _ e_ n_ t_ e_ r to get the MAGIC introductory screen.
To exit from MAGIC, use your local escape sequence to return to the TN 3270 program and close the network connection.

To access using Telnet (VT100, VT200 emulation):
Telnet to merit.msu.edu (35.8.2.56).
Enter "MAGIC" at the "Which Host?" prompt.
Enter "VT100" as your terminal type. The MAGIC introductory screen will be displayed.
To exit from MAGIC, press _ C_ T_ R_ L-_ E and then enter "%quit"

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ R_ e_ s_ o_ u_ r_ c_ e

MAGIC is available to anyone, without any restrictions.

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_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

For questions concerning network access contact:

Computing Information Center
MSU Computing Laboratory
consult@msu.edu
(517) 353-1800

For written instructions on how to use MAGIC, write to :

MSU Libraries
Information/Reference
(517) 353-8700

Info-Lib

_ A_ d_ d_ r_ e_ s_ s:
Info-Lib
c/o Dr. Ronald L. Larsen
Associate Director for Information Technology
McKeldin Library
University of Maryland at College Park
College Park, Maryland 20742-7011

_ E-_ m_ a_ i_ l: RLarsen@UMD5.UMD.EDU

_ P_ h_ o_ n_ e: (301) 454-7332

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Info-lib is a directory of library catalogs and related resources accessible via the Internet.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Anonymous FTP to UMD5.UMD.EDU
Information is in directory INFO-LIB

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ D_ i_ r_ e_ c_ t_ o_ r_ y

There are no restrictions on accessing the directory. Additions, corrections, and updates are encouraged and should be e-mailed to RLARSEN@UMD5.UMD.EDU.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

Libraries included in the directory provide Internet access to selected resources at no charge. This usually includes the online catalog, but in some cases also includes access to other online databases. Some directors of libraries are sensitive to the added burden this may place on their resources, so users are cautioned to use discretion.

This directory has been assembled through the cooperation of

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the members of the EDUCOM Networking and Telecommunications Task Force.

InfoTrax

_ A_ d_ d_ r_ e_ s_ s:
Automation Department
Folsom Library
Rensselaer Polytechnic Insitute
Troy, NY 12180-3590

_ E_ m_ a_ i_ l: USERA0NY@MTS.RPI.EDU

_ P_ h_ o_ n_ e: (518) 276-8300
FAX: (518) 276-8559

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

InfoTrax provides access to all cataloged library materials. Related library files include homework assignments, library news and a message facility. Campus information files and databases, such as the campus directory, faculty research interests, alumni news and computing services information, are also included.

InfoTrax was developed at Rensselaer using Stanford's SPIRES DBMS.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Telnet to infotrax.rpi.edu

Dial-in:
Phone:
518-276-8989 (300 or 1200 bps)
518-276-8990 (2400 bps)
518-276-8400 (9600 bps)

Duplex:	Full		Full
Data Bits:	8	or	7
Parity:	None		Even
Stop Bits:	1		1

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Who Can Use The Resource

Most files are available to the general public. Some copyrighted and restricted files are for Rensselaer users only. These files require a campus password.

Miscellaneous

For additional information contact:
Joe Thornton
Head, Automation Department
518-276-8345
Internet: usera0ny@mts.rpi.edu
Bitnet: usera0ny@rpitsmts

ARLO - University of Colorado at Colorado Springs

_ A_ d_ d_ r_ e_ s_ s:
Leslie Manning
1420 Austin Bluffs Parkway
P.O. Box 7150
Colorado Springs, Colorado 80933-7150

_ E_ m_ a_ i_ l: lamanning@uccs.edu (Internet)
lamanning@colospgs (BITNET)

_ P_ h_ o_ n_ e: (719) 593-3295
FAX: (719) 528-5227

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

ARLO is the on-line library catalog for the University of Colorado at Colorado Springs. It contains records for 250,000+ book and serials titles with primary emphasis in business, education, electrical engineering, and psychology.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Telnet to arlo.uccs.edu (128.198.26.129). Login code and user-id are both "ARLO" (in capital letters). The user interface is the Dynix system and is self-explanatory. The terminal or computer used to login must emulate a VT100.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

The online catalog is available to all users of the network.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

For additional information, contact:

(719) 593-3287 Christina Martinez, System Coordinator
(719) 593-3118 James Durkee, Director of Campus Computing

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Franklin - The Online Catalog of the University of Pennsylvania Library

_ A_ d_ d_ r_ e_ s_ s:
Van Pelt-Dietrich Library Center
3420 Walnut Street
Philadelphia, PA 19104-6206

_ E_ m_ a_ i_ l: pennlibr@penndrls.upenn.edu

_ P_ h_ o_ n_ e: (215)898-7555 (General Reference)
FAX: (215)898-0559

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Franklin, the online catalog of the University of Pennsylvania Library, is a NOTIS-based system. It can be searched by author, title, keyword, subject and call number.

The catalog includes over 1.7 million citations for items in the University Libraries. In general, material cataloged since 1968 is included in Franklin. In addition, major segments of the older collections are added to Franklin on an

ongoing basis. For information on material included in Franklin, check the introductory screens.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Telnet to pennlib.upenn.edu. The connection is via reverse terminal server to an IBM 7171. It assumes VT100 compatibility.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

The catalog is available to internet users. The Penn Library collections are primarily for the use of students, faculty and staff of the University. Access restrictions apply. Call (215) 898-7554 for more information.

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NLS - University of Wisconsin
Madison and Milwaukee Campuses
Network Library System (NLS)

_ A_ d_ d_ r_ e_ s_ s:
Automation Help Desk
212F Memorial Library
University of Wisconsin
728 State Street
Madison, WI 53706

_ E_ m_ a_ i_ l: glshelp@vms.macc.wisc.edu

_ P_ h_ o_ n_ e: (608) 262-8880

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Network Library System (NLS) is the online public catalog of the libraries at the University of Wisconsin-Madison and the University of Wisconsin-Milwaukee. NLS supports a separate online catalog for each campus.

The UW-Madison online catalog contains more than 1.7 million titles cataloged since 1976 located in twenty-five libraries on the campus and at the Center for Research Libraries in Chicago. This represents roughly fifty percent of their collections. The UW-Milwaukee catalog contains approximately nine hundred thousand titles and represents eighty-five percent of the general collection.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s:

If it is available on your system, please use "tn3270" (telnet supporting 3270 emulation) to access "blue.adp.wisc.edu" (128.104.198.10). When connected you are presented with a menu from which you select "NLS", the library catalog. Either use function keys to select an option or tab to the option you want and press _ e_ n_ t_ e_ r.

Telnet access is also available via a gateway machine

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

providing the necessary 3270 emulation. From your local host use "telnet" to access "nls.adp.wisc.edu" (128.104.198.20). You will be prompted to enter a terminal type ("VT100" is the default, or you can enter the command "list" to display a list of supported terminal types). After entering a valid terminal type, select "NLS" from the menu to connect to the library catalog.

Upon entering NLS, a screen is displayed at which you either press "enter" to search the Madison catalog or type "Mil" and press "enter" to search the Milwaukee catalog. Enter the command "exit" on any screen to return to the main menu. To exit from NLS, return to the main menu and select the option to "quit". This returns control to your local host.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ N_ L_ S:

The University of Wisconsin library catalogs for the Madison and Milwaukee campuses are currently available to all interested parties.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n:

Xterm users or other windowing software users must set their window size to 80 characters x 25 lines.

For help using NLS or to obtain a free "NLS Computer Catalog User's Guide," contact the Memorial Library Information Desk at (608) 262-3193, or Dennis Hill via the Internet: dhill@vms.macc.wisc.edu.

More detailed information on accessing NLS via the Internet is documented in: "TCP/IP Network Access To The NLS Catalog Via Tn3270 And Telnet." For a copy of this document, or any other information, contact the Automation Help Desk at (608) 262-8880, or via the Internet at "glshelp@vms.macc.wisc.edu".

Note on keyboard mappings:

Because keyboard mappings are defined by the tn3270 software on the client's host computer, we are not able to tell you definitively how your keyboard will be mapped. The following chart shows a selection of the tn3270 keyboard mapping used on many UW Madison VAX computers. These definitions are also used when accessing NLS via telnet as they are provided by the 3270 software on the gateway machine.

KEY PURPOSE	KEYBOARD DEFINITION
Send (called the BLUE key in NLS)	Enter or Return
Erase-to-end-of-field (called the YELLOW key in NLS)	Ctrl-e
Delete character	Ctrl-d
Escape key	PF11 (default mapping)
Insert/Overstrike toggle	Escape space
Function keys PF1-PF9	Escape 1-Escape 9
Function key PF10	Escape 0
Function key PF11	Escape -
Function key PF12	Escape =

University of Utah Library Card Catalog System

_ A_ d_ d_ r_ e_ s_ s:
Marriot Library
University of Utah

Salt Lake City, UT 84112

_ E-_ m_ a_ i_ l: postmaster@cc.utah.edu

_ P_ h_ o_ n_ e: (801) 581-6273

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The University of Utah library card catalog system is available via the Internet. It allows subject, author, title, and keyword search on the bibliographic reference. The system lists the books and periodicals for the main library and the law library.

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

To access the card catalog, use the tn3270 program and connect to lib.utah.edu; press the return or enter or clear key; and enter "dial unis" (Unis is the name of the catalog system). To leave the system, close the connection using whatever mechanism your tn3270 program provides.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

Anyone can use the catalog.

_____

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

x

LUIS - Northwestern University Online Catalog

_ A_ d_ d_ r_ e_ s_ s:
Data Center
Northwestern University Library
1935 Sheridan Road
Evanston, IL 60208-2300 USA

_ E_ m_ a_ i_ l: library@nuacvm.acns.nwu.edu

_ P_ h_ o_ n_ e:
(708) 491-8390
FAX: (708) 491-8306

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Northwestern University's LUIS online catalog provides author, title, and subject access to approximately 700,000 bibliographic records, including monographs processed by the main library since 1970 and all serials, regardless of date. Holdings of the Medical, Law, Dental, and Transportation Libraries and the United Libraries of the Garrett Evangelical and Seabury Theological Seminaries are also included.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Domain Name: nuacvm.acns.nwu.edu
Machine Address: 129.105.16.1

IMPORTANT: At the VM/CMS introductory screen, type "DIAL VTAM" at the "COMMAND===>" prompt. Then at the "Enter application ID:" prompt, type "LIBRARY" and press "enter". LUIS is the online catalog.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

The Northwestern LUIS online catalog database is available without restriction. The MEDLINE and EXAC databases are for use by the Northwestern community.

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Northwestern University Library Reference Department:
(708) 491-7656

James Aagaard: (708) 491-8301
(Director, Information Systems Development Office)

Brian Nielsen: (708) 491-2170
(Assistant University Librarian for Network Development)

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

Instructional document "luistel.net" available in directory "library" via anonymous ftp from "nuacvm.acns.nwu.edu".

URSUS - Holdings of the University of Maine System
and Participating Libraries

_ A_ d_ d_ r_ e_ s_ s:
Systems Office
Raymond H. Fogler Library
University of Maine System
Orono, Maine 04469-0139

_ E_ m_ a_ i_ l: lutz@maine.maine.edu

_ P_ h_ o_ n_ e: (207) 581-1658

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

URSUS (University Resources Serving Users Statewide) is an information system based on the Innovative Interfaces Software (INNOPAC). The system provides access to the union catalog for the seven University of Maine System libraries, and other particiapting libraries. The Maine State Library, the Maine State Law and Legislative Reference Library, and the Bangor Public Library are participating libraries. The union catalog currently contains 1.2 million bibliographic records, representing approximately 90% of the total holdings of the participants.

URSUS is the gateway to other information resources on the system including the Maine Union List of Serials, periodical indexes, other library catalogs, and locally mounted databases.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Domain Name: URSUS.MAINE.EDU

Machine Address: 130.111.64.1

After you have connected to URSUS, type "ursus" in lower case letters at the "login" prompt, and press "return" to see a list of valid terminal types: VT100, Wyse, or

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The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

emulator. Specify your terminal type, confirm your terminal choice, and begin searching.

W h o C a n U s e U R S U S

URSUS is available to all members of the Internet community. Access to licensed, commercial databases is restricted based on the host IP address.

M i s c e l l a n e o u s

For additional information contact:

Elaine Albright, Dean of Cultural Affairs and Libraries
(207)-881-1660; albright@maine.maine.edu

Marilyn Lutz, Systems
(207) 581-1658; lutz@maine.maine.edu

NOTIS/LUIS - University of Illinois at Chicago

_ A_ d_ d_ r_ e_ s_ s:
University of Illinois at Chicago
University Library
Box 8198 m/c 234
Chicago IL 60680

_ E_ m_ a_ i_ l: lib-sugg@uicvm.uic.edu

_ P_ h_ o_ n_ e: (312) 996-2716

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

LUIS, the Library User Information Service, can be used to find bibliographic information, locations, and call numbers for materials held by the libraries of the University of Illinois at Chicago (UIC). LUIS includes more than 860,000 titles. Older items in the UIC libraries may not be included in LUIS.

LUIS contains records for all books cataloged since 1976 for the Library of the Health Sciences (LHS), and since 1977 for the other UIC libraries. Many older books in the east campus libraries are also included: all English-language books published since 1968, and virtually all books in the Architecture and Art, Math, and Science Libraries are in LUIS.

LUIS also contains LHS audiovisuals cataloged since 1978 and selected government documents at LHS. Records and holdings for all periodicals currently received by LHS, and for most periodicals currently received by the other libraries, are in LUIS. Most titles not yet cataloged (including those on order) are also included.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

"telnet" to "uicvm.uic.edu" (128.248.2.50) for "tn3270" only.

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

"telnet" to "uicvm-7171.uic.edu" (131.193.2.231) for "7171".
At the UIC screen, press "enter".
At the logon screen, type "DIAL PVM".
At the PVM screen, move the cursor to "NOTI" and press "enter".
You will see a message about the port in use; press "enter".
Then you will see the LUIS introductory screen.

To leave the system:

Type "####".
You will see the PVM screen; type "PA1".

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

There are no restrictions at present.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

For additional information, contact:

Nancy John, Assistant University Librarian
(312) 996-2716
U31452@uicvm.uic.edu

Paige Weston, Systems Librarian
(312) 996-8974
U50343@uicvm.uic.edu

Harriet Gorny, Systems Programming Manager
(312) 996-2479
U35049@uicvm.uic.edu

George Yanos, Associate Director, Computer Center
(312) 996-2459
U08208@uicvm.uic.edu

Cleveland Public Library Catalog

_ A_ d_ d_ r_ e_ s_ s:
Automation Services Department
Cleveland Public Library
325 Superior Avenue
Cleveland, Ohio 44114

_ E-_ m_ a_ i_ l: none

_ P_ h_ o_ n_ e: (216) 623-2810

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Cleveland Public Library's catalog is now available through Internet connections. The catalog contains 1.6 million titles and 5.9 million items representing the holdings of eighteen libraries in northern Ohio, as well as a Union List of Periodicals that includes thirty-eight area libraries, including Case Western Reserve, the Cleveland Clinic Foundation, and the Cleveland Health Sciences Library.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

To connect:

TELNET CLEVXE.CPL.ORG

After connecting, press Return a couple of times, and follow the menu.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

Anyone can use the catalog.

_____

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

LIAS - Penn State University's Library Information Access System

_ A_ d_ d_ r_ e_ s_ s:
Attention: Sally Kalin
Penn State University Libraries
E-6 Pattee Library
University Park, Pennsylvania 16802

_ E_ m_ a_ i_ l: swk%psulias.bitnet@cunyvm.cuny.edu

_ P_ h_ o_ n_ e: (814) 865-0672

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

LIAS is the Library Information Access System of the Pennsylvania State University Libraries. It includes the online catalog and access to other databases/services. The catalog contains approximately 1.5 million unique titles, representing not only the holdings at the main campus at University Park, but also the holdings of Penn State Harrisburg; Penn State Erie, the Behrend College; Great Valley; and the seventeen Commonwealth campuses. In addition to

monograph and serial records, LIAS provides bibliographic access to the the maps collection, musical scores, sound recordings, archive and manuscript collections, parts of the government documents and microforms collections, and the machine-readable data files available on campus. LIAS also provides access to the collections of Audio-Visual Services, the Paul Robeson Cultural Center, and the National Cable Television Center and Museum. Databases include ERIC and electronic journals. Some databases are restricted to Penn State faculty, staff, and students.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Telnet, preferably using VT100 emulation, to lias.psu.edu. When the telnet session is established, the user will receive a message similar to:

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The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

"Welcome to the Pennsylvania State University
Library Information Access System."

You can negotiate VT100 emulation at this point. If you have emulation problems, try typing terminal VT100 at the ">>>" prompt.

Now begin searching the LIAS database. LIAS does not differentiate between author, title, and subjects in its command structure. Simply enter the words you wish to search.

To see a list of databases that are available, type "SELECT" and press return.

The user can type "HELP LIAS" for information. For a list of LIAS commands, type "HELP COMMANDS." The extensive help command structure can answer most questions about the system.

To exit the system and close your connection, type "END" or

"EXIT."

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

The Penn State Library Information Access System is available to all members of the Internet community. Some of the databases available through this service may be restricted to use by Penn State faculty, staff, and students.

HOLLIS - Harvard Online Library Information System

_ A_ d_ d_ r_ e_ s_ s:
Office for Systems Planning and Research
Harvard University Library
1280 Massachusetts Ave., Suite 404
Cambridge, MA 02138

_ E_ m_ a_ i_ l: library@harvarda.harvard.edu

_ P_ h_ o_ n_ e: 617-495-9388 (HOLLIS Network Assistance Line)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Harvard Online Library Information System (HOLLIS) provides access to a number of databases including two library catalogs. The union catalog of the Harvard University libraries contains approximately three million records for books, journals, manuscripts, scores, sound recordings, visual materials, and computer files in the collections of most of the Harvard libraries. (This database includes most items cataloged since 1977, and is adding records for older materials at the rate of approximately one million per year through a major retrospective conversion project.) The catalog of older Widener Library materials contains about a million short records for books cataloged for the main research library before 1977.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

HOLLIS is available via Telnet or TN3270 to hollis.harvard.edu (128.103.60.31). To exit, use your Telnet escape sequence.

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HOLLIS is available to all. Many of the HOLLIS databases are available with no access restrictions. Certain other databases may be restricted to Harvard students and employees because of agreements with the database vendors.

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

For additional information, contact:
library@harvarda.harvard.edu

LCMARC - Cataloging Records from Library of Congress

_ A_ d_ d_ r_ e_ s_ s:
Data Research Associates, Inc.
Sales Department

1276 North Warson Road
St. Louis, Missouri 63105

_ E_ m_ a_ i_ l: Catalog@DRA.COM

_ P_ h_ o_ n_ e: (314) 432-1100
FAX: (314) 993-8927

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Software Development Group of Data Research Associates, Inc. has made over four million cataloging records from the Library of Congress LCMARC service available to researchers via the Internet. This database contains the records from the Books All, Maps, Music, Serials, and Visual Materials services as distributed by the Cataloging Distribution Service. The database contains the machine readable cataloging of the Library since 1968 (or later for some types of materials).

Guest users may search the database by author, title, author/title, ISBN, ISSN, LCCN, as well as qualifying searches by language, copyright date, or cataloging format. Subject and keyword searching is not available to guest users. Additional types of searches may be available for users with Data Research accounts.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Telnet, using VT100 or better emulation, to dra.com (192.65.218.43). After the copyright notice and initial screen appear, you can begin searching the database.

"A=" for an author search, e.g., "A=Shakespeare William"
"T=" for a title search, e.g., "T=Taming of the Shrew"
"L=" for a LCCN search, e.g., "L=89001392"

_____
The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

"I=" for a ISBN search, e.g., "I=0134701542"
"N=" for a ISSN search, e.g., "N=0891-9860"
"??" for additional help
"EX" to exit

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

Only two guest users are allowed access at a time during business hours, 8:00 am to 5:00 pm (Central Time). Guest access to this database may not be used for cataloging or competitive purposes. Access from outside the United States may require prior arrangements.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Data Research Associates, Inc., is not responsible for supporting or maintaining this service or its data for guest users. This service may be modified, unavailable, or withdrawn at any time without notice.

Records originating with the Library of Congress are copyrighted by the Library of Congress for use outside the United States.

This service is not the same as the LC card catalog, and is not sponsored or in any way affiliated with the Library of Congress.

The Online Catalog, Princeton University Libraries

_ A_ d_ d_ r_ e_ s_ s:
Systems Office
Firestone Library
Princeton University
One Washington Road
Princeton, New Jersey 08544

_ E_ m_ a_ i_ l:
Systems: marvinb@pucc.princeton.edu
marvinb@pucc (BITNET)
Online Catalog help: fstcat@pucc.princeton.edu
fstcat@pucc (BITNET)

_ P_ h_ o_ n_ e:
Systems Office: (609) 258-5143
General Reference: (609) 258-3180

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Online Catalog contains records for most books and materials acquired by Princeton University Libraries since Jan. 1, 1980. For other titles held by the Libraries, users must consult the card catalog or other sources.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Telnet to catalog.princeton.edu or 128.112.131.101

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

No restrictions.

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

POLYCAT - The Online Catalog of the Kennedy Library
California Polytechnic State University, San Luis Obispo

_ A_ d_ d_ r_ e_ s_ s:
Ilene Rockman
Polycat/Systems Support
Kennedy Library
Cal Poly
San Luis Obispo, CA 93407

_ E_ m_ a_ i_ l: ilene@library.calpoly.edu

_ P_ h_ o_ n_ e:
(805) 756-5787
Fax: (805) 756-1415
TDD: (805) 756-2273

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Polycat is the online catalog of Kennedy Library at California Polytechnic State University at San Luis Obispo, California. It contains over 600,000 books, as well as serials, maps, documents, media, computer software, senior projects, and Cal Poly master's theses. The system software is from CLSI.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

"telnet" to "library.calpoly.edu" (129.65.20.21). At the menu, select "1" for Polycat, and follow the instructions on the screen. The escape character is "control-d".

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

The online catalog has open access. However, the Kennedy Library reserves the right to restrict access to local patrons, should that be necessary.

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

- o + Polycat provides circulation status, and supports browse and keyword searching, truncation, and limits by language, material type, and/or publication date.

- o + For help with search strategies, contact the Reference Department, (805) 756-2649.

- o + An electronic suggestion box is available.

OASIS - University of Iowa Libraries

_ A_ d_ d_ r_ e_ s_ s:
University Libraries
University of Iowa
Iowa City, IA 52242

_ E_ m_ a_ i_ l: Susanne-Olson@uiowa.edu

_ P_ h_ o_ n_ e: (319) 335-5031

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Currently OASIS contains more than 1,000,000 bibliographic records. These records represent (1) all cataloged items in the Main Library and the eleven departmental libraries published since 1980 (along with many older books and journals), and (2) all Law Library materials except some Iowa documents in microfiche format and all U.S. government documents.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

To access OASIS using IBM 3270 emulation: TN3270 to "uidpjes2.adp.uiowa.edu"

To access OASIS using Telnet: "telnet" to "oasis.uiowa.edu"

After connection is made, press "return" to display a menu of available systems. Type the number "1" for OASIS access and press "return".

To disconnect: Type "STOP" at any command prompt.

Availability: The OASIS online catalog can be searched Monday through Thursday from 7:30 a.m. to 2:30 a.m.; Friday and Saturday from 7:30 a.m. to 12:30 a.m.; and Sunday from 9:00

a.m. to 2:30 a.m. (Iowa is in the Central Time Zone.)

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W h o C a n U s e t h e C a t a l o g

Access to LCAT and CRLC is unrestricted. Help screens are available. Access to WILS requires a valid University of Iowa ID.

M i s c e l l a n e o u s

For questions concerning network access, contact:
Weeg Computing Center User Consultants
(319) 335-5530

For questions concerning OASIS system use, contact:
Main Library
(319) 335-5299

BUBL - The Bulletin Board for Libraries

_ A_ d_ d_ r_ e_ s_ s:
Dennis Nicholson
Systems Division
Strathclyde University Library
101 St James' Road
Glasgow
Scotland
United Kingdom
G4 ONS

_ E_ m_ a_ i_ l: cijs03@vaxa.strathclyde.ac.uk

_ P_ h_ o_ n_ e: 041 552 3701 ext 4132

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

BUBL is the BUlletin Board for Libraries on JANET, the Joint Academic NETwork in the U.K. BUBL collects information of interest to network- using librarians and their users. A major aim is to provide librarians with information on services and resources on JANET and other networks (e.g., the European IXI network and the world-wide Internet). However, BUBL also covers items of general interest to librarians. Moreover, it is increasingly used by non-librarians - lecturers, students, and others - for the guidance it provides on finding and using networked resources and services. Most BUBL users are from the U.K. However, there are known users

in several other countries, including Sweden, the Netherlands, Canada, Hong Kong, and the U.S.A.

BUBL is run by the Universities of Strathclyde and Glasgow on behalf of JUGL, the JANET User Group for Libraries. It is partially supported by the Information Systems Committee of the Universities Funding Council and by private sponsorship, but is run on a mainly voluntary basis by the two universities. The user interface is provided by a software package called 'USERBUL'(copyright Leicester University and NISS). This allows information to be accessed through a series of menus and sub-menus. However, since the hierarchical

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The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

structure is apparent rather than real, users need not "climb" or "descend" 'through menus in order to reach the files or menus they desire. It also allows users to search large files by keyword, to transfer information to their host machine via electronic mail using the POST command, to send a message to the editor, or to display various kinds of online help. Versions of this software are also used by the humanities bulletin board HUMBUL and by the NISS (National Information on Software and Services) bulletin board.

Sections of particular interest are:

B electronic reference works of various kinds, including manuals, guides, descriptions of networked services, bibliographies of networking

C recent LIS publications with abstracts(courtesy of Book Data and others)

D national and international e-text directories covering opacs, information services, electronic mail addresses, scholarly discussion lists, and resources in general

E the most recent contents pages of over 70 LIS journals.

H users information, including information from LIS

organisations, news, items for sale, results of surveys

S electronic journals and texts, including sources of electronic text, a directory of electronic journals and newsletters, some electronic journals in the LIS field, and related items

V library systems and software items, including examples of Operational Requirements for library computing systems

Z Special user education team run by the Loughborough LIS Computers In Teaching team

Information on the bulletin board is updated on a daily basis, and update bulletins are sent out once or twice weekly to the 680 plus members of the LIS-link electronic mail discussion list on JANET.

The British Library Research and Development Division has recently funded a six-month study into the future of BUBL. The study aims to investigate how BUBL's role and, consequently, its coverage and facilities should be developed in the next few years, and to produce a coherent, co-ordinated and costed short to medium term development plan as a guide to future efforts.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

To access BUBL from the internet:
telnet sun.nsf.ac.uk or 128.86.8.7
login: janet

At the "hostname:" prompt, type uk.ac.glasgow.bubl

At the "terminal type" prompt, enter vt100

(a password is not required)

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ B_ U_ B_ L

No restrictions. Aim is to serve library and information workers in particular, but also to serve the wider networking community by providing access to directories and other

publications which facilitate resource access.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Regular bulletins describing additions and updates to the service are sent to the members of the LIS-link email discussion list. Note, however, that there is a restriction on non-UK membership of this list. UK residents may join the list by sending the message:

Join lis-link Firstname Lastname

to: mailbase@uk.ac.mailbase

Non-UK residents should contact cijs03@vaxa.strath.ac.uk before joining the list.

WUGate Services - Washington University Library/Database Access System

_ A_ d_ d_ r_ e_ s_ s:
Office of the Network Coodinator
Washington University Campus Box 1048
One Brookings Drive
St. Louis, Missouri 63130-4899

_ E_ m_ a_ i_ l: services@wugate.wustl.edu

_ P_ h_ o_ n_ e: (314) 935-9022

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

WUGate's services is a captive account providing telnet access to 200 library and database systems on the Internet.

Included are connections to databases from the FDA, NASA and many universities. Libraries at Boston University, the University of California System and others offer catalog services via the Internet and may be reached using WUGate services. Several public libraries are also accessible along with bulletin board systems, weather updates, campuswide information systems and tools for navigating the Internet produced by many different organizations.

Network Access

WUGate is accessible by telnet to wugate.wustl.edu (128.252.120.1). Login as services, no password is required.

Who Can Use WUGate Services

Anyone may use WUGate services freely at any time.

Miscellaneous

Since many systems accessible by WUGate services are auto baud, press return several times to get a response. Systems may use IBM3270 emulation. If a connection accessed using

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services does not exit gracefully, use control-] to escape.

Whenever possible, each WUGate services entry includes a short description of the remote library/database system with a contact name. Some systems require passwords and fees. Contact the remote system for details.

All remote systems accessible via WUGate services can be reached directly using telnet. To telnet directly to a remote system use the address given in the menu.

If you have a resource to add to WUGate services, send E-mail to services@wugate.wustl.edu. Include a short description on how to access your system.

WUGate services main menu:

1. About Washington University Services
2. Washington University Services
3. United States Libraries
4. Foreign Libraries
5. Government Libraries and Public Accessible Databases
6. Campus Wide Information Systems
7. All Services
8. Recent Additions
9. Weather Forecast for US/Canada
10. QUIT the Washington University Services program

Chapter 3: Data Archives

The Internet is home to a wide variety of data archives. In this section we try to list the more important and the more uncommon archives. In particular, we do not list archives of mailing lists, other than those that do software distributions. Such archives can be located by asking the maintainers of the mail lists.

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3.11 [Transferred] Matrix of Biological Knowledge Archive-Server [Sep90]

3.12 COSMIC - Software Distribution Center for NASA [Jun92]

3.13 IuBio Archive for Molecular and General Biology [Sep92]

3.14 PENpages [Jul92]

3.15 Dartmouth Dante Database [Apr90]

3.16 DDN Network Information Center SERVICE Mail Server [Jun90]

3.17 NICOLAS - The NASA Network Information Center [Oct92]

3.18 MATLAB User Group Archive [Sep90]

3.19 Statlib - Statistical Software and Data Distribution System [Mar91]

3.20 MBCRR - Molecular Biology Computer Research Resource [Apr91]

3.21 NED - NASA/IPAC Extragalactic Database [Aug92]

3.22 INFO-SOUTH - Latin American Information System [Aug92]

3.23 UCAR/Unidata - An NSF-Funded Data Software Center for Universities [Aug92]

3.24 INFO - University of North Carolina at Chapel Hill INFO Service [Mar91]

3.25 Archie - The McGill School of Computer Science Archive Server Listing Service [Apr91]

3.26 LADB - Latin America Data Base [Aug92]

3.27 NSF STIS - Science and Technology Information System [Jun92]

3.28 ICDL - Online Database of the International Center for Distance Learning [Sep92]

3.29 Bibliographic Mailserver for Artificial Intelligence Literature [Aug91]

3.30 General Accounting Office Reports [Aug91]

3.31 List of Lists [Aug91]

3.32 FEDIX and MOLIS - Federal Information Exchange [Dec91]

3.33 The University of Michigan Software Archives [Jun92]

3.34 Mid-RTTC - Mid-Continent Regional Technology Transfer

Center [May92]

3.35 EMBL - Data Library Network Servers [Sep92]

3.36 ECIX - Energy and Climate Information Exchange File Distribution Service [Oct92]

GENE-SERVER

_ A_ d_ d_ r_ e_ s_ s:
Dr. Dan Davison
BCHS-5500
Dept. of Biochemical and Biophysical Sciences
University of Houston
4800 Calhoun, Houston, Tx, 77204-5500

_ E_ m_ a_ i_ l: davison@uh.edu (Internet), DAVISON@UHOU (Bitnet)

_ P_ h_ o_ n_ e: (713) 743-8366 (Dr. Davison)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Gene-Server is a mail response facility that will return a specific GenBank (tm) entry requested via e-mail.

Other Services:

The server now distributes Protein Information Resource (PIR, also known as NBRF) protein sequence database entries. The VMS and ASCII versions of PIR are available for anonymous FTP as well as via Gopher.

Molecular biology software for Apple Macintosh, DOS, Unix and VAX-VMS computers is also available from the server.

A number of information files (the R. Roberts Restriction Enzyme database; sequence analysis reference, and such) are distributed.

The Matrix of Biological Knowledge Archive-Server files are now available only from this address.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The server can be accessed via e-mail on the Internet, BITNET, and UUCP networks. The addresses to use are:

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gene-server@bchs.uh.edu (Internet)
bchs.uh.edu!genbank-server (Usenet)
gene-server%bchs.uh.edu@CUNYVM (BITNET)

Please be aware that a mail response program is not "smart" and can only respond to a limited set of commands. GenBank entries are available by name and accession number only.

Your request can consist of one of the following:

```
HELP
SEND HELP
SEND GB-LOCUS genbanklocusname
SEND INDEX indexname
SEND ACCESSION accession_number
SEND ACCESSION accessionumber(s)
SEND KEYWORD genbankkeyword
SEND PIR-KEYWORD pirkeyword
SEND PIR-ACCESSION piraccessionnumber(s)
```

There are many other parameters for specific subsets of the Gene-Server, please see the individual HELP files.

"HELP" will result in a small help file being sent back; everyone should request the help message. The file will contain up-to-date information about the server, access, release numbers, and policies. The help message also includes all index names, so "SEND INDEX" no longer works. "SEND INDEX index_name" (where "index_name" is one of the index files listed in the HELP message) will work. "SEND LOCUS genbank_locus_name" will return via e-mail the requested locus if it exists, and an error message if it does not. Use the index file in the HELP message to find the name of the entry, or use the accession number.

Note that large GenBank entries (Lambda, EBV, tobacco and liverwort chloroplasts) may not make it through the thread of mailers. UUCP mailers, in particular, silently enforce a limit of 64,000 characters in a single mail message. Note also that Usenet mail is very unreliable; you should consult the "pathalias" database to construct a mail path from your machine to bchs.uh.edu. A local Unix mail wizard may be able to help.

The Gene-Server itself silently enforces a limit of one megabyte on a reply. Please do not ask for a lot of software or data in a single message.

IMPORTANT NOTE: "gene-server@bchs.uh.edu" is an MX record. If you have problems reaching that address, ask your local system mail expert how to handle addresses that are "MX records." As a "very" last resort, send email to one of the addresses given above.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ G_ e_ n_ e-_ S_ e_ r_ v_ e_ r

Anyone can use the catalog.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

The current version of GenBank on the server is Release 64. The server is updated as often as possible given funding (none) and disk space constraints. The server may be updated daily in the future.

Information and software is exchanged regularly with the European Molecular Biology Laboratory (EMBL) File Server, and the molbio ftp sites, "ftp.bchs.uh.edu" and "nic.funet.fi"; but the specific files, syntax, and information vary between the four servers.

The server contains a simple response to someone asking for too many loci or otherwise abusing the service: it stops working for them.

Questions can be sent to davison@uh.edu (Internet) or DAVISON@UHOU(BITNET). Requests to talk to a human rather than a mail response program should be sent to archive-management@bchs.uh.edu. By popular demand, archive-managment@bchs.uh.edu also works.

This service is provided by the Institute for Molecular Biology, the Department of Biochemical and Biophysical Sciences, and is funded by the National Science Foundation.

The server is not funded or related in any with the DHHS, PHS, National Institutes of Health, or its contractors or subcontractors on the GenBank contract. GenBank is a trademark of the US Department of Health and Human Services, US Public Health Service.

LiMB - LIsting of Molecular Biology Databases

_ A_ d_ d_ r_ e_ s_ s:
LiMB
Group T-10, MS K710
Los Alamos National Laboratory
Los Alamos, NM 87545

_ E_ m_ a_ i_ l: limb@temin.lanl.gov

_ P_ h_ o_ n_ e: (505) 667-7510
FAX: (505) 665-3493

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The LiMB (LIsting of Molecular Biology databases) database is a computer-based collection of information on molecular biology and related databases. LiMB is intended to facilitate locating and accessing these databases as well as to provide an ``overview'' that will help in developing a systematic, coordinated approach to designing, developing and maintaining these databases.

Each entry in LiMB currently consists of 57 fields, including: database staff names and addresses; database maintenance hardware and software; scope of coverage and database goals; details about submission and access to the data sets; database size; and types of data covered by the database. LiMB entries are based on questionnaires filled out by the database managers or, in the absence of a completed questionnaire, on secondary sources (e.g., a journal article). LiMB is currently maintained in a relational DBMS.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

LiMB is not available through direct network access. It can be sent via electronic mail.

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_ W_ h_ o _ C_ a_ n _ U_ s_ e _ L_ i_ M_ B

There are no access restrictions for LiMB.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

LiMB Release 1.0 was issued in February, 1988, Release 2.0 in August, 1990, and Release 3.0 in July, 1992. LiMB is available in flat file format in hardcopy, on a PC- or Mac-formatted floppy disk or via email. Requests to receive LiMB can be sent via email, by phone or by U.S. Post. Please indicate in what form (hardcopy, floppy disk or email) it should be sent.

MEMDB - Medieval and Early Modern Data Bank

_ A_ d_ d_ r_ e_ s_ s:
The Medieval and Early Modern Data Bank
Department of History, CN 5059
Rutgers, the State University of New Jersey
New Brunswick, NJ 08903

_ E-_ m_ a_ i_ l: 4212001@rutmvs1.rutgers.edu

_ P_ h_ o_ n_ e: (908) 932-8493

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Medieval and Early Modern Data Bank is a resource project established at Rutgers University and co-sponsored by The Resource Libraries Group, Inc. Its aim is to provide scholars with a continually expanding reference library of information concerning the medieval and early modern periods, circa A.D. 800-1800. Because MEMDB is a computer-based, electronic reference tool, it offers remarkable facilities for immediate information retrieval and manipulation.

In 1993 MEMDB will become available in CD-ROM, available at a modest charge and with regular updates through Rutgers or RLG. Its master data set will be vastly expanded. MEMDB's scope will extend to virtually any scholarly compilation of data that can be presented in a tabular form. New material to be incorporated will include information on such subjects as wages and prices, household size, mortality, property-holdings, charity, and nutrition, drawn from such sources

as:

- o + taxation records
- o + wills and inventories
- o + parish records and vital statistics

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- o + company records
- o + import/export records
- o + household/estate accounts
- o + paleopathology studies

In addition, MEMDB will provide important scholarly reference aids, such as:

- o + glossaries of weights and measures
- o + gazetteers of Latin and vernacular place names
- o + calendars of dates.

Miscellaneous

Development of on-line system in planning stage.

Netlib Mathematical Software Distribution System

_ A_ d_ d_ r_ e_ s_ s: None

_ E-_ m_ a_ i_ l: netlib@ornl.gov

_ P_ h_ o_ n_ e: None

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Netlib is a system for distribution of mathematical software by electronic mail. To get information about Netlib, mail the following one-line message to netlib@ornl.gov.

```
send index
```

For background about Netlib, see Jack J. Dongarra and Eric Grosse, ``Distribution of Mathematical Software Via Electronic Mail,'' _ C_ A_ C_ M (1987) Vol. 30, pp. 403-407.

The Netlib library includes the following software collections (for details on each, see the index message).

a - approximation algorithms (almost empty, but soon to grow)
alliant - set of programs collected from Alliant users
apollo - set of programs collected from Apollo users
benchmark - various benchmark programs and a summary of timings
bihar - Bjorstad's biharmonic solver
bmp - Brent's multiple precision package
cheney-kincaid - programs from the text Numerical Mathematics and Computing.
conformal - Schwarz-Christoffel codes by Trefethen, Bjorstad & Grosse
core - machine constants, blas
domino - communication and scheduling of multiple tasks; Univ. Maryland
eispack - matrix eigenvalues and vectors
elefunt - Cody and Waite's tests for elementary functions
errata - corrections to numerical books
fishpack - separable elliptic PDEs; Swarztrauber and Sweet
fitpack - Cline's splines under tension

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fftpack - Swarztrauber's Fourier transforms
fmm - software from the book by Forsythe, Malcolm, and Moler
fn - Fullerton's special functions
gcv - Generalized Cross Validation
go - ``golden oldies,'' gaussq, zeroin, lowess, ...
graphics - ray-tracing harwell - MA28 sparse linear system
hompack - nonlinear equations by homotopy method
itpack - iterative linear system solution by Young and Kincaid
lanczos - Cullum and Willoughby's Lanczos programs
laso - Scott's Lanczos program for eigenvalues of sparse matrices
linpack - gaussian elimination, QR, SVD by Dongarra, Bunch, Moler, Stewart
lp - linear programming machines - short descriptions of various computers
microscope - Alfeld and Harris' system for discontinuity checking
minpack - nonlinear equations and least squares by More, Garbow, Hillstrom
misc - everything else
na-digest - archive of mailings to NA distribution list
napack - numerical algebra programs
ode - ordinary differential equations
odepack - ordinary differential equations from Hindmarsh
paranoia - Kahan's floating point test
pchip - hermite cubics Fritsch & Carlson

pltmg - Bank's multigrid code; too large for ordinary mail
polyhedra - Hume's database of geometric solids port - the public subset of
PORT library
pppack - subroutines from de Boor's Practical Guide to Splines
quadpack - univariate quadrature by Piessens, de Donker, Kahaner
siam - typesetting macros for SIAM journal format
slatec - machine constants and error handling package from the Slatec library
sparse - a set of c codes for sparse systems of equations
sparspak - George + Liu, sparse linear algebra core
specfun - transportable special functions
toeplitz - linear systems in Toeplitz or circulant form by Garbow
toms - Collected Algorithms of the ACM
y12m - sparse linear system (Aarhus)

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Send electronic mail to netlib@ornl.gov. Although messages will be returned by netlibd@mcs.anl.gov, please do not mail to that address.
Additional copies of the server run at:

netlib@research.att.com in New Jersey
netlib@nac.no in Oslo, Norway
netlib@draci.cs.uow.edu.au in Australia

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ a_ t_ a_ l_ o_ g

Anyone can use any of the servers.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

Eric Grosse
AT&T Bell Labs 2T-504
Murray Hill NJ 07974
(201) 582-5828

ehg@research.att.com

SIMBAD - Set of Identifications, Measurements and Bibliography for
Astronomical Data - U. S. Gateway

_ A_ d_ d_ r_ e_ s_ s:
SIMBAD c/o Computation Facility
Smithsonian Astrophysical Observatory

60 Garden St., MS 39
Cambridge, MA 02138

_ E_ m_ a_ i_ l: simbad@cfa.harvard.edu (Internet)
CFA::SIMBAD (NASA SPAN)
SIMBAD@CFA (BITNET)

_ P_ h_ o_ n_ e: (617) 495-7301
FAX: (617) 495-7005

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

SIMBAD is a complete database for observational data and bibliographic references accessible by the name or number of the astronomical object. It is nearly complete to 1950 for stars and to 1983 for non-stellar objects. It excludes solar system objects. It contains information from all major astronomical journals and catalogs and is also useful in providing a complete cross-reference of identifications for an object or for searches of known objects around a coordinate position. SAO is the official NASA agent in the U.S. for this resource. The database is maintained in France by the Centre de Donnees astronomique de Strasbourg (CDS). SAO provides administrative, network, and user assistance in the U.S.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Via the internet or NASA's NSI-DECnet network (details sent when an account is established). A BITNET request service and dial-in access may be offered in the future, as personnel time becomes available. (This is an interactive database.)

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_ W_ h_ o _ C_ a_ n _ U_ s_ e _ S_ I_ M_ B_ A_ D

NASA-funded accounts (in France) are restricted to groups with a NASA or NSF contract. Other individuals must use the resource in collaboration with a group qualifying under the

above conditions

SIMTEL20 - The Public Domain, Shareware, and Documentation Archives

_ A_ d_ d_ r_ e_ s_ s:
SIMTEL20 Host Administrator
STEWS-IM-S, Bldg. 1408
White Sands Missile Range, NM 88002-5506

_ E_ m_ a_ i_ l: ACTION@WSMR-SIMTEL20.ARMY.MIL

_ P_ h_ o_ n_ e: (505) 678-1011, DSN: 258-1011
FAX: (505) 678-1496, DSN: 258-1496

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

WSMR-SIMTEL20.ARMY.MIL is a 4MW DECSYSTEM-20 Model 2065 computer owned and operated by the US Army, White Sands Missile Range, New Mexico. SIMTEL20 has several disk structures containing public domain, shareware, documentation, and mail archives with the following top-level directory names:

PD1:<MSDOS>	large, actively maintained MS-DOS collection
PD2:<ARCHIVES>	mail archives for various mailing lists
PD2:<CPM>	CP/M collection
PD2:<CPMUG>	CP/M User Group collection
PD2:<SIGM>	SIG/M collection (CP/M)
PD2:<ZSYS>	Z/SYS CP/M alternative
PD4:<NICDOCS>	NIC documentation mirror
PD6:<LINUX-OS>	An alternative Unix
PD6:<UNIX-C>	Unix and C programs
PD7:<ADA>	the Ada Software Repository
PD7:<STARS>	STARS (Ada) releases
PD7:<VHDL>	fledgling VHDL collection
PD8:<HZ100>	Heath/Zenith-100 computer collection
PD8:<MISC>	cross-OS and miscellaneous files
PD9:<MACINTOSH>	Macintosh collection

Most top-level directories contain at least one or more subdirectory levels, and several files with common names:

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FILES.IDX	comma-delimited entries for each file
top-dir.CRCLST	a CRC listing of each file
top-dir.ARC	an ARC format version of top-dir.CRCLST
top-dir.DIRLST	a quick-reference list of the sub-dir names

The syntax to reference a file in one of the collections is:

PDn:<top-dir.sub-dir>file.type

The files in the above collections are accessible via ANONYMOUS FTP. The ANONYMOUS login directory holds several files containing detailed information on the collections in general as well as files specific to certain collections.

The MSDOS, MISC, and CP/M collections are maintained by Keith Petersen (W8SDZ), who makes periodic announcements of new releases to the INFO-IBMPC and INFO-CPM mailing lists.

The UNIX-C and LINUX-OS collections are maintained by John Pliler (JPLILER), with periodic announcements of new releases made to the UNIX-SW mailing list.

The MACINTOSH Collection is maintained by Bob Thum (RTHUM), Stan Sobczynski (STAN), and John Mitchener (JMITCHENER), based on announcements made on several Macintosh-related mailing lists.

The CPMUG, SIGM, ZSYS, HZ100, Ada, STARS, and VHDL collections are no longer actively maintained and are offered as-is.

Each mailing list mentioned above have administrative addresses of the form listname-REQUEST@WSMR-SIMTEL20.ARMY.MIL to take requests for additions, changes, and deletions to the lists.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

SIMTEL20 is connected to the MILNET and NSFNET at 192.88.110.20. Use FTP to connect and log in as "anonymous" with any "password". The number of simultaneous ANONYMOUS FTP jobs is limited to nine between 5am and 3pm Mountain Time (GMT-7) weekdays and 27 all other times.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ S_ I_ M_ T_ E_ L_ 2_ 0

In addition to freely available ANONYMOUS FTP access, flat-

fee subscriptions are available for individual access by any federal agency or contractor. For further information on arranging for an account, contact Elwood Baas (EBAAS@WSMR-SIMTEL20.ARMY.MIL) at DSN: 258-1011 or 505-678-1011. Group discounts are available.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

SIMTEL20 files are also available from the following mirror sites:

OAK.Oakland.Edu (141.210.10.117)
wuarchive.wustl.edu (128.252.135.4)
ftp.uu.net (137.39.1.9)
nic.funet.fi (128.214.6.100)
src.doc.ic.ac.uk (146.169.3.7)
archie.au (139.130.4.6)
nic.switch.ch (130.59.1.40)

The files in the SIMTEL20 collections can be indirectly accessed using LISTSERV commands from BITNET via LISTSERV@NDSUVM1 or LISTSERV@RPIECS. In Europe, similar indirect access is available through the EARN TRICKLE servers by sending commands to TRICKLE@<host-name> (example: TRICKLE@TREARN). The following TRICKLE servers are presently available:

AWIWUW11	(Austria)
BANUFS11	(Belgium)
DKTC11	(Denmark)
DB0FUB11, DS0RUS1I and DTUZDV1	(Germany)
EB0UB011	(Spain)
FRMOP11	(France)
HEARN	(Netherlands)
IMIPOLI	(Italy)
TAUNIVM	(Israel)
TREARN	(Turkey)

The MS-DOS collection is available on CD-ROM bundled with library card-catalog type access and duplication software from

Coyote Data, Ltd.
1142 N. Main
Rochester, MI 48307
(313) 651-4071

Several inexpensive CD-ROMs are available from

Walnut Creek CDROM
1527 Palos Verdes Mall, Suite 260
Walnut Creek, CA 94596
Robert Bruce (rab@sprite.Berkeley.EDU), (510) 947-5996

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

See the files in the ANONYMOUS login directory on WSMR-SIMTEL20.ARMY.MIL. Be sure to read SIMTEL-ARCHIVES.INFO first.

SDDAS - Southwest Research Data Display & Analysis System

_ A_ d_ d_ r_ e_ s_ s:
Southwest Research Institute (SwRI)
Division of Instrumentation and Space Sciences
P.O. Drawer 28510
San Antonio, TX 78228-0510

_ E_ m_ a_ i_ l: sddas-help@swri.edu

_ P_ h_ o_ n_ e: (512) 522-3259

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The SDDAS maintains a large optical disk database of data returned by the Dynamics Explorer satellites 1 & 2. It provides interactive tools for displaying this data in various ways and selected subsets may be acquired via anonymous FTP. This data is primarily used by those doing research in space physics, magnetospheric physics, and the dynamics of the upper atmosphere. The measurements are classified as follows: DC magnetic field; AC electric field; particles; electron and ion ionospheric temperature and density; ion composition and drift; thermal neutral drift, composition, density, and temperature.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Access is made via TELNET to espsun.space.swri.edu using port 10000. One may also request a private account if extensive use is projected. NASA sponsored investigators may access this system through the NASA Master Directory on host nssdca.gsfc.nasa.gov. X-window system servers are supported for graphical displays.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ S_ D_ D_ A_ S

A potential user must receive verbal authorization from Dr. J. D. Winningham (512-522-3075 or dwinningham@swri.edu) before making use of this resource. A User's Guide will be

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sent to each authorized user. There are no restrictions on who may use this system, except that credit must be given in any publications that result from its use. There is also a limit of 8 users at any one time.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

A detailed list of the data holdings may be requested from sddas-help@swri.edu. The database server is a SUN SPARCserver 330, soon to be upgraded with additional CPUs. The SDDAS software is available to qualified users for installation on their own workstations. Immediate plans involve the addition to the archive of particle and field measurements from the Upper Atmosphere Research Satellite.

IBM Supercomputing Program Data Base

_ A_ d_ d_ r_ e_ s_ s:
Supercomputing Support Office
University of Illinois at Chicago
Computer Center (mail code 135)
Box 6998
Chicago, IL 60680

_ E-_ m_ a_ i_ l: supersft@uicvm

_ P_ h_ o_ n_ e: (312) 996-2981

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The IBM Supercomputing Program Data Base is a listing of information concerning programs that have been written or converted to use IBM 3090 vector or parallel processing. The data base is maintained by the Computer Center at the University of Illinois at Chicago with support from IBM. Data provided for each program include the program's application area, name, a description, the environment under which it operates, the person to contact for more information and the approximate cost for academic user. The programs themselves are not available through the data base. The data base is referred to as ``supersft'' for ``supercomputing software.''

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

This data base is accessible to other universities through BITNET and the Internet. A LISTSERV virtual machine named SUPERSFT has been established at UIC for easy retrieval of the information.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e
_ D_ a_ t_ a_ b_ a_ s_ e

Access to the database is open to anyone with a BITNET or Internet connection. Access to the programs described in the database is controlled by their owners.

_____

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_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

Three files available through this LISTSERV provide information about the data base, an index to the data base, and a form for submission of information. To receive these files, issue the following commands from a VM system on BITNET:

tell listserv at uicvm get supersft help [for the help file]
tell listserv at uicvm get supersft index [for the index]
tell listserv at uicvm get supersft form [for the submission form]

If you do not use a VM system, send a standard note addressed to ``listserv at uicvm'' if you're on BITNET or ``listserv@uicvm.cc.uic.edu'' if you're on the Internet. The note should contain just the appropriate LISTSERV commands, such as

get [filename1 filetype1]
get [filename2 filetype2]

substituting the names of the files of interest.

Submissions to the data base can be made either electronically or by mail. The information submission form is in the

file named SUPERSFT FORM mentioned above.

VxWorks Users Group Archive

_ A_ d_ d_ r_ e_ s_ s:
Richard Neitzel
National Center for Atmospheric Research
Box 3000
Marshall Field Site
Boulder, CO 80307

_ E-_ m_ a_ i_ l: thor@thor.atd.ucar.edu

_ P_ h_ o_ n_ e: (303) 497-2057

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Source code and other related items for users of the VxWorks real-time operating environment. The archive is set up as a mail-based server. First time users should send a email message to vxworks_archive@ncar.ucar.edu with the following as the message (not subject):

    send index.

Anonymous FTP may also be used to access the archive. Files are in the pub/unix and pub/vx directories. The FTP address is thor.atd.ucar.edu (128.117.81.51).

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

For submissions: Send email to thor@thor.atd.ucar.edu or FTP to pub/incoming. Please send an email note to inform the maintainer when you deposit something via FTP.

To access the archive server, send email to vxworks_archive@ncar.ucar.edu.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ A_ r_ c_ h_ i_ v_ e

The archive is open to anyone having an interest in VxWorks.

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The mail server will not accept submissions; these must be sent to the archiver or deposited via FTP.

For interested parties, 1/2" and 1/4" tape can be used if the tape is sent to the address listed above.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

Alternate phone number: 303-497-2060

Please do not send requests for the server to the archiver- it makes him cranky!

Washington University Public Domain Archives

_ A_ d_ d_ r_ e_ s_ s:
Washington University
Office of the Network Coordinator
One Brookings Drive

Campus Box 1045
St. Louis, Missouri USA 63130-4899

_ E-_ m_ a_ i_ l: archives@wugate.wustl.edu

_ P_ h_ o_ n_ e: (314) 362-6186

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

A huge archive of public domain and shareware software, including complete collections of most of the source and binary groups from USENET, as well as an official mirror copy of the Info-Mac archives. Also maintained in the archive is the complete source to TeX and the X windowing system (Version 11R3) and all of the GNU Project Software. A complete set of the Request For Comment (RFCs) documents, and Internet Experiment Notes (IENs) may also be found in the archives.

Other things maintained in the archives include:

- o + UUPC (A clone of the UNIX 'UUCP') for most personal computers
- o + The latest Sun EXchange Tape
- o + The public portions of the Berkeley 4.3BSD Tahoe release
- o + Public Domain implementations of TCP/IP (KA9Q and NCSA) for the IBM PC.
- o + A collection of GIF (Graphic Interchange Format) pictures.

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Most of the files in the archive are compressed using the UNIX 'compress' utility to save space. If you are unable to decompress files from the archive and need copies of a limited number of files, send e-mail to archives@wugate.wustl.edu to make special arrangements.

Network Access

The archives are currently accessible through anonymous FTP from wuarchive.wustl.edu [128.252.135.4].

If sufficient bandwidth is available and network administrators don't object, members of MIDNET may mount the archives on their system using NFS.

Who Can Use the Archive

Anyone may use the archives freely at any time.

Miscellaneous Information

Current plans for expansion of the archives include:

- Making recent DECUS (Digital Equipment Corp. User's Society) tapes available.
- Adding more PC (Amiga, Apple II, Atari, IBM PC, Macintosh) archives from User's Groups.
- Mirroring additional valuable archives, including the WSMR-SIMTEL20.ARMY.MIL archives.

Ideas and requests for additional archives are always welcome. In particular, any MIDNET archive site which would like to exchange archives via NFS is asked to send mail to archives@wugate.wustl.edu

[Transferred] Matrix of Biological Knowledge Archive-Server

All of the functions of this server have been transferred to the gene-server@bchs.uh.edu: see entry 3.1 of the "Internet Resource Guide".

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COSMIC - Software Distribution Center for NASA

_ A_ d_ d_ r_ e_ s_ s:
The University of Georgia
382 East Broad Street
Athens, GA 30602

_ E_ m_ a_ i_ l: service@cossack.cosmic.uga.edu

_ P_ h_ o_ n_ e: (706) 542-3265
FAX: (706) 542-4807

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

COSMIC is the distribution center for computer software created under funding from the National Aeronautics and Space Administration (NASA). The inventory contains over 1200 programs. Collections of program abstracts can be mailed within the U.S. at no cost in the following areas: Aerodynamics; Artificial Intelligence; CAD/CAM; Composites; Computational Fluid Dynamics; Control Systems; Finite Element Analysis; Heat Transfer; Image Processing; Optics; Project Management; Reliability; Satellite Communications; Scientific Visualization; Trajectories; Turbine Engineering; and Utilities. Additionally, COSMIC Customer Support will perform a custom search of the inventory to help users identify programs in their area of interest and/or potential re-useable algorithms.

Most COSMIC programs come with the source code. Educational discounts may apply. Members of the Federal Laboratory Consortium qualify for the "Software Exchange" program; details are available on request.

New programs are added to the inventory on a monthly basis. Contact COSMIC by electronic mail to receive a brief description of new programs.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ C_ O_ S_ M_ I_ C

Most new programs are restricted for U.S. distribution only.

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Older programs are available for limited international distribution.

Miscellaneous

Government-funded software is also distributed by:

- National Energy Software Center, (312) 972-7250
- National Technical Information Services, (703) 487-4807

IuBio Archive for Molecular and General Biology

_ A_ d_ d_ r_ e_ s_ s:
Biocomputing Office
Biology Department
Indiana University
Bloomington, IN 47405

_ E_ m_ a_ i_ l: Archive@FTP.Bio.Indiana.Edu

_ P_ h_ o_ n_ e: none

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The IuBio Archive maintains publicly available biology software and data. Molecular biology is the area of concentration. The archive includes software for Macintosh, VAX-VMS, Unix, MS-DOS, and any other important computer operating systems. Contributions of broad interest in any area of biology, and related areas of chemistry and other sciences, are welcome.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

IuBio can be accessed via anonymous FTP file transfer over the Internet. Use an Internet Gopher client to reach FTP.Bio.Indiana.Edu

"ftp FTP.Bio.Indiana.Edu"
"Name:" "anonymous"
"Password:" "yourname"

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ I_ u_ B_ i_ o _ A_ r_ c_ h_ i_ v_ e

Anyone may use this resource, with the restriction that software or data obtained from the IuBio Archive may not be

sold or repackaged.

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_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Don Gilbert is currently maintaining this archive.

PENpages

_ A_ d_ d_ r_ e_ s_ s:
Computer Services
The Pennsylvania State University
405 Agricultural Administration Building
University Park, Pennsylvania 16802

_ E_ m_ a_ i_ l: SUPPORT@PSUPEN.PSU.EDU

_ P_ h_ o_ n_ e: (814) 863-3449
FAX: (814) 863-7209

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

PENpages is an information service containing thousands of reports, newsletters, and fact sheets. The broad range of information, including agricultural science, human health, 4-H and youth development, family life, community development, and other consumer issues, is research-based and consumer-oriented. PENpages is supported and maintained by Penn State's College of Agricultural Sciences.

Information in PENpages is provided by College of Agricultural Sciences faculty and cooperators, including Penn State's College of Health and Human Development, the Pennsylvania Department of Agriculture, USDA, and Rutgers-

The State University of New Jersey.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

PENpages is available via Telnet (VT100 emulation) on host PSUPEN.PSU.EDU (128.118.36.5). At the system prompt "Username:" please respond "PNOTPA."

It is also available through dial-in modems:
- Number: (814) 863-4820
- Speed: 300, 1200, 2400
- Settings: 8, 1, N
- Terminal: VT100/102

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_ W_ h_ o _ C_ a_ n _ U_ s_ e _ P_ E_ N_ p_ a_ g_ e_ s

PENpages is a free service available to anyone with Internet access. If you dial-in, you will have to pay for the telephone charges. A "PENpages User Guide" is available on line or can be obtained from the address listed above.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

For additional information, please contact:
G. Art Hussey, Assistant Director (814) 863-3449

Dartmouth Dante Database

_ A_ d_ d_ r_ e_ s_ s:
Dartmouth Dante Project
1 Reed Hall, HB 6087
Dartmouth College
Hanover NH 03755

_ E_ m_ a_ i_ l: dante@dartmouth.edu

_ P_ h_ o_ n_ e: (603)646-2633

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Dartmouth Dante database contains 600 years of line-by-line commentary to Dante's Divine Comedy, as well as the Petrocchi version of the poem itself. All texts are in their original languages (Italian, Latin, and English) with

no translations. Ancient commentaries have been parsed for the users' convenience. The search program utilized is BRS/Search.

Network Access

Domain name: dartmouth.edu
Machine address: eleazar (or 129.170.16.2)

Who Can Use the Database

Anyone may access the database. There are currently no fees connected with the service.

A public demonstration account (ddpdemo) is available, and personal/institutional accounts are available upon request. The database is accessible by direct modem connection, the Telenet network, or the Internet.

Miscellaneous Information

Janet Stephens (Administrator), siena@dartmouth.edu

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DDN Network Information Center SERVICE Mail Server

_ A_ d_ d_ r_ e_ s_ s:
SRI International
Network Information Systems Center, Room EJ291
333 Ravenswood Ave
Menlo Park, CA 94015

_ E-_ m_ a_ i_ l:
Requests for information via mail: SERVICE@NIC.DDN.MIL
Questions and comments about SERVICE: BUG-SERVICE@NIC.DDN.MIL

_ P_ h_ o_ n_ e: 1-800-235-3155 or (415) 859-3695

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

SERVICE is an automatic mail program provided by the NIC. It allows access to NIC online files and information via ordinary electronic mail. This is especially useful for people who do not have access to the NIC via a direct Internet link. Users can request publicly accessible files and searches in the WHOIS database via this server. Replies are batched and sent back overnight.

SERVICE looks only at the subject line of a message. These are the services currently available:

HELP	A help message with a list of current services.
HOST xxx	Returns information about host xxx. WHOIS xxx can also be used to get more details about a host.
IEN nnn	nnn is the IEN number or the word INDEX.
NETINFO xxx	xxx is a file name or the word INDEX.
RFC nnn	nnn is the RFC number or the word INDEX.

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RFC nnn.PS	to retrieve an available Postscript RFC. Check RFC INDEX for form of RFC.
FYI nnn	nnn is the FYI number of the word INDEX.
FYI nnn.PS	to retrieve postscript versions of FYI files.
SEND xxx	xxx is a fully specified file name.
WHOIS xxx	Returns information about xxx from the WHOIS service. Use "WHOIS HELP" for information on how to use WHOIS.

Example SERVICE subject lines:

```
HELP
RFC 822
RFC INDEX
RFC 1119.PS
FYI 1
NETINFO DOMAIN-TEMPLATE.TXT
SEND RFC:ASSIGNED-NUMBERS.TXT
SEND DDN-NEWS:DDN-MGT-BULLETIN-72.TXT
HOST NIC.DDN.MIL
WHOIS NEOU, VIVIAN
```

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

Access to SERVICE is via electronic mail.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ S_ E_ R_ V_ I_ C_ E

All users of the Internet and users on networks that can send mail to the Internet can use the SERVICE mailbox.

_ A_ d_ d_ r_ e_ s_ s:
Computer Network Branch
Code 933
NASA Goddard Space Flight Center
Greenbelt, MD 20771

_ E_ m_ a_ i_ l: dftnic@dftnic.gsfc.nasa.gov

_ P_ h_ o_ n_ e: (301) 286-9514
FAX: (301) 286-5152

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

NICOLAS (Network Information Center On Line Aid System) is a menu-driven network user help system that functions both as an information server and an inter-network gateway. As an information server, NICOLAS provides syntaxes for inter-network mail addressing, general information about wide-area networks, networking-related "how to" files, information on current NASA missions & projects, and a variety of network- and computer-related information of specific interest to the NASA-Goddard community. As an automated inter-network gateway, NICOLAS enables users to log into their NASAMail and GSFCMail accounts, connect directly to a number of other on-line resources, and perform a variety of "yellow pages" functions.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Access is made via TELNET to dftnic.gsfc.nasa.gov with the username "dftnic"; no password is required. Access can also be made in DECnet via SET HOST to DFTNIC.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ N_ I_ C_ O_ L_ A_ S:

Although NICOLAS is intended primarily for use by NASA employees, researchers, and contractors, all services are available to users of the Internet.

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Miscellaneous

NICOLAS is hosted on a VAX 8250 which is accessible for remote logins via both TCP/IP and DECnet, and which is also a node on BITNET. Dial-up and X.25 access are also available; please contact the Computer Network Branch at GSFC for more information.

References

ABOUT-NICOLAS.TXT is available via Anonymous FTP (in ascii mode) from

dftnic.gsfc.nasa.gov

It is also available via DECnet COPY from the path

DFTNIC::CLSCRATCH:[ANONYMOUS_USER.FILES]ABOUT-NICOLAS.TXT

MATLAB User Group Archive

_ A_ d_ d_ r_ e_ s_ s:
Christian Bischof
Math and Computer Sciences Divison
Argonne National Labs
Argonne, IL 60439 USA

_ E_ m_ a_ i_ l: bischof@mcs.anl.gov

_ P_ h_ o_ n_ e: (708) 972-8875

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

This is a library of user-written functions, utilities, and other related items for users of the MATLAB numeric computation system. The archive is set up as a mail-based server. First-time users should send an email message with their email address to:

matlab-users-request@mcs.anl.gov

to be added to the distribution list for the MATLAB User Group Digest.

The archive includes directories for approximation theory, control theory, data analysis and statistics, graphics, numerical integration, linear algebra utilities, differential equations, zero-finding tools, and tools for classroom instruction with MATLAB.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

For instructions and information on the archive contents, send the following one-line message to netlib@ornl.gov:

send index from matlab

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_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ A_ r_ c_ h_ i_ v_ e

The archive is open to anyone.

Statlib Statistical Software and Data Distribution System

_ A_ d_ d_ r_ e_ s_ s: None

_ E_ m_ a_ i_ l: statlib@lib.stat.cmu.edu

_ P_ h_ o_ n_ e: None

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Statlib is a system for the distribution of software, datasets, and general information of interest to statisticians. To get information about statlib, mail the following one-line message to statlib@lib.stat.cmu.edu:

send index

The Statlib system is based on the netlib software of Dongarra and Grosse. The archives include the following information:

9

S	S functions, device drivers and related software.
s-news	Archives of the S-news mail, in digest format.
general	software of general statistical interest.
apstat	Selected algorithms transcribed from _ A_ p_ p_ l_ i_ e_ d _ S_ t_ a_ t_ i_ s_ t_ i_ c_ s
griffiths-hill	Applied Statistics algorithms contained in the book by Griffiths and Hill.
multi	Multivariate Analysis and Clustering. An annotated directory and selected algorithms.
crab	Kodiak Island king crab survey data.
datasets	Various datasets.
directory	Lists of addresses and e-mail addresses of statisticians.
xlispstat	Luke Tierney's XlispStat system for Unix systems.

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_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Send electronic mail to statlib@lib.stat.cmu.edu. Although messages will be answered by statlibd@lib.stat.cmu.edu, please do not mail to that address.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ S_ t_ a_ t_ l_ i_ b

Anyone can use the system.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

For further information contact:

9

Michael M. Meyer
Department of Statistics
Carnegie Mellon University
Pittsburgh, PA 15213
(412) 268-3108
mikem@stat.cmu.edu

9

MBCRR - Molecular Biology Computer Research Resource

_ A_ d_ d_ r_ e_ s_ s:
MBCRR, LG-S127
44 Binney Street, Boston, Massachusetts 02115

_ E_ m_ a_ i_ l: tsmith@mbcrr.harvard.edu

_ P_ h_ o_ n_ e: (617) 732-3746

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Molecular Biology Computer Research Resource (MBCRR) is a federally funded national resource that combines molecular biology research and computer software development with on-line computer support and training to laboratories within and outside the Boston area.

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MBCRR can be reached from the Internet and from the Longwood Medical Area Network (LMAnet).

Who Can Use the Resource/Restrictions

1. Any non-commercial researcher has the right to download the available software in the "anonymous" FTP direc-

tory.

2. The on-line execution of software is restricted to password accounts
at $320.00 annually.

3. Commercial access is available for $1000.00.

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NED - NASA/IPAC Extragalactic Database

_ A_ d_ d_ r_ e_ s_ s:
NED c/o IPAC
MS 100-22
California Institute of Technology
Pasadena, CA 91125

_ E_ m_ a_ i_ l: ned@ipac.caltech.edu

_ P_ h_ o_ n_ e: (818) 397-9503

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The NASA/IPAC Extragalactic Database (NED) is an ongoing project to organize a broad range of published extragalactic data into a computer-based central archive designed for fast and flexible query via electronic networks.

The June 1992 version of NED provides positions, names, and basic data for more than 200,000 extragalactic objects, as well as related bibliographic references and notes from

catalogs and other publications. It forwards to the user, upon request, files containing the data retrieved during a session. It also allows users to view the contents of some major catalogs and to browse the abstracts of recent articles of extragalactic interest from several major journals (including A&A, AJ, ApJ, IAU Circulars, MNRAS, PASP, their Letters and Supplements). The current release also introduces the capability of searches filtered by object types (e.g. find galaxies only, or exclude infrared sources), and provides the first phase of detailed data collection from catalogs and the literature.

NED is an object-oriented database, meaning that all information is organized around a master list of astronomical objects (such as galaxies, groups of galaxies, quasars and radio sources) obtained from detailed cross-identifications among some thirty major catalogs. Additional catalogs are being folded in continually. Objects can be selected by

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name (a high-level name interpreter is built into the interface), or by vicinity, either to a named object, or to a position on the sky.

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You may access the NED service over Internet, provided you have a VT100 terminal or VT100 emulation software.

On Internet, a connection to IPAC may be set up with the command: "telnet ned.ipac.caltech.edu"

Once you are connected to IPAC and prompted for a login, respond with: "NED"

No password is needed. From this point, the system is self-documenting, especially through the Help utilities and the "control-h" key sequence. First-time users may want to read the Tutorial in the first screen presented by the interface.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e

_ R_ e_ s_ o_ u_ r_ c_ e

Available at no charge to the international astronomical community.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

This work is carried out by the Jet Propulsion Laboratory, California Institute of Technology, under contract with the National Aeronautics and Space Administration (Astrophysics Division, Science Operations Branch).

George Helou (818) 584-2928
Barry Madore (818) 584-2912
Marion Schmitz (818) 584-2994
Harold Corwin (818) 584-2937

INFO-SOUTH - Latin American Information System

_ A_ d_ d_ r_ e_ s_ s:
INFO-SOUTH
North-South Center
University of Miami
1500 Monza Avenue
P.O. Box 248014
Coral Gables, Florida 33124-3027

_ E_ m_ a_ i_ l: Bitnet: Msgctr @umiami
Internet: Msgctr@sabio.ir.miami.edu

_ P_ h_ o_ n_ e: (305) 284-4414
(800) 752-9567
FAX: (305) 284-5089

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The INFO-SOUTH Latin American Information System provides citations and abstract of materials on Latin America, including materials relating to the social, political and economic climate of this critical geographical area. Sources include newspapers and journals published in Latin America, the United States, and througout the world. Topics covered include: Agriculture, Banking, Commerce, Defense, Demography, Drug Trafficking, Ecology, Economics, Education, Elections, Finance, Foreign Affairs, Foreign Trade, Government, Human Rights, Informatics, Intelligence Activities, Marketing, Politics, Refugees, Science and Technology, Sociology, and Terrorism.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Telnet to host "sabio.ir.miami.edu" (129.171.32.26).

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e
_ D_ a_ t_ a_ b_ a_ s_ e

There is a charge for accessing INFO-SOUTH, and users can subscribe hourly or annually. Subscriptions are available

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for individuals and organizations. For more subscription information call (800) 752-9567.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

INFO-SOUTH maintains the full text copies of all citations included in the database. Users may order the full text of any article by telephone, fax, or E-mail. Please include the accession number and title of all articles requested.

_ A_ d_ d_ r_ e_ s_ s:
UCAR/Unidata Program Center
P.O. Box 3000
Boulder, CO 80307

_ E_ m_ a_ i_ l: support@unidata.ucar.edu

_ P_ h_ o_ n_ e: (303) 497-8644
FAX: (303) 497-8690

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Unidata is a national program to help universities acquire weather data and to analyze and display those data for teaching and research. The program is funded by the National Science Foundation and managed by the University Corporation for Atmospheric Research. Unidata negotiates a group contract with a commercial data-broadcasting firm so that universities may receive weather data at a discount. Unidata develops and distributes software for capturing, analyzing, and displaying those data locally. Unidata also advocates on behalf of universities on data issues in Federal and other arenas.

Unidata-developed software includes the Unidata Local Data Manager (LDM), which captures real-time weather data from a satellite broadcast, and netCDF, a network-transparent, self-describing form for storing scientific data. The LDM is being enhanced to allow users to capture and forward data over the Internet.

Unidata distributes applications software developed and licensed by universities. These are Purdue University's Weather Processor (WXP) and the University of Wisconsin's McIDAS-OS2 and McIDAS-X software. WXP and McIDAS-X are UNIX-based applications; McIDAS-OS2 runs on PS/2 computers with the OS/2 operating system. Unidata also distributes and supports the UNIX version of NASA's GEMPAK (for General

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Meteorological Package) and a UNIX-based, general-purpose

data-analysis and image-processing research package called YNOT, developed by MacDonald Dettwiler under a Unidata contract.

Unidata provides bug fixes, upgrades, and software distributions over the Internet. Software support includes forming and maintaining special-interest mailing lists, offering advice on hardware acquisitions, and holding semiannual training workshops in the use of Unidata-supported software. Consultation with users is conducted via email. The program also publishes a quarterly newsletter.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Unidata is connected via a LAN to NCAR, an NSFNET backbone site. All software is distributed via ftp. The Unidata NetCDF software is freely available; you can access a compressed tar file ("cd incnetcdf.tar.Z" in directory "pub") via anonymous ftp from "unidata.ucar.edu".

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e
_ S_ o_ f_ t_ w_ a_ r_ e

The Unidata netCDF software is freely available. All other Unidata software is restricted to universities and requires licenses.

University of North Carolina at Chapel Hill INFO Service

_ A_ d_ d_ r_ e_ s_ s:
Academic Computing Services
CB# 3460, 311 Wilson Library
University of North Carolina
Chapel Hill, NC, 27599-3460

_ E_ m_ a_ i_ l:
Judy Hallman, Manager of Information Services:
hallman@unc.bitnet

_ P_ h_ o_ n_ e: (919) 962-9107

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

INFO is the electronic information service of the University of North Carolina at Chapel Hill. Several items may be of interest to people outside the UNC Chapel Hill area, including the following:

o + Continuing education classes (in the Calendar section), including the Public Health Continuing Education Calendar and educational opportunities through the Division of Continuing Education.

o + Job openings, including tenured/tenure track faculty vacancies as well as staff positions (see TOP and EPA non-faculty positions).

o + Several campus newsletters are available in the News section, including the following:

_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n _ B_ u_ l_ l_ e_ t_ i_ n
_ o_ n _ A_ g_ i_ n_ g

Approximately twenty pages monthly of information pertaining to the aged: general information, technical/professional information, grant information, meetings and conferences, and publications.

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

_ N_ e_ w_ s_ b_ r_ i_ e_ f
Weekly campus computing newsletter.

_ S_ u_ p_ e_ r_ c_ o_ m_ p_ u_ t_ i_ n_ g _ N_ e_ w_ s

In addition, the News section contains a series of bibliographies prepared by Health Sciences Library staff addressing specific topics relating to AIDS research, education, and treatment.

o + Campus Directory, catalogs, and lists. Topics covered in this section include the following:

Campus Directory, faculty/staff and student phone numbers, addresses, and electronic mail userids

The Independent Study catalog: this is the complete catalog of courses people can take by correspondence-everything except the forms

o + Facts & Information brochure published by the Office of Public Information provides information about the University. (From INFO's main menu, select item 7, "Ask INFO about...;" then item 6, "Campus life;" then item 18, "Facts & Information" brochure.)

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s:

Telnet to info.acs.unc.edu. When the system prompts for username, type info. Your computer must emulate a VT100.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ A_ r_ c_ h_ i_ v_ e

Info is available to anyone with Internet access.

Archie - the McGill School of Computer Science Archive Server Listing Service

_ A_ d_ d_ r_ e_ s_ s: none

_ E_ m_ a_ i_ l: archie-l@cs.mcgill.ca

_ P_ h_ o_ n_ e: none

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Archie is a central database for information about archive sites. It speeds the task of finding a specific program on the net. Archie keeps track of UNIX sites; VMS sites may be added in the near future.

Archie is a pair of software tools: the first maintains a list of several hundred Internet ftp archive sites, each of which is updated about once a month. The second tool allows outsiders to log onto the host to query the database. Archie also maintains a Software Description Database of the names and descriptions of various software packages, documents, and datasets that are kept on anonymous ftp archive sites around the Internet. The "whatis" command allows you to search this database.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

To access archie, "telnet" or "rlogin" to "quiche.cs.mcgill.ca" (132.206.2.3) as user "archie". The "help" command gives you information about various topics, including the commands available and how to use them. The "raw" listings of ftp sites are stored in compressed form in the directory "ftp/archie/listings". Manual pages for archie are available in the directory "ftp/archie/doc". The file "archie.man.roff" contains a UNIX-style manual entry in *roff format; "archie.man.txt" contains the same information

preformatted for people on non-UNIX systems.

Users can ask archie to search for specific name strings. For example, "prog kcl" would find all occurences of the

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string "kcl" and tell you which hosts have entries with this string, the size of the program, its last modification date, where it can be found on the host, and some other useful information. This example would find archive sites that are storing Kyoto Common Lisp. Complete anonymous ftp listings of sites in the database can be obtained via the "site" command; for a list of sites, see the "list" command.

There is an electronic mail interface to archie. To receive the latest information on this interface, send mail to "archie@cs.mcgill.ca" with the word "help" in the subject line or body.

If you can't access the manual files via interactive ftp or the mail-based servers, send a message to "archie-admin@cs.mcgill.ca" asking to receive a copy of the manual by mail.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ A_ r_ c_ h_ i_ v_ e

Archie is available to all Internet users.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

Send comments, bug reports, etc. to: "archie-l@cs.mcgill.ca". If you know of an anonymous ftp site that archie doesn't seem to maintain, or if you have additions or corrections to the Software Description Database, send mail to: "archie-admin@cs.mcgill.ca".

"Satellite" archie servers are being set up in Finland and the Netherlands in order to lessen the load on the transatlantic Internet link.

The maintainers of archie strongly encourage maintainers of

anonymous ftp archives to do two things:

o + Send additions and corrections to the Software Distribution Database to "archie-admin@cs.mcgill.ca".

o + Maintain compressed, automated, recursive listings (ls-1R.Z files) on their machines. This lessens network loads and makes life easier for archie. Send queries for specific formats to "archie-admin@cs.mcgill.ca".

LADB - Latin America Data Base

_ A_ d_ d_ r_ e_ s_ s:
Latin America Data Base
Latin American Institute
University of New Mexico
801 Yale NE
Albuquerque, NM 87131-1016

_ E_ m_ a_ i_ l: ladbad@unmb
ladbad@unmb.unm.edu

_ P_ h_ o_ n_ e: (505) 277-6839
FAX: (505) 277-5989

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

LADB is a full-text database comprising four weekly publications on Latin America: Chronicle of Latin American Economic Affairs, Central America Update, SourceMex - Economic News & Analysis on Mexico, and NotiSur - South American & Caribbean Political Affairs. Updated four days a week, the database contains some of the most current news and analysis available on the region. Much of the information is assembled from unfiltered news sources originating from Latin America, providing an ability for organizations

to understand and monitor the environments in which they have business and research interests. Currently, the database contains more than twenty thousand articles-from 1987 to present-with approximately six hundred new ones added each month.

Network Access

LADB is available on New Mexico Technet-a nonprofit communications and database network accessible via the Internet. (Technet is also accessible via an 800 number or direct dial when no Internet link is available.)

The information in this section is provided in accordance with the copyright notice appearing at the front of this guide.

Who Can Use the Resource

LADB on Technet is a fee service. Access via the Internet is limited only by the availability of Internet; toll-free access is limited to organizations within North America.

Miscellaneous

For information about the service, please contact Roma Arellano at the above telephone number, postal address, or electronic mail address. LADB provides demo accounts for short-term usage.

NSF STIS - Science and Technology Information System

_ A_ d_ d_ r_ e_ s_ s:
STIS
National Science Foundation
Division of Information Systems (Room 401)
1800 G Street NW
Washington, DC 20550

_ E_ m_ a_ i_ l: stis-request@nsf.gov

_ P_ h_ o_ n_ e: (202) 357-7555 (Voice mail)
TDD: (202) 357-7492

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

STIS is an electronic dissemination system that provides fast, easy access to National Science Foundation (NSF) publications. There is no cost to you except for possible long-distance phone charges. The service is available twenty-four hours a day, except for maintenance periods.

Publications currently available include:

- "The NSF Bulletin"
- Program announcements and "Dear Colleague" letters
- General publications and reports
- Press releases
- NSF organization charts and phone books
- NSF vacancy announcements
- Award abstracts (1989-now)

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_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

There are many ways to access STIS. Choose the method that meets your needs and the communication facilities you have available.

- Electronic documents via electronic mail. Send a message to "stisserv@nsf.gov". Put the command "get index" in the text of your message.
- Anonymous FTP. Connect to "stis.nsf.gov". Retrieve the file "index".
- Direct E-mail. This service automatically mails you information about documents added to STIS. For information on this, send the command "get stisdirm" to

"stisserv@nsf.gov".

- o + Gopher. Connect to port 70 on host "stis.nsf.gov".

- o + WAIS. There are two databases on "stis.nsf.gov". "nsf-pubs" contains all documents and publications, and "nsf-awards" contains award abstracts.

- o + Online STIS. You must have a VT100 emulator. Telnet to "stis.nsf.gov", and log on as "public".

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ S_ y_ s_ t_ e_ m

STIS is available to the public. There is no charge for any of the services, and no need to register for a password.

ICDL - Online Database of the International Center for Distance Learning

_ A_ d_ d_ r_ e_ s_ s:

ICDL
The Open University
Walton Hall, Milton Keynes, MK7 6AA
United Kingdom

_ E_ m_ a_ i_ l: n.ismail@open.ac.uk

_ P_ h_ o_ n_ e: (+44 908) 653537
FAX: (+44 908) 654173

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The International Centre for Distance Learning (ICDL) is a documentation centre based on the campus of the Open University in the United Kingdom, specializing in collecting and disseminating information on distance education worldwide. With a grant from the British Government's Overseas Development Administration, ICDL has now developed a comprehensive computerized database on distance education for the Commonwealth of Learning.

The database contains information on :

- o + Distance-taught programmes and courses in the Commonwealth (20,000+)
- o + Distance teaching institutions worldwide (550+)
- o + Literature of distance education worldwide (4000+ entries)

Some of the literature entries contain full text of papers as well as bibliographic details and abstracts.

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_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The database can be accessed from the Internet using Telnet:

"Telnet to open.ac.uk"
"Username: ICDL"

Further progress requires a subscriber account code and password, but potential users are invited to leave details for contact by logging in with the account code NEW, see below.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ D_ a_ t_ a_ b_ a_ s_ e

The database changed from open access, during its development stage, to subscribers only on 1st September 1992. Further information on subscription charges (initially set at 200 pounds for 1992 through 1993) can be obtained by logging in with the Account code NEW and leaving email and/or postal address on the facility provided. Developing country users may be given free access or may obtain a free copy of the CD-ROM version.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

The database is also available on CD_ROM. ICDL also publishes a quarterly hard copy accessions list, which gives details of literature in distance education received in ICDL. This list is available by writing to ICDL. ICDL would like to hear about new literature and from institutions involved in distance teaching. General enquiries may be sent to the email address quoted above.

Bibliographic Mailserver for Artificial Intelligence Literature
University of Saarbruecken, Germany

_ A_ d_ d_ r_ e_ s_ s:
Dr. Alfred Kobsa
Dept. of Information Science
University of Konstanz
D-W-7750 Konstanz 1 Germany

_ E_ m_ a_ i_ l: kobsa@cs.uni-sb.de

_ P_ h_ o_ n_ e: +49 7531 88 1

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The LIDO MAILSERVER for AI literature at the University of Saarbruecken, Germany allows for the retrieval of bibliographic information on AI-related publications via electronic mail. The references are returned in LaTeX (Bibtex) format or in a refer-like format. As of 1991, more than twenty thousand documents are contained in its database, with an annual increase of twenty-five percent. About four thousand bibliographic requests are currently handled each year.

Queries to the bibliographic database may refer to the author name(s), the title, and the year of publication. Substring search and regular expressions (egrep) are possible. Global keywords or classification hierarchies cannot be accessed. Users who already have a certain overview of a field will thus probably profit more from the LIDO MAILSERVER than novices familiarizing themselves with a new area.

For more information on this service, send the following e-mail message:

To: "lido@cs.uni-sb.de"
Subject: "lidosearch info english"

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The body of the message should be empty.

General Accounting Office Reports

_ A_ d_ d_ r_ e_ s_ s:
General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20877 USA

_ E_ m_ a_ i_ l: KH3@cu.nih.gov

_ P_ h_ o_ n_ e: GAO report distribution: 202/275-6241 (7:30 a.m.-5:30 p.m. EST)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Reports of the U.S. General Accounting Office (GAO) cover a broad range of subjects such as major weapons systems, energy, financial institutions, and pollution control. The following GAO reports are available over the Internet as part of a test to determine whether there is sufficient interest within this community to warrant making all GAO reports available over the Internet.

1. Computer Security: Governmentwide Planning Process Had Limited Impact, GAO/IMTEC-90-48, May 1990.
Assesses the governmentwide computer security planning process and extent to which security plans were implemented for 22 systems at 10 civilian agencies. (This report is named REPORT1 and is 55,062 bytes or 1,190 lines long.)

2. Drug-Exposed Infants: A Generation at Risk, GAO/HRD-90-138, June 1990.
Discusses health effects and medical costs of infants born to mothers using drugs, impact on the nation's health and welfare systems, and availability of drug treatment and prenatal care to drug-addicted pregnant women. (This report is named REPORT2 and is 113,916 bytes or 2,421 lines long.)

3. High-Definition Television: Applications for This New Technology, GAO/IMTEC-90-9FS, December 1989.
Provides information on 14 HDTV applications and the key

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industry officials' views on the effect of an HDTV production standard on potential applications. (This report is named REPORT3 and is 31,947 bytes or 643 lines long.)

4. Home Visiting: A Promising Early Intervention Strategy for At-Risk Families, GAO/HRD-90-83, July 1990.
Discusses home visiting as an early intervention strategy to provide health, social, educational, and other services to improve maternal and child health and well-being. (This report is named REPORT4 and is 287,547 bytes or 5,711 lines long.)

5. Meeting the Government's Technology Challenge: Results of a GAO Symposium, GAO/IMTEC-90-23, February 1990.
Outlines five principles for effective management of information technology that can provide a framework for integrating information technology into the business of government. (This report is named REPORT5 and is 39,017 bytes or 777 lines long.)

6. Strategic Defense System: Stable Design and Adequate Testing Must Precede Decision to Deploy, GAO/IMTEC-90-61, July 1990.
Discusses why the Strategic Defense Initiative Organization will not be able to support currently scheduled full-scale development or deployment decisions on any part of Phase I of the Strategic Defense System. (This report is named REPORT6 and is 104,521 bytes or 1,847 lines long.)

7. Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries, GAO/HRD-90-88, May 1990.
Discusses (1) weaknesses in the U.S. education and training system for preparing noncollege youth for employment and (2) foreign strategies that appear relevant to U.S. shortcomings. (This report is named REPORT7 and is 190,323 bytes or 3,951 lines long.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The reports are in ASCII text format by anonymous FTP in the directory GAO-REPORTS at the NIH computer center, cu.nih.gov. Use the FTP text format.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

Some of these reports have material (such as pictures, charts, and tables) that could not be viewed as ASCII text.

If you wish to obtain a complete report, call GAO report distribution at (202) 275-6241 (7:30 a.m.-5:30 p.m. EST) or write to the address above.

So that we can keep a count of report recipients, and your reaction, please send an e-mail message to KH3@cu.nih.gov and include, along with your e-mail address, the following information:

Your organization, your position/title and name (optional), the title/report number of the above reports you have retrieved electronically or ordered by mail or phone, whether you have ever obtained a GAO report before, whether you have copied a report onto another bulletin board-if so, which report and bulletin board, other GAO report subjects you would be interested in, and any additional comments or suggestions.

List of Lists

_ A_ d_ d_ r_ e_ s_ s:
Steven Bjork
Room EJ223
SRI International
333 Ravenswood Avenue
Menlo Park CA 94025 USA
+1-415-859-6187

_ E_ m_ a_ i_ l: nisc@nisc.sri.com

_ P_ h_ o_ n_ e: (+1 415) 859-3695

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Interest-Groups file, or List of Lists, lists various discussion lists available to network electronic mail users.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The file is available for anonymous FTP from "ftp.nisc.sri.com" (192.33.33.22) in directory "netinfo". The pathname of the file is netinfo/interest-groups.

E-mail access is provided. Send a message to "mail-server@nisc.sri.com" with a line:

"netinfo/interest-groups"

in the message body. You will be returned the file in seg-

ments.

To keep people informed about changes to the file, there is a mailing list for List-of-Lists update notices. When updates are made to the file, an announcement message will be sent to the list. Copies of the file itself will not be sent to the list.

To get on or off the notification list, send requests to:

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"interest-groups-request@nisc.sri.com"

To submit new descriptions of mailing lists, to update existing information, or to delete outdated information from the List-of-Lists, send a message to:

"interest-groups-request@nisc.sri.com"

W h o C a n U s e t h e R e s o u r c e

The list is available to anyone via ftp or the mail server.

M i s c e l l a n e o u s I n f o r m a t i o n

The NISC depends on the network user population to inform them of changes to any of the network lists.

Thanks to Rich Zellich for the many years of effort that he put into maintaining this file.

FEDIX and MOLIS - Federal Information Exchange, Inc.

_ A_ d_ d_ r_ e_ s_ s:
Federal Information Exchange, Inc.
555 Quince Orchard Road
Suite 200
Gaithersburg, MD 20878 USA

1747 Pennsylvania Ave. NW
Suite 1150
Washington DC 20006

_ E_ m_ a_ i_ l: fedix@fedix.fie.com

_ P_ h_ o_ n_ e: (301) 975-0103
Help Line (technical assistance): (301) 975-0103
Fax: (301) 975-0109

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

FEDIX and MOLIS, online services of Federal Information Exchange, Inc., are information links between the federal government and academia. They allow "one-stop shopping" for the latest information about research and educational opportunities from participating agencies and minority institutions. FEDIX and MOLIS are easy to use and provide access at no cost.

FEDIX databases provide online information on agency research opportunities, program contacts, scholarships, research equipment, procurement notices, and minority opportunities. An electronic mail feature is also provided for users to communicate with the system operators.

MOLIS databases support the White House Initiative on Historically Black Colleges & Universities (HBCUs) by providing capability information on 107 HBCUs and 32 Hispanic-Serving Institutions (HSIs) and universities. This online information includes research centers, facilities, equipment; precollege and education programs; scholarships and

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fellowships; emerging capabilities; revenues and expenditures, degrees and enrollment; faculty profiles; and administrative personnel data. Information will soon be available on science and engineering students and grant/contract activity.

Participating agencies: Department of Energy (DOE), Department of Commerce (DOC), Department of Education (DOEd), Department of Housing and Urban Development (HUD), National Aeronautics and Space Administration (NASA), Federal Aviation Administration (FAA), National Science Foundation (NSF), National Security Agency (NSA), Office of Naval Research (ONR), U.S. Agency for International Development (AID), Air Force Office of Scientific Research (AFOSR).

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any microcomputer or dumb terminal with communications software and a modem operating at 1200, 2400, or 9600 baud,

or any system/terminal with access to the Internet can access the system.

FEDIX
(301) 258-0953 Washington metro area
(800) 232-4879 All others

MOLIS
(301) 258-5016 Washington metro area
(800) 626-6547 All others

MODEM SETUP: 8 databits, no parity, 1 stopbit

INTERNET ADDRESS: "telnet fedix.fie.com "
At login, type: "fedix" for FEDIX
or "molis" for MOLIS

Who Can Use the Service

FEDIX provides access to the public at no charge.

Miscellaneous Information

Free User Guides are available for both FEDIX and MOLIS. Call (301) 975-0103.

The system operates twenty-four hours a day, seven days a week, except for periodic system updating or maintenance.

The Help Line (for problems or comments) is staffed Monday-Friday 8:30 AM-4:30 PM Eastern Daylight Time, except on federal holidays.

The University of Michigan Software Archives

_ A_ d_ d_ r_ e_ s_ s:
ITD Research Systems
535 West Williams
Ann Arbor, MI 48103 USA

_ E_ m_ a_ i_ l: archive-admin@archive.umich.edu

_ P_ h_ o_ n_ e: (313) 764-2278

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The University of Michigan has several collections of public domain, freeware, and shareware software. Additional archives, additional access methods, more documentation, mailing lists, and better indexing are planned; suggestions are welcome.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The archives are at two locations.

Atari software is located at "atari.archive.umich.edu", in the directory "atari".

Other software is located at "archive.umich.edu", with aliases mac.archive.umich.edu, msdos.archive.umich.edu, and apple2.archive.umich.edu) in the following directories:

mac	Macintosh software
msdos	IBM PC and compatible software
apple2	Apple 2 software
next.ftp	NeXT software
linguistics	linguistics software
physics	physics software
mac.bin	not for ftp access (local Appletalk service only)
next	not for ftp access (afs only)

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o + FTP Access: You can use ftp to get to these archives (login as "anonymous"; use any password). Please restrict anonymous ftp access to atari.archive.umich.edu to evening through early morning EDT (-4:00 GMT), to show consideration to the regular users. Users of archive.umich.edu need not observe this restriction, but

will get better response in that time period. For load management reasons, limits on ftp access may be imposed in the future.

- o + AFS Access: If you are using AFS (Andrew File System) you can get to the archive directory (except the atari archive) with "cd /afs/umich.edu/group/itd/archive".

- o + Email Access: You may request that files be mailed to you from the atari archives (see the Help file in those archives for details). This service will be expanded to include other archives in the future.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ A_ r_ c_ h_ i_ v_ e_ s

The archives are freely available to everyone.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

The University is planning additional archives and access methods, more documentation and mailing lists, and better indexing. Suggestions are welcome.

Contacting the Archivists

Most of the work on the archives is being done by volunteers. Their time is limited, so a response may be delayed, but please contact them with questions, suggestions, submissions, or praise.

apple2-archivists@archive.umich.edu
atari-archivists@archive.umich.edu
linguistics-archivists@archive.umich.edu
mac-archivists@archive.umich.edu
msdos-archivists@archive.umich.edu
next-archivists@archive.umich.edu
physics-archivists@archive.umich.edu

Mid-RTTC - Mid-Continent Regional Technology Transfer Center

_ A_ d_ d_ r_ e_ s_ s:
Southwest Research Institute (SwRI)
Division 15
PO Drawer 28510
San Antonio TX 78228-0510

_ E_ m_ a_ i_ l: richard@technology.com -or- dwebb@technology.com

_ P_ h_ o_ n_ e: (512) 522-3259

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

This system is intended to contain information related to technology transfer activities in the mid-continent region. The states of Arkansas, Colorado, Iowa, Kansas, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming make up this region. National and international topics are included as well. The BBS provides an automatic pass-through service to other resources. Some that are now supported are the Texas Innovation Network (TINS), NASA Spacelink BBS, the NSF STIS, and a local Wide Area Information Server (WAIS) interface. Others will be added in the future.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s:

TELNET or rlogin to technology.com and logon with username "bbs". Follow the new user registration instructions. Alternatively, TELNET to technology.com using port 9000.
Example: telnet technology.com 9000

Dial up access is available through (512) 522-5890 (2400-1200 bps). Enter the username "bbs" when prompted and then select item 2 from the terminal server menu.

Users of TINS can link to this system through item 3 in the TINS top level menu.

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Who Can Use the Mid-RTTC

Anyone can use this system.

Miscellaneous Information:

The mission of this technology transfer center is to serve the national interest by providing scientific, engineering, business, information, and educational services for the mid-continent region. This will enable public and private enterprises to acquire and apply technologies developed by NASA, federal laboratories, and other sources, thus expanding the use of technology and improving competitiveness.

For more information contact:
Gary Sera, director
Mid-Continent RTTC
TEES, 237 WERC
College Station TX 77843-3401
(409) 847-8605 FAX: (409) 845-3559

EMBL - Data Library Network Servers

_ A_ d_ d_ r_ e_ s_ s:
EMBL Data Library
European Molecular Biology Laboratory
Postfach 10.2209
W-6900 Heidelberg
Germany

_ E_ m_ a_ i_ l: NetHelp@EMBL-Heidelberg.DE

_ P_ h_ o_ n_ e: +49-6221-387 258
FAX: +49-6221-387 519

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The EMBL Data Library offers a range of electronic services to the molecular biology research community.

An electronic mail server and an anonymous ftp server allow access to a large number of important data collections, including the EMBL nucleotide sequence database, the SWISS-PROT protein sequence database, and the Brookhaven protein structure database. In addition to the complete quartely releases of the sequence databases weekly updates of the EMBL database are provided for downloading by ftp. Individual EMBL database entries can be retrieved using the e-mail server, and new entries are made available on a daily basis.

The Data Library also maintains an archive of free software for molecular biology. More than 200 different programs are currently available for MS-DOS, Vax/VMS, UNIX and Macintosh systems and can be downloaded by e-mail or anonymous ftp.

New data collections and software are added constantly.

The FASTA and QuickSearch services enable remote users to perform sequence similarity searches against a variety of nucleotide and protein sequence databases maintained at EMBL. Whereas QuickSearch is appropriate for the quick identification of very similar database entries, FASTA is better

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suited for the detection of more distantly related sequences. The database available for searches are updated daily, thus access to latest sequence information is guaranteed.

A Gopher server (EMBnet BioInformation Resource EMBL) is in operation which sits on top of the EMBL anonymous ftp archive. It is part of the EMBnet BioGopher network.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Anyone with direct or gatewayed access to the Internet can use the EMBL servers.

The addresses to use are:

NetServ@EMBL-Heidelberg.DE
(E-mail file server)

Fasta@EMBL-Heidelberg.DE
(FASTA database similarity searches)

Quick@EMBL-Heidelberg.DE
(QuickSearch database similarity searches)

Detailed descriptions of access procedures and the information available can be obtained by sending the word HELP on the Subject line or in the body of an e-mail message to the addresses shown above.

The anonymous ftp server can be reached at:

ftp.EMBL-heidelberg.DE

Use the user name "anonymous" and your e-mail address as password to log in. Some older ftp clients might get confused by multiple message lines. In this case, enter a dash "-" as the first character of the password to turn this feature off.

The Gopher server can be accessed at ftp.EMBL-Heidelberg.DE

at port 70.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ E_ M_ B_ L _ S_ e_ r_ v_ e_ r

Access to the EMBL network services is unrestricted. However, European users are strongly encouraged to use their national EMBnet nodes if possible. Most EMBnet nodes offer

similar services.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Periodically, the EMBL File Server Newsletter is posted to the USENET newsgroup bionet.molbio.embl-databank. It contains information about changes and additions to the services provided by the EMBL Data Library. This newsgroup can also be used to contact the Data Library staff.

The EMBL anonymous ftp server is mirrored by ftp.weizmann.ac.il.

The software provided is exchanged with the file servers at the University of Indiana (Iubio) and the University of Houston (Gene-Server).

These network services are provided in collaboration with the EMBL Computer Group.

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

Additional information about these resources are available by electronic mail from NetServ@EMBL-Heidelberg.DE (help doc), by anonymous ftp (in /pub/help on ftp.EMBL-Heidelberg.DE) or by Gopher ("About this resource").

ECIX - Energy and Climate Information Exchange
File Distribution Service

_ A_ d_ d_ r_ e_ s_ s:
Energy and Climate Information Exchange
EcoNet
18 de Boom Street
San Francisco, CA 94107

_ E_ m_ a_ i_ l: ecixfiles@igc.apc.org

_ P_ h_ o_ n_ e: (415) 442-0220
FAX: (415) 546-1794

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Energy and Climate Information Exchange (ECIX) is a project of EcoNet aimed at educating the environmental community and the general public on the potential of energy efficiency and renewable energy to to reduce the use of fossil fuels and their contribution to global climate change. The ECIX File Distribution Service provides a wide selection of information, policy statements, newsletters, and other files pertaining to energy and climate issues. Contributions of pertinent materials are encouraged. File listings are updated regularly and the revised file lists are distributed via email to subscribers and several environmentally-oriented newsgroups and lists.

The ECIX Project is funded by a grant from the Joyce Mertz-Gilmore Foundation.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

All ECIX files are available via anonymous ftp from igc.apc.org (192.82.108.1), in the subdirectories /pub/ECO, /pub/ECIX, and /pub/ECIXfiles. The current list of all available files is in the subdirectory /pub/ECIXfiles.

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_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ E_ C_ I_ X _ S_ e_ r_ v_ i_ c_ e

All files provided by the ECIX file distribution service are available free of charge to anyone with ftp access and/or electronic mail anywhere in the world. Files may be redistributed with the appropriate credit.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

A number of official documents related to the UNCED meeting in June 1992 are also available at this site in the subdirectory /pub/UNCED. These are in .zip (DOS PK-Zip), .Z (UNIX compress), and .sit (Mac compressed) formats.

File listings and the actual files may also be requested via email for those without ftp access. To request a file listing, a specific file, or to be placed on the mailing list for future updates, send email to ecixfiles@igc.apc.org. Please include your name, affiliation, and reason for interest. Due to their size, the UNCED documents are NOT available via email, but can be purchased on diskette from EcoNet.

All ECIX files and much more energy, climate and UNCED oriented material can also be found on the EcoNet network, which can be accessed via the Internet for a small subscription fee. For more information about EcoNet, send email to

support@igc.apc.org, or contact EcoNet at the above address.

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

Available via anonymous ftp from igc.apc.org (192.82.108.1) or via email from ecixfiles@igc.apc.org:

Information about EcoNet	/pub/econet_brochure
Information about ECIX	/pub/ECIXfiles/ECIXinfo
Information about File Distribution Service	/pub/ECIXfiles/ECIXfileinfo
Current List of Energy Files	/pub/ECIXfiles/EnergyFiles
Current List of Climate Files	/pub/ECIXfiles/ClimateFiles

Chapter 4: White Pages

The Internet supports several databases that contain basic information about users, such as e-mail addresses, telephone numbers, and postal addresses. These databases can be searched to get information about particular individuals. Because they serve a function akin to the telephone book, these databases are often referred to as "white pages."

Contents

4.1 NASA Ames Research Center Electronic Phone Book [Sep92]

4.2 DDN Network Information Center WHOIS Service [May90]

4.3 NYSERNet/PSI White Pages Pilot Project [May90]

4.4 [Discontinued] CREN/CSNET User Name Server ``ns''

[Jun92]

4.5 KIS - Knowbot Information Service [Sep92]

NASA Ames Research Center Electronic Phone Book

_ A_ d_ d_ r_ e_ s_ s:
Randall W. Robinson
MS 233-11
NASA Ames Research Center
Moffett Field, CA 94035-1000

_ E_ m_ a_ i_ l: rrobinson@orion.arc.nasa.gov

_ P_ h_ o_ n_ e: (415) 604-3570
FAX: (415) 604-6999

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Electronic version of the NASA Ames Research Center white pages

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The electronic phone book is accessed by using the whois protocol to x500.arc.nasa.gov. (The protocol can be accessed through the whois program under BSD UNIX). For example, "whois -h x500.arc.nasa.gov best" returns:

Name	Phone	M/S	Office	Organization
Clyde A. Best	4-6339	231-1	N231/102	RTF
Paul D. Sebesta	4-5232	242-4	N242/203	SGE

pdsebesta@ames.arc.nasa.gov

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ P_ h_ o_ n_ e _ B_ o_ o_ k

Anyone may access this resource. Please use it if you need the information.

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_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Software problems should be reported to Peter E. Yee, by email to yee@atlas.arc.nasa.gov or by phone to (415) 604-3812.

DDN Network Information Center WHOIS Service

_ A_ d_ d_ r_ e_ s_ s:
SRI International
Network Information Systems Center, Room EJ291
333 Ravenswood Avenue

Menlo Park, CA 94015

_ E-_ m_ a_ i_ l:
BUG-WHOIS@NIC.DDN.MIL (for questions and comments about WHOIS)
SERVICE@NIC.DDN.MIL (for automated WHOIS search requests via e-mail)
REGISTRAR@NIC.DDN.MIL (for requests to be registered in the WHOIS database)

_ P_ h_ o_ n_ e: 1-800-235-3155 or (415) 859-3695

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

WHOIS/NICNAME is a NIC program that provides an electronic ``white pages'' of network entities. WHOIS lists the name, network mailbox, US postal address, telephone number, and host for all users registered with the NIC. WHOIS also provides information about registered hosts, domains, and networks, including the names and addresses of designated points of contact, host addresses, and domain servers. There are currently more than 75,000 users and points of contact registered.

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Access to the WHOIS program is available in a number of ways.

o + Via client programs that query the WHOIS server

o + Via Telnet to users who connect to <NIC.DDN.MIL> (<192.67.67.20>)

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o + Via automatic mail server by sending a message to <SERVICE@NIC.DDN.MIL>

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ W_ H_ O_ I_ S

WHOIS services are available to all users of the Internet and also to users on networks that gateway to the Internet. Any Internet user with a valid electronic mailbox can be listed in the WHOIS database.

NYSERNet/PSI White Pages Pilot Project

_ A_ d_ d_ r_ e_ s_ s:
NYSERNet/PSI White Pages Pilot Project
c/o PSI, Inc.
Reston International Center
11800 Sunrise Valley Drive
Suite 1100
Reston, VA 22091
USA

_ E_ m_ a_ i_ l: wpp-manager@psi.com

_ P_ h_ o_ n_ e: +1 415-961-3380

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The NYSERNet/PSI White Pages Pilot Project is a large, decentralized white pages service under multiple administrations. Although focused in the US, eight other countries are participating at various levels. The X.500 Directory Service is used to realize the service. Both terminal-oriented and X windows applications are available.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Telnet to wp.psi.com, login as fred

_ R_ e_ s_ t_ r_ i_ c_ t_ i_ o_ n_ s

No restrictions

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[Discontinued] CREN/CSNET User Name Server ``ns''

The CREN/CSNET User Name Server was shut down when CSNET ceased operations in October 1991.

For more information, see Section 6.6 "[Discontinued] CSNET CIC - CREN/CSNET Coordination and Information Center".

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KIS - Knowbot Information Service

_ A_ d_ d_ r_ e_ s_ s:
Ralph Droms
Computer Science Department
323 Dana Engineering
Bucknell University
Lewisburg, PA 17837

_ E_ m_ a_ i_ l: droms@bucknell.edu

_ P_ h_ o_ n_ e: (717) 523-1271
FAX: (717) 524-3760

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Knowbot Information Service is a white pages ``meta-service'' that provides a uniform interface to heterogeneous white pages services in the Internet. Using the Knowbot Information Service, one can form a single query that can search for white pages information from the NIC WHOIS service, the RIPE European white pages service and MCI Mail, among others, and have the responses displayed in a single, uniform format.

Inclusion of additional information about an organization with which a person is affiliated enables access to additional white pages services including the NYSERNet X.500 White Pages Pilot project, and over 200 finger and whois services run by individual organizations. For example, a query about <droms@bucknell> will return results from the NYSERNet White Pages project and from the finger server on <sol.cs.bucknell.edu>.

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There are three ways to gain access to the Knowbot Information Service:

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- Use the WHOIS frontends to the Knowbot information Service on hosts <nri.reston.va.us> and <regulus.cs.bucknell.edu>. For example, from a UNIX host, use <whois -h nri.reston.va.us cerf@cnri> to look for information about Vint Cerf affiliated with CNRI.

- Telnet to the Knowbot Information Service. Currently, there are servers accessible through a telnet to port 185 on hosts <nri.reston.va.us> and <regulus.cs.bucknell.edu>. From a UNIX host, use <telnet nri.reston.va.us 185>. The commands help and man summarize the command interface.

- Send mail to userid <netaddress> at one of the Knowbot Information Service hosts.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ R_ e_ s_ o_ u_ r_ c_ e

The Knowbot Information Service is available to all users through the mechanisms listed above.

Chapter 5: Networks and Email Gateways

This section lists networks that are part of the Internet and email gateways to networks that are not part of the Internet.

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5.27 NWNet [Sep91]

5.28 SUNET [Jan90]

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5.43 ARNET - Argentine Science Network [Jul91]

5.44 TANet - The Taiwan Academic Network [Jul92]

5.45 OARnet - Ohio Academic Resources Network [Jun92]

5.46 MOREnet - the Missouri Research & Education Network [Sep92]

5.47 EMBnet - European Molecular Biology Network [Sep92]

5.48 HGMP-RC - UK Human Genome Mapping Project Resource Centre [Aug92]

CICNet

_ A_ d_ d_ r_ e_ s_ s:
CICNet, Inc.
Computing Center
535 W. William St.
Ann Arbor, MI 48103-4943
Attn: Joel Maloff

_ E-_ m_ a_ i_ l: maloff@merit.edu

_ P_ h_ o_ n_ e: (313) 747-4272 [Joel Maloff]

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

CICNet, Inc. is a regional midlevel network serving a seven state region of the midwestern United States, and includes the members of the Big Ten plus the University of Chicago as its Charter Members. CICNet provides DS-1 (1.544 mbps) backbone connections between its eleven nodes, and incorporates cisco Systems routers and Datatel CSUs. Interexchange network services are currently provided by MCI. The

Mission Statement of CICNet is to provide its member organizations with the ability to share advanced information systems - high speed data networking, computing, video, and telecommunications - for the purpose of enhancing academic advancement and scientific research within a seven state region of the midwestern United States.

CICNet is managed by an Executive Director and a Board of Directors. Technical support services - Network Information Center and Network Operations Center - are provided under contract with MERIT. Funding for the first year of CICNet has been provided by the eleven member institutions and grant funding from the National Science Foundation.

CICNet is in the process of finalizing its Business Plan. The current version calls for the organization to have five categories of membership: Charter, Institutional/Nonprofit, State/Subregional Networks, Research Corporate, and

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Computer/Telecommunications Corporate. Active participation of all membership categories is viewed as essential. CICNet will also offer a variety of services beyond simple bandwidth connectivity. The provision of value added services is a high priority.

Further information will be available with the publication of the CICNet Business Plan (anticipated in four to six weeks).

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_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

See also, NCSA and NCSAnet.

[Discontinued] CREN/CSNET - The Computer + Science Network

CSNET ceased operations in October 1991.

For more information, see Section 6.6 "[Discontinued] CSNET CIC - CREN/CSNET Coordination and Information Center".

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JvNCnet

_ A_ d_ d_ r_ e_ s_ s:
JvNCnet
Princeton University
6 von Neumann Hall
Princeton, NJ 08544

_ E_ m_ a_ i_ l: nisc@nisc.jvnc.net

_ P_ h_ o_ n_ e:
(609) 258-2400
(609) 258-1544 (for the Network Operations Center)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

JvNCnet is a North East Research Regional Network with direct access to the NSFNET backbone. JvNCnet also has international connections to several Scandinavian countries (Norway, Finland, Iceland, Sweden, and Denmark) via the network's connection to NORDUnet, and to France and Switzerland via the link to INRIA.

The regional network, the first T-1 (1.544 Mbps) academic network, evolved from the thirteen members of the Consortium for Scientific Computing to a regional network, currently with thirty-one sites concentrated in the Northeast. When the John von Neumann National Supercomputer Center closed in April 1990, JvNCnet moved its headquarters to, and became part of, Princeton University.

JvNCnet is engineered as a backbone network where backbone nodes are connected to each other with multiple T1 lines. These backbone nodes fan out to connect JvNCnet members at T1, fractional T1 (128 kbps), 56 kbps, 19.2 kbps, and 9.6 kbps over dedicated and dial-up lines. Backbone nodes are located at phone company premises in the cities of Princeton (NJ), Trenton (NJ), Philadelphia (PA), Boston (MA), Providence (RI), New Haven (CT), New York (NY), and Newark (NJ). Member institutions connect to the closest backbone node,

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reducing the circuit costs for JvNCnet sites.

The institutions currently on JvNCnet are:

American Mathematical Society, AT&T Bell Laboratories, Bellcore, Bristol-Meyers Squibb, Geophysical Fluid Dynamics

Laboratories, INRIA, Institute for Advanced Study, Institute for Electrical and Electronics Engineers, Kean College, Mead Data Central, Montclair State College, NEARnet, New Jersey Institute of Technology, New York University, NORDUnet, Penn State University, Princeton University, Rohm & Haas, Rutgers University, Siemens Corporate Research, Stevens Institute of Technology, Trenton State College, Trinity College, University of Medicine and Dentistry of New Jersey, University of Pennsylvania, University of Rhode Island, Wesleyan University, Yale University,

The network is operated twenty-four hours a day, seven days a week. The network staff of JvNCnet is organized into six groups. These are (i) Network Information Services Group, (ii) Network Operations Group, (iii) Network Engineering Group, (iv) Network Installation and Maintenance Group, (v) Marketing Office, and (vi) Business Office.

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Network access is available to all Internet sites who desire access to JvNCnet members. JvNCnet follows the Acceptable Use Policy of the National Science Foundation Network.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

JvNCnet produces a quarterly newsletter, _ M_ e_ g_ a_ b_ y_ t_ e_ s, and com-

plete monthly operations reports. The network also hosts quarterly regional meetings for members as well as seminars and training session that are open to the entire data networking community. For further information on JvNCnet, contact the Network Coordinator at nisc@nisc.jvnc.net or (609) 258-2405.

LOS NETTOS - Los Angeles Area Regional Network

_ A_ d_ d_ r_ e_ s_ s:
Los Nettos c/o
Ann Cooper
USC/Information Sciences Institute
4676 Admiralty Way
Marina del Rey, CA 90292

_ E_ m_ a_ i_ l: los-nettos-request@ISI.EDU

_ P_ h_ o_ n_ e: (310) 822-1511
FAX: (310) 823-6714

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Los Nettos is a regional network in the Los Angeles area.

Important features of Los Nettos are that it is (1) an IP network, and (2) it is ``high speed.'' All connections and links are at least T1 (1.5 Mbps) capacity. A goal of Los Nettos is to provide an environment to develop very interactive network applications.

Los Nettos is operated by the member organizations, not by DARPA, or NASA, NSF, or DOE, etc. It may be used for any educational or research purpose.

The member organizations are universities and research laboratories. The Information Sciences Institute (ISI) of the University of Southern California (USC) acts as the agent for Los Nettos.

Nine organizations are already participating in this network (ISI, USC, JPL, CalTech, UCLA, TIS, Rand, TRW, and NOSC). A number of other research centers have expressed strong interest in participating.

Los Nettos will interoperate with CERFnet and other networks to provide access to special resources (for example, the San

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Diego Supercomputer Center), or to other regional networks (for example, BARRNET in the San Francisco Bay area).

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any IP host of any member organization may access Los Nettos. Los Nettos does not offer Dial-up access. Please see CERFNET.

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Any of the members can exchange traffic with any other member for any purpose. Any member may use any of the long-haul networks Los Nettos has connections to, subject only to the restrictions of the owner of the long-haul network.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

See also, CERFNET.

_ S_ u_ p_ p_ l_ e_ m_ e_ n_ t_ a_ r_ y
_ D_ o_ c_ u_ m_ e_ n_ t_ s _ o_ n _ n_ n_ s_ c._ n_ s_ f._ n_ e_ t

Each Los Nettos Member is permitted to have associates and connect them to the network. Each Los Nettos member can set its own policies for associates. Currently, only Caltech and ISI have associate programs.

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

Los Nettos Member and Associate information are available by anonymous FTP from "venera.isi.edu" located in the files:

in-notes/los-nettos/lanet-story.txt
in-notes/los-nettos/lanet-assoc.txt

MRNet - The Minnesota Regional Network

_ A_ d_ d_ r_ e_ s_ s:
Minnesota Regional Network
511 11th Avenue South, Box 212
Minneapolis, MN 55415

_ E_ m_ a_ i_ l: info@MR.Net

_ P_ h_ o_ n_ e: (612) 342-2570
FAX: (612) 344-1716

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Minnesota Regional Network is a mid-level network, founded in 1987 for the purpose of providing access to the NSFNET for organizations in the Minnesota area. It is presently established as a nonprofit corporation with active participation by member organizations. Its mission is to provide and facilitate the use of computer networks in order to enhance the high-technology research and educational environment, and to increase the productivity and competitiveness of businesses throughout the state. The primary tasks of MRNet are to promote, facilitate, and support connectivity; disseminate information on computer networking and technologies; pursue connections to other networks; provide a forum for the investigation of computer network issues; and contribute to state, national and international planning in computer net- works.

MRNet's membership is made up of public universities, private colleges, private research foundations, government agencies, and many large and small businesses.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any IP host on the Internet may have access to the MRNet Network Information Center (NIC) or to various members' network hosts as permitted. Supported access includes email, anonymous FTP, news, and nameserver queries.

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_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

MRNet is available to institutions in the Minnesota area who need to have access to the Internet or to other MRNet members for educational, research, or other scholarly pursuits. Use of connected or gatewayed networks requires agreement to the rules and conditions of those networks.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

For further information, contact Dennis Fazio, Executive Director at the phone number or email address listed.

NASAmail Gateway - SMTP to NASAmail Gateway

_ A_ d_ d_ r_ e_ s_ s:
Lilly Compton
MS 233-11
NASA Ames Research Center
Moffett Field, CA 94035-1000

_ E-_ m_ a_ i_ l: lncompton@ames.arc.nasa.gov
admin/arc@nasamail.nasa.gov

_ P_ h_ o_ n_ e: (415) 604-4180

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Gateway to NASA's internal Telemail system called NASAmail.

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Send mail to username@nasamail.nasa.gov to send to a NASAmail user with account name ``username.''

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ G_ a_ t_ e_ w_ a_ y

To be used by government employees, government contractors and those needing to contact NASAmail users.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Software problems: call Peter Yee (415) 604-3812 or e-mail to yee@atlas.arc.nasa.gov

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NCSAnet

_ A_ d_ d_ r_ e_ s_ s:
NCSAnet
attn: Charlie Catlett
National Center for Supercomputing Applications
605 E. Springfield Ave.
Champaign, IL 61820

_ E-_ m_ a_ i_ l: network@ncsa.uiuc.edu

_ P_ h_ o_ n_ e: (217) 244-8297 [NCSA Networking Office]

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

NCSAnet is a regional supercomputing network with sites primarily located in Illinois, Wisconsin, and Indiana. The NCSAnet private corporate network is national in scale.

NCSAnet is a dual-hub network with hubs on the campuses of the University of Illinois at Urbana-Champaign and at Chicago. The Chicago hub, or, CHUB, is a Chicago area metropolitan network with current members UI-Chicago, Univ of Chicago (see also CICnet), Northwestern (see also CICnet), Illinois Inst. of Tech., Argonne National Laboratory, and Notre Dame. The Urbana hub connects the Univ of Wisconsin

Milwaukee and Parkside campuses and Purdue University, as well as private corporate labs in New York, Illinois, Oklahoma, and Indiana.

Expansion of the academic portion of the network will continue, primarily through a state of Illinois network, netILLINOIS, which has been proposed to connect smaller, primarily undergraduate institutions in Illinois. netILLINOIS is a proposed joint network project led by the Computing Services Office at the University of Illinois and with the National Center for Supercomputing Applications and the University of Illinois at Chicago.

NCSAnet is operated by the National Center for

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Supercomputing Applications in cooperation with the Computing Services Office at the University of Illinois. The CHUB network is operated by the University of Illinois at Chicago.

NCSAnet interoperates with CICnet and other networks to provide access to special resources or to other regional networks and to the NSFNET backbone.

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

Any IP host of any member organization may access NCSAnet. The corporate portions of the network are private and are not accessible except by special arrangement.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

Any of the members can exchange traffic with any other member for any purpose. Any member may use any of the long-haul networks NCSAnet has connections to, subject only to the restrictions of the owner of the long-haul network.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

See also, NCSA and CICnet.

NEARnet- New England Academic and Research Network

_ A_ d_ d_ r_ e_ s_ s:
NEARnet
Bolt Beranek and Newman Inc.
10 Moulton St., Mail Stop 6/3B
Cambridge, MA 02138

_ E_ m_ a_ i_ l: nearnet-staff@nic.near.net

_ P_ h_ o_ n_ e: (617) 873-8730 [NEARnet hotline]
FAX: (617) 873-5620

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

NEARnet, the New England Academic and Research Network, is a

regional high speed data communications network. NEARnet was founded in 1988 by Boston University, Harvard University, and the Massachusetts Institute of Technology to meet a growing need for fast, reliable information exchange. It is linked to other regional and national networks to create a national infrastructure for electronic information.

NEARnet is a cooperative project which continues to grow very rapidly. As of October 1992, NEARnet has grown to 174 member organizations. These members include New England's finest universities, colleges, technology-based industries, government and private agencies. Since its inception in 1988, NEARnet's management and operations has been contracted to Bolt Beranek and Newman Inc.

Utilizing the Internet TCP/IP protocol suite, NEARnet supports leased-line and microwave links at speeds from 19.2 Kb/s to 10 Mb/s. Dialup IP access is also supported using SLIP starting at 9.6 Kb/s. In addition to technical support, consulting, and user information services, the NEARnet staff maintains a 24-hour-a-day, 7-day-a-week network operations center.

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_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any IP host on the Internet may access NEARnet sites.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

Any NEARnet member may exchange traffic with any other member for purposes that are consonant with the NEARnet Acceptable Use Policy. In cases where data communications are carried across other networks, NEARnet members are advised to adhere to the acceptable use policies of these networks. Commercial routing is offered through a cooperative agreement with the CIX and ANS CO+RE Services.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Online information is available via anonymous FTP at nic.near.net. The NEARnet Staff publishes a monthly online bulletin and a hardcopy quarterly newsletter. NEARnet also offers a series of Technical and User Services Seminars for its members and the Internet community.

NSFNET - National Science Foundation Network

_ A_ d_ d_ r_ e_ s_ s:
Merit Network, Inc.
2901 Hubbard, Pod G
Ann Arbor, MI 48109-2016

_ E_ m_ a_ i_ l: nsfnet-info@merit.edu

_ P_ h_ o_ n_ e: (313) 936-3000
FAX: (313) 747-3185

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Backbone network of the National Science Foundation interconnecting peer networks of NASA, DOE, national mid-level networks, and over 40 countries.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Via peer and mid-level networks.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

For the purposes of use in research and education, according to the guidelines of the National Science Foundation Acceptable Use Policy.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

For more information about NSFNET contact NSF or Merit Network, Inc.:

At NSF:

Steve Wolff (202) 357-9717 swolff@note.nsf.gov DNCRI Director
Jane Caviness (202) 357-9717 jcavines@note.nsf.gov NSFNET Director

At Merit:

_____

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Eric Aupperle (313) 763-4897 eaupperle@merit.edu Project Director
Hans-Werner Braun (313) 763-4897 hwb@merit.edu Principal Investigator

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

Merit Network Information Center Services
NIC.MERIT.EDU
FTP.MERIT.EDU
FTP.MICHNET.NET
NIS.NSF.NET
(35.1.1.48)

Merit's Network Information Center host computer, accessible via anonymous FTP, contains a wide array of information about the Internet, NSFNET, and MichNet.

Directory Structure:

Information files are available on this machine under the following directories:

acceptable.use.policies:	A directory of policy statements for the acceptable use of the NSFNET backbone and regional networks listed.
cise:	Directory owned by the National Science Foundation's Computer and Information Science and Engineering component for the placement of NSFNET Backbone Network policy statements and related documents, as well as GAO reports of interest.
cise/recompete:	NSF's Interagency Interim NREN Implementation Plan
documents:	Directory archive for NSFNET, regional, and Internet documents, such as RFCs, Internet Drafts, Internet Monthly Reports, and others.
internet:	Directory devoted to Internet activities: legislative work to promote the NREN and the HPCA,

	publications on research, experiments and use of the Internet, and available resources.
maps:	PostScript maps of NSFNET and MichNet.
michnet:	A directory of information related to MichNet, the regional network in Michigan.
newsletters:	A directory archive for NSFNET, regional, and Internet newsletters, such as the Link Letter, MichNet News, Internet Monthly Reports, and FARNET Gazette.
nren:	House and Senate activity pertaining to the National Research and Education Network (NREN).
nren/hpca.1991:	House and Senate activity leading to passage in 1991 of The High Performance Computing Act.
nren/iita.1992:	House and Senate activity relating to The Information Infrastructure and Technology Act of 1992.
nsfnet:	Archive for administrative, policy and statistical information relevant to the NSFNET Backbone networks.
resources:	Information on using the Internet and its available resources, including Merit's Internet Cruise.
statistics:	Statistical reports pertaining to the networks for which Merit provides backbone operation services.
working.groups:	Directory of documents from technical working groups.

NYSERNet

_ A_ d_ d_ r_ e_ s_ s:
NYSERNet INC
165 Jordan Rd
Troy, NY 12180

_ E_ m_ a_ i_ l: info@nisc.nyser.net

_ P_ h_ o_ n_ e: (518) 283-8860

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

A regional TCP/IP and OSI network incorporating 36 (as of 6/29/89) corporate, academic, and government institutions using a T1 (1.5 Mbps) backbone network.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any IP host of any member organization may access NYSERNet. Terminal Server service is available in New York City.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

The corporation also does research in various areas of communications technology.

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Sesquinet

_ A_ d_ d_ r_ e_ s_ s:
Guy Almes
Dept. of Computer Science
Rice University
Houston, Texas 77251-1892

_ E-_ m_ a_ i_ l: almes@rice.edu [Guy Almes], farrell@rice.edu [Farrell Gerbode]

_ P_ h_ o_ n_ e: (713) 527-6038 [Almes], (713) 527-4988 [Gerbode]

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Sesquinet is a regional network in Texas. It was organized in 1986 specifically to fill the regional network role within the NSFnet scheme. It has been operational since May 1987.

Sesquinet is primarily an IP network, and connects directly to the NSFnet backbone via an NSS at Rice University.

In cooperation with THEnet we also carry intra-state DECnet Phase IV that can be passed to SPAN/HEPnet.

Our original and slowest lines are 56kb/s, and these remain the normative circuit technology for access from individual sites. We are deploying T1 circuits in two ways:

- In cooperation with THEnet, we are building an intercity redundant high-speed backbone. Initially, this will be a T1 triangle connecting Houston (Rice University), Austin (the University of Texas at Austin), and Dallas (the University of Texas at Dallas).

- In addition, some individual sites are connected to this intercity backbone via T1 circuits. The Baylor College of Medicine is the first to do so.

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Throughout this network, cisco gateways are used.

Current members include universities (e.g., Rice, the University of Houston, Texas A&M University, and Texas Southern University were charter members), research laboratories (e.g., the Southwest Research Institute), and industrial organizations (e.g., Rockwell International).

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

Any IP host of any member organization may access Sesquinet.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

Any of the members can exchange traffic with any other member for any purpose. Any member may use any of the long-haul networks Sesquinet has connections to, subject only to the restrictions of the owner of the long-haul network.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

See also, THEnet.

[Discontinued] USAN - University Computing Division

_ A_ d_ d_ r_ e_ s_ s:
1850 Table Mesa Drive
P.O. Box 3000
Boulder, CO 80307

_ E_ m_ a_ i_ l: morris@ncar.ucar.edu

_ P_ h_ o_ n_ e: (303) 497-1282 [Don Morris]

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The satellite link has been discontinued, and USAN has been disbanded. All of the original USAN sites now have Internet connectivity.

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Westnet

_ A_ d_ d_ r_ e_ s_ s_ e_ s:
Administrative:
Westnet c/o
Patrick J. Burns
Department of Mechanical Engineering
Colorado State University
Fort Collins, CO 80523

Technical:
Westnet c/o
Carol Ward
3645 Marine Street
University of Colorado
Boulder, C0 80309-0455

_ E-_ m_ a_ i_ l: westnet@SPOT.COLORADO.EDU

_ P_ h_ o_ n_ e: (303) 491-1575 [Pat Burns], (303) 492-5860 [Carol Ward]

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Westnet is a regional network with nodes in the states of Arizona, Colorado, southern Idaho, New Mexico, Utah and Wyoming.

Westnet is a Wide Area Network operating at moderate (56 kbps) and high (T-1, i.e., 1.544 Mbps) data transmission capacities, providing connectivity from end nodes to the NSFNet backbone. Westnet has connections into the backbone at the National Center for Atmospheric Research (NCAR) in Boulder, Colorado, and at the University of Utah in Salt Lake City, Utah. The goal of Westnet is to provide the regional infrastructure to support research and scholarly activity.

The member organizations are universities, research laboratories, and commercial organizations. Westnet is governed

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by the Westnet Steering Committee, with representation from the seventeen primary university nodes in the six-state region.

A variety of organizations already participating in this network include: in Colorado: Ford Aerospace, the US Department of Agriculture, and US West Communications; in Idaho: the Idaho National Engineering Laboratory; in New Mexico: the Air Force Weapons Laboratory, the Apache Peak Observatory, the Los Alamos National Laboratory, the National Sunspot Observatory, Rockwell International, and the Santa Fe Institute; and in Utah: the UMC Research Station.

Westnet interoperates with the state networking agencies of: AriZona Telecommunications Educational Cooperative (AZTEC), Colorado SuperNet (CSN), and New Mexico Technet (NMT). State networking organizations are presently being considered in Idaho and Utah. Westnet interacts with these state networks to provide access to special resources (for example, the NSF Phase II Supercomputer Centers) and to other regional networks (for example, Northwestnet in the northwestern region of the United States).

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

Any IP host of any member organization may access Westnet.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

Any of the members can exchange traffic with any other member in the support of research, education and/or scholarly activity. Any member may use any of the long-haul networks Westnet has connections to, subject only to the restrictions of the owner of the long-haul network. Members within the states of Arizona, Colorado and New Mexico may use the intra-state network for additional purposes particular to those states.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

See also, Colorado SuperNet and New Mexico Technet.

Los Alamos National Laboratory Integrated Computing Network

_ A_ d_ d_ r_ e_ s_ s:
Los Alamos National Laboratory
Attn: C-DO, External Computing
B260
Los Alamos, NM 87545

_ E-_ m_ a_ i_ l: skf@lanl.gov

_ P_ h_ o_ n_ e: (505) 667-9463

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The computer environment at the Los Alamos National Laboratory (LANL) is supported by a multi-security level Integrated Computing Network (ICN) which integrates large host supercomputers, a file server, a batch server, a printer and graphics output server and numerous other general purpose and specialized systems. Among the latter are experimental machines such as the Intel Hypercube, the FPS T-series machine and two Connection Machines. In addition to unclassified network access, remote, secure access over LANL installed encrypted data links is supported for classified computing up to the Secret level for NSI, FRD and CNWDI information categories. Current (August, 1989) production host systems include two Y-MP/832s, two X-MP/416s, one X-MP/48, one X-MP/24 and an X-MP/14. The latter machine runs UNICOS while the others run CTSS.

Network access

External networks connected to the ICN include MILNET, ESNET, NMFENET, HEPNET, BITNET, CSNET, SPAN, NSFNET, NWCNET and TELENET. In addition, LANL maintains a national T-1 backbone network supporting point-to-point, unclassified and secure data links to major users of the ICN. Dial-in access at up to 9600 bps is also supported for both classified and unclassified connections.

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Who Can Use the Network

US Government agencies and their contractors requiring services uniquely provided by LANL. For further information, please call Kay Fletcher (skf@lanl.gov) at (505) 667-9463.

NASA Science Network (NSN)

_ A_ d_ d_ r_ e_ s_ s:
Network Information Center
NASA Science Network
MS 233-18

NASA Ames Research Center
Moffett Field, CA 94035

_ E-_ m_ a_ i_ l: nsnnic@nsipo.nasa.gov

_ P_ h_ o_ n_ e: (415) 694-5859 or (FTS) 464-5859

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The NASA Science Network (NSN) is an IP network which supports scientists and flight projects funded by NASA's Office of Space Science and Applications (OSSA). The network is used to provide remote access to such resources as scientific databases and supercomputing centers. The NSN maintains hubs at several NASA centers which are interconnected in a partial mesh topology. These backbone sites use terrestrial circuits ranging in speed from 168 to 672 Kbps. From these hubs radiate numerous tail circuits; the majority of these tails are 56 Kbps, with a few at 9.6 Kbps as well.

The NSN was designed to provide NASA's scientific communities with a more general networking approach that would provide full networking services in a vendor-independent environment. These services include file transfer and remote logon as well as email.

NSN is a NASA-wide network managed by the NASA Science Internet Project Office (NSIPO) at Ames Research Center. It is used for NASA-funded space science research programs and flight projects.

Users include NASA sites, and government facilities, research, and academic sites conducting NASA-funded research.

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_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

Network access is limited to users who are accessing NASA resources.

Who Can Use the Network

Access is limited to facilities which are working on NASA-funded research. It may not be used for private or commercial profit.

Miscellaneous Information

In addition to NSN, the NASA Science Internet also operates SPAN, the Space Physics Analysis Network which utilizes DECnet protocols. NSI maintains applications gateways that provide connectivity between SPAN and NSN.

PREPnet - Pennsylvania Research and Economic Partnership Network

_ A_ d_ d_ r_ e_ s_ s:
PREPnet
305 S. Craig Street
Pittsburgh, PA 15213

_ E_ m_ a_ i_ l: prepnet+@cmu.edu

_ P_ h_ o_ n_ e: (412)268-7870
FAX: 412-268-7875

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

PREPnet is a mid-level data network in the Commonwealth of Pennsylvania. It was initiated through the joint efforts of the Commonwealth of Pennsylvania government, Bell Telephone of Pennsylvania, and the Pennsylvania consortium of universities: Carnegie Mellon University, Drexel University, Lehigh University, Penn State Universtiy, Temple University, the University of Pennsylvania, and the University of Pittsburgh. Chartered in 1988, PREPnet's purpose is to facilitate education, research, technology transfer, and economic development within the state.

The Commonwealth is the inter-LATA carrier and Bell of Pennsylvania is the network operator/ owner of the hub equipment and marketing agent for network access. The Pittsburgh Supercomputing Center provides supercomputing resources and a gateway to the NSFNET. Member institutions have made a variety of information resources available on PREPnet, such as university library catalogs, bulletin boards, and various databases containing statistical, agricultural, demographic, economic, and medical data.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any IP host at any member or affiliate organization may access PREPnet. Access options range from intermittent

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dialup to dedicated T1 connections

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Organizations operating within Pennsylvania involved in education, research, technology transfer, or the economic development of Pennsylvania are eligible to participate. Non-profit institutions may become members, and others may affiliate. Usage consistent with the above purposes is considered acceptable while commercial usage compliant with ANS policies can be obtained. PREPnet does not presently carry transit traffic whose source and destination are both outside the state.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Executive Director: Thomas W. Bajzek, twb+@cmu.edu
NIC Manager: Marsha L. Perrott, twb+@cmu.edu

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

General information about PREPnet is available for anonymous FTP from ftp.prepnet.com in the prepnet/general directory.

SURAnet - Southeastern Universities Research Association Network

_ A_ d_ d_ r_ e_ s_ s:
SURAnet
8400 Baltimore Blvd.
College Park, MD 20740

_ E_ m_ a_ i_ l: help@sura.net

_ P_ h_ o_ n_ e: (800) 787-2638 (SURAnet)
FAX: (301) 982-4605

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

SURAnet, the Southeastern Universities Research Association Network, is a project of SURA, the Southeastern Universities Research Assocation. SURA is a consortium of universities which supports, manages, and operates projects too large or complex to be handled by a single university.

SURAnet, a TCP/IP network, is one of the NSFNET mid-level networks. Connectivity is provided via a T-1 backbone of co-located equipment housed in MCI points of presence. Future plans include migration to a T-3 backbone.

SURAnet is connected to the NSFNET backbone and provides facilities for the FIX-East connections.

SURAnet's geographic area includes the District of Columbia and 13 states in the southeastern US: Alabama, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

While SURA, the parent organization, is a consortium of academic organizations, SURAnet members comprise approximately two-thirds academic institutions and one-third non-academic sites.

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of this guide.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any IP host of any member organization may access SURAnet. We provide Archie services at archie.sura.net. Dial-up is not provided at this time.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

We follow the guidelines set forth by NSFNET.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Hours of operation:	24x7 with limited holiday coverage
Administrative contacts:	Jack Hahn (hahn@sura.net) Dave Littleton (dlittlet@sura.net)
Additional e-mail addresses:	suranet-admin@sura.net nic@sura.net noc@sura.net

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

Interested persons may "ftp" the "README" file located on "ftp.sura.net" in the directory "pub", which lists all information available for anonymous ftp.

UUNET Communications Services

_ A_ d_ d_ r_ e_ s_ s:
UUNET Communications Services
3110 Fairview Park Drive, Suite 570
Falls Church, VA 22042
USA

_ E-_ m_ a_ i_ l: info@uunet.uu.net

_ P_ h_ o_ n_ e: (703) 876-5050 [voice], (703) 876-5059 [fax]

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

UUNET is a non-profit organization whose charter is to provide electronic mail connectivity among its subscribing sites. UUNET provides fast, reliable, mail service both domestically and internationally. UUNET charges connect fees on a cost recovery basis.

UUNET acts as an internet mail relay for its 1,000 subscribing sites. UUNET provides a proxy ftp service and archive service which allows non-internet sites to obtain files that are available by anonymous ftp. Currently, UUNET may only be accessed via TCP/IP or the UNIX UUCP protocols.

UUNET IS NOT A GENERAL UUCP/INTERNET GATEWAY (despite common delusions).

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

UUNET is on the Internet and UUCP networks.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

Access is restricted to UUNET subscribers and their correspondants. While third party access is not currently blocked, it is discouraged and software to prevent it will be installed in the future.

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UUNET is totally funded by user fees and receives no government funding of any kind.

NORDUnet - The Nordic Backbone Network

_ A_ d_ d_ r_ e_ s_ s:
NORDUnet
c/o UNI-C
Bygn. 305, DTH
DK-2800 Lyngby
DENMARK

_ E_ m_ a_ i_ l: Peter.Villemoes@uni-c.dk

_ P_ h_ o_ n_ e: +45 45 938355
FAX: +45 45 930220

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

NORDUnet is a collaboration between the national research networks in Denmark, Finland, Iceland, Norway and Sweden. Its purpose is to provide the national research and education communities with an efficient networking service which ensures coherence of the national R & D networks and connects these to similar networks in the rest of Europe and the world.

NORDUnet is organized as a consortium agreement between the

national networks DENet, FUNET, SUNET, SURIS and UNINETT. The administration is an integral part of UNI-C in Denmark.

NORDUnet has contracted its work mainly to the national organizations. The network operations center has been contracted to KTH/SUNET. It is their responsibility to monitor the service, configure the Cisco routers (IP) as well as coordinate operational issues. The X.25 operations have been contracted to UNINETT and DECNET operations to UNI-C. Overall technical coordination has been contracted to VTKK/FUNET.

NORDUnet has five points of presence, one in each of the Nordic countries.

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UNI-C
Building 305 DTH
DK-2800 Lyngby
DENMARK

FUNET/VTKK
Tietotie 6
Espoo
Finland

SURIS
University of Iceland
Dunhaga 5 IS-107 Reykjavik
Iceland

SINTEF/DELAB
N-7034
Trondheim
Norway

KTH/SUNET
S-100 44
Stockholm
Sweden

NORDUnet provides IP, DECNET, X.25 and CLNS layer 3 services, in this order of volume. NORDUnet leases bandwidth in form raw lines and adds value by providing the network layer protocols in a coordinated fashion with equipment operated through various contracts. The national networks which are the NORDUnet customers see it as a "NORDUnet plug" which provides different service "pins".

NJE traffic is transported over TCP/IP. The CLNS (including DECNET Phase V) pilot traffic is carried by the same Cisco's as the production traffic. The external connections are mainly based on Cisco routers. NORDUnet runs IP and CLNS protocols to the US and IP, CLNS and DECNET IV to Europe. X.25 connectivity to Europe is provided via a direct connection to the IXI network.

There are app. 60.000 IP hosts, 5000 DECnet hosts, and 100 EARN hosts in the Nordic national networks that are interconnected by NORDUnet. NORDUnet connects the national Nordic networks to Internet, Ebone, EASInet, EARN/BITNET, EUnet, HEPnet, SPAN and IXI.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

NORDUnet can only be used for academic and research traffic.

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

Documents available by anonymous ftp and gopher from nic.nordu.net

[Discontinued] CMR - Commercial Mail Relay

The Commerical Mail Relay (CMR) at isi.edu, in the USC/Information Sciences Institute, Marina del Rey, CA is scheduled to cease operations in September 1992.

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Terrestrial Wideband Network

_ A_ d_ d_ r_ e_ s_ s:
Terrestrial Wideband Network
c/o BBN Systems and Technologies Corp.
10 Moulton St.
Cambridge, MA 02138
Attn: Karen Seo

_ E-_ m_ a_ i_ l: wbhelp@bbn.com

_ P_ h_ o_ n_ e: (617) 873-3427 (Terrestrial Wideband Network hotline)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Terrestrial Wideband Network was built and deployed by BBN STC as a part of the initial phase of the Defense Research Internet (DRI). In May 1989, this network replaced the Satellite Wideband Network, which had been in operation for the previous 8 years. The Satellite Wideband was a domestic 3 Mbit/sec network that had been used for research into the use of packet satellite technology to efficiently support applications with varying delay, throughput, and reliability requirements, e.g., interconnection of distributed operating system clusters, development of end-to-end bulk transfer protocols, multimedia conferencing, interconnection real-time interactive simulation/training systems. The Terrestrial Wideband continues this tradition by using one of the cross-country T1 trunks from the DARPA National Networking Testbed (NNT) to support research in high speed networking, to provide connectivity among academic and government sites, and to support a testbed for Internet protocol development and experimentation with applications. Currently this network is carrying cross-country Internet datagram traffic associated with DARPA-funded projects. It also supports a research environment for multimedia conferencing and voice/video conferencing using gateways which use a real-time connection oriented protocol over a connectionless network.

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_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Access to the Terrestrial Wideband is typically via an IP or ST gateway. Connection of such a host is at the discretion of DARPA. The current network includes the following Wideband Packet Switches (WPS) and user sites -- BBN (BBN), NY

(RADC), Washington (DARPA, NRL), Chicago (NCSA), LA (ISI), SRI (SRI, Stanford). This fall, Ft Monmouth will be connected to the NY WPS and CMU will be connected to a WPS to be installed in Pittsburgh.

Who can use the Network

The Terrestrial Wideband Network is to be used for DARPA-funded research and development activities of the Internet community. Users typically access the network via gateways which have Internet connectivity to the Terrestrial Wideband Network. Applications which might benefit most from the Terrestrial Wideband Network are those which require high bandwidth and/or low delay between geographically distant sites, such as bulk file transfer, remote procedure calls, conferencing, graphic simulations, and distributed operating systems.

Miscellaneous Information

a) System and Network Architecture

The Terrestrial Wideband is currently a transcontinental network built on T1 trunks belonging to the National Networking Testbed (NNT). The Wideband packet switch nodes (WPSs) are located at unattended NNT Points of Presence (POPs). They are based on Butterfly multiprocessor hardware and are connected via the T1 fiberoptic trunks into a backbone configuration. The WPSs pass network traffic using the Dual Bus Protocol reservation scheme. Local area networks at user sites, e.g., ethernets, are connected to the backbone packet switches via Internet IP and ST gateways and T1 tail circuits.

The current topology of the network, which resulted from external constraints, is a series of packet switches connected in a line by T1 trunks. This can result in partitioning of the network in the event of a packet switch failure. To minimize outages, the Terrestrial Wideband Network includes a number of features. The multiprocessor hardware configuration used for the packet switch provides redundancy in case

a processor node fails. Also, a failsafe box isolates the WPS upon detection of an outage while continuing to

maintain connectivity between the T1 trunks in and out of the failed WPS, thus maintaining network continuity. The network also allows remote dial-in access for a number of emergency functions that would otherwise have to be performed by on-site staff.

b) Operations

A remote monitoring center provides network control capabilities, and a dialup capability provides backup monitoring and control when necessary. The Terrestrial Wideband Network packet switch software can be updated via remote downloading. Network operations support is provided between 8AM and 8PM Eastern time.

c) Protocols

- TCP/IP traffic is supported by the Terrestrial Wideband Network. This is accomplished by using standard Internet gateways.

- Stream Protocol (ST) protocol (based on IEN 119) is used between gateways which support voice/video traffic. This is a connection-oriented protocol which operates over the connectionless Terrestrial Wideband Network, and allows the gateways to send packets to other destinations with minimal delay, as is required for voice/video conferencing.

- Gateways communicate with the Terrestrial Wideband Network packet switches (WPSs) via the Host Access Protocol (HAP), specified in RFC 907-A. This is a protocol by which a host can send datagrams across the network, and can request and manage network bandwidth.

- The WPS software provides an echo host which responds to ICMP ping packets.

- Dual Bus Protocol provides a link-level transport protocol which uses a reservation mechanism to provide access fairness for each WPS. This is a type of Distributed Queue Dual Bus (DQDB) protocol similar to the IEEE 802.6 Metropolitan Area Network (MAN) protocol, but with features that support wide area networking and multimedia conferencing. Whereas conventional packet store and forwarding would involve per packet forwarding processing and buffering at every intermediate

node, a DQDB protocol performs processing and buffering only at the entry point and minimizes the processing and buffering at subsequent nodes along the trunk until the exit point.

- Wideband Monitoring Protocol (IP protocol number 78) is used between the WPSs and the monitoring center.

International Collaboration Board Network

_ A_ d_ d_ r_ e_ s_ s:
ICBNet
c/o BBN Systems & Technologies Corporation
10 Moulton Street
Cambridge, Massachusetts
02138
Attention: Stanley Silverman

_ E-_ m_ a_ i_ l: icbnet-staff@bbn.com

_ P_ h_ o_ n_ e: (617) 873-2447 (Silverman)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The ICBNet establishes Internet links between the ARPANET and cooperating groups of researchers within NATO sites, providing transit service and a testbed for joint NATO C3 and interoperability experiments. These links have replaced the old SATNET (Atlantic Packet Satellite Network) service. Point-to-point trans-Atlantic service between the US and the UK and between the US and Italy connects the ARPANET with local networks at the Royal Signals and Radar Establishment (RSRE) and the University College London (UCL), both in the UK, and at the Italian National Research Council (CNUCE) in Italy. The Norwegian Telecommunications Administration Research Establishment (NTARE) accesses the network via RSRE. Connections to the SHAPE Technical Centre (STC) in the Netherlands and the Warrior Preparation Center (WPC) in West Germany will be added within the next few months.

The US-to-Europe links are provided via full duplex 64kbps connections between a Butterfly Gateway located at BBN in Cambridge, and the Butterfly Gateway at RSRE, and between the Butterfly Gateway at DARPA in Arlington, Va., and the Butterfly Gateway at CNUCE.

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CONCERT Network

_ A_ d_ d_ r_ e_ s_ s:
CONCERT Network
MCNC
3021 Cornwallis Road
P.O. Box 12889
Research Triangle Park, NC 27709

_ E_ m_ a_ i_ l: info@concert.net

_ P_ h_ o_ n_ e: (919) 248-1999

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

CONCERT (COmmunications for North Carolina Education, Research, and Technology) is a private telecommunications network owned and operated by the Center for Communications at MCNC to interconnect universities, research institutions, graduate centers, non-profit organizations, government laboratories, and industries in North Carolina, permitting timely participation in research and education projects. The CONCERT Network Operations Center is located at MCNC in Research Triangle Park.

CONCERT is actually two networks; one for video, one for data. Both are carried over CONCERT's private microwave facilities that span 453 path miles from Asheville in the west to Greenville in the east.

CONCERT OBJECTIVES

- o + Provide and operate an advanced communications network for research and education.
- o + Build a collaborative university and industry program.
- o + Serve as a test bed for next-generation services and systems.

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- o + Participate in the deployment of National Research and Education Network (NREN) for North Carolina.

- o + Develop high-performance capabilities in visualization, supercomputing, and distributed systems.

VIDEO NETWORK

CONCERT utilizes two duplex analog NTSC video channels that function as a multi-way, interactive videoconferencing network to encourage research, education, and technology transfer. An additional duplex video channel connects the state's four medical schools. The interactive video channels provide face-to-face communications capabilities among all institutions. Each institution has videoconference and video teleclass facilities.

Specific programs and applications include:

- o + videoconferencing capabilities for researchers and faculty;

- o + graduate and extension courses in a variety of disciplines;

- o + seminars in supercomputing and high-performance computation;

- o + research collaborations among members of the research community;

- o + scientific and technical seminars and workshops; and

- o + medical courses and programs.

Sixty percent of the available video network time is booked for courses and regularly scheduled seminars, with the remaining time reserved for meetings and conferences. This open time provides researchers and faculty the opportunity to meet as required with little prior notice.

DATA NETWORK

The CONCERT data network functions as a mid-level TCP/IP network providing access to the INTERNET, a collection of data networks across the nation and world interconnecting universities, government agencies, national laboratories,

non-profit research organizations, and industry. Through CONCERT, North Carolina researchers from academia, government, and industry have access to these resources as well as electronic mail and USENET news for communications, learning, and collaboration with colleagues.

The CONCERT network is built from an interconnected collection of IP routers spanning the state. T3 links are utilized for the Triangle campuses; T1 circuits for institutions outside the Triangle area. More than 10,000 computers and workstations are interconnected across North Carolina.

CONCERT-CONNECT

CONCERT-CONNECT, a program of the MCNC Center for Communications, provides North Carolina businesses and industry an opportunity to gain access to state and national research and education resources through the INTERNET. CONCERT-CONNECT can provide a company a significant competitive edge in research and development.

Businesses and industry interested in connecting to CONCERT can use the network for collaboration, research, and education. Network connection provides users with access to email, bulletin boards, various databases, and other network and institutional resources. Connection to CONCERT can be achieved by direct network connection at 56 Kbps or T1 speeds, or by three dial-up modem services: Serial Line Internet Protocol (SLIP); individual UNIX accounts; UUCP Mail/News.

COMMUNICATIONS RESEARCH

The primary purpose of the research activities is to leverage the evolution of CONCERT to support advanced educational uses of the network and communications research in North Carolina. The existing network and established userbase is utilized as a testbed, and the focus of the research is

joint activities among MCNC, the universities, and industry. Projects tend to emphasize use of standard network technologies, supercomputing communications applications, and methods to use networking to enable collaboration by providing virtual proximity capabilities.

Currently Funded Projects:

- o + Atila-development of a prototype network analysis-evaluation-management system for Asynchronous Transfer

Mode networks.

- o + VISTAnet-a testbed that provides a 2.488-Gbps wide area network connecting the CRAY Y-MP, the Pixel Planes graphic processor, and SGI 340 VGX. Research programs center on meeting the challenges of gigabit networking: efficient communications, distributed computing, and applications. (Partners: BellSouth, GTE, UNC-Chapel Hill, NCSU, CNRI.)

- o + Shared X-Windows/Workstation Collaboratory-a joint program with NCSC and UNC-Chapel Hill emphasizing remote interactive graphics on high-end workstations located in CONCERT video- conference rooms. Advanced visualization applications and shared computing environments are featured.

- o + Traffic Characterization-a study to measure and mathematically characterize the traffic statistics (packet length and interarrival times) of CONCERT.

- o + Packet Video-seeks to make evolutionary changes to TCP/IP protocols to support interactive video traffic.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any research facility, educational institution, non-profit organization, government laboratory, commercial company, or individual may join the network under either education/research or commercial options.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

Use of CONCERT and/or the Internet is subject to appropriate acceptable use policies of the various constituent networks.

CONCERT maintains agreements that permit both research/education organizations and commercial service providers to connect to the Internet.

SWITCH - Swiss University and Research Network

_ A_ d_ d_ r_ e_ s_ s:
SWITCH Head Office
Limmatquai 138
CH-8001 Zurich
SWITZERLAND

_ E_ m_ a_ i_ l: Postmaster@switch.ch

_ P_ h_ o_ n_ e: +41 1 256 5454
FAX: +41 1 261 8133

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

SWITCH is a foundation, sponsored by the government and the Swiss universities, providing teleinformatics services to all Swiss universities and to various research institutes by connecting to national and international resources. SWITCH started operation in October 1988.

SWITCHlan is a national backbone network which connects all universities using leased lines with speeds between 128 kbit/s and 2 Mbit/s. Most other organizations are connected via 64 kbit/sec. For routing on these national leased lines SWITCH uses CISCO routers. The protocols

supported are DECnet, TCP/IP, X.25 and ISO CLNS.

All three Swiss supercomputers are connected to SWITCHlan. Access to some library catalogs is already available; others will join later.

International connections on the network level went into operation in January 1990. The current state today is:

- + Two lines with TCP/IP to CERN, each 2 Mbit/s. This gives access to the European part of the Internet and access to the NSFnet via the EASIgate T1 link to Cornell.

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- + TCP/IP and ISO CLNS connection to Nice, France with 64kbit/s; this link is the backup route to the Internet/NSFnet.

- + A TCP/IP 64 kbit/sec line to BelWue, a regional research network in southern Germany.

A 64 kbit/sec connection to the COSINE/IXI pilot X.25 network has been running since the first quarter of 1990. This infrastructure is mainly used for exchanging X.400 messages, connecting to other X.500 DSAs and for TCP/IP over X.25 and ISO CLNS over X.25 with the European Academic and Research Community.

SWITCHmail is the national X.400 MHS network which connects the universities and research institutes to the ADMD of the Swiss PTT and through COSINE-MHS to research MHS networks in 19 countries. E-mail gateways to EARN/BITNET, UUCP and Internet are also offered by SWITCH.

In RARE (Reseaux Associes pour la Recherche Europeenne, the European research network organisation), SWITCH is an active partner in the COSINE MHS project as well as in the COSINE pilot X.500 Directory Service project and the COSINE Information Service project.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any host on the network of a connected organization may access the network, as long the usage complies with the use policy of SWITCH.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

SWITCH networks can only be used for academic and research traffic.

NevadaNet

_ A_ d_ d_ r_ e_ s_ s:
NevadaNet
System Computing Services/270
Reno, NV 89557

_ E_ m_ a_ i_ l: info@nevada.edu

_ P_ h_ o_ n_ e: (702) 784-4827

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

NevadaNet is an initiative of the University and Community College System of Nevada with funding assistance from the National Science Foundation and the State of Nevada. NevadaNet is a state-wide network and currently serves the

Desert Research Institute and all public institutions of higher education in Nevada. A hub in Reno is connected to the Network Operation Center in Las Vegas via two 1.54 mbps circuits. The Las Vegas NOC is connected to the NSFNET backbone in San Diego at 1.54 mbps. NevadaNet is TCP/IP network with connections available up to T-1.

Network Access

Any IP host on the Internet may access NevadaNet.

Who Can Use the Network

Any individual or organization having Internet needs in support of education and/or research may request participation in NevadaNet. Appropriate connections and use follow the guidelines or policies of the National Science Foundation, the Federal Research Interagency Coordinating Council and the Federation of American Research Networks.

Miscellaneous

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NOC Manager: Van Weddle (702) 739-3883
weddle@uns-helios.nevada.edu

NIC Manager: Becky Seibert (702) 784-4343
seibert@unssun.nevada.edu

Executive Director: Don Zitter (702) 784-6133
zitter@nevada.edu

BARRNet, the Bay Area Regional Research Network

_ A_ d_ d_ r_ e_ s_ s:
Pine Hall, Rm. 115
Stanford University
Stanford, CA 94305-4122

_ E-_ m_ a_ i_ l: info@nic.barrnet.net

_ P_ h_ o_ n_ e: (415) 725-1790

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

BARRNet is the Northern California regional hub of the NSFNet, the National Science Foundation Network. BARRNet's purpose is to facilitate scientific and educational communications using high-performance computer networking technology and wide-area telecommunications utilities, and to promote collaboration, sharing of information, and wide access to computer resources for research and educational purposes. BARRNet was established in 1986 under a grant from the NSF by a consortium of six members: Stanford University, the NASA Ames Research Center, and the Berkeley, Santa Cruz, San Francisco, and Davis campuses of the University of California. Since then BARRNet has grown to include several additional government and private research laboratories and more than twenty-five corporate affiliates.

Four BARRNet sites-UC Berkeley, Stanford University, the Lawrence Livermore National Laboratory, and NASA Ames-are connected in a ring by data circuits running at T1 speed (1.544 Mbps). UC Davis, which is connected to UC Berkeley by a T1 line, is also considered a core site; the remaining sites are connected to one of the core sites, typically by T1 or 56kbps lines, but in some cases by microwave or direct Ethernet (10 Mbps) connections. BARRNet is connected to the NSFNET by an NSS (Nodal Switching Subsystem) located at Stanford University. Stanford is also the site of the BARRNet Network Operating Center, or NOC.

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Beginning in April of 1990, BARRNet's membership fees will be adjusted to reflect size and type of organization, as well as connection speed. Also during the spring and summer of 1990, BARRNet will be implementing low-speed (9600 bps) dedicated line services, with dial-up services available shortly thereafter.

An Administrative Committee oversees BARRNet policy,

finances, and general operations. A Technical Committee advises the Administrative Committee, and oversees day-to-day operations such as routing.

Network Access

Any host on a network connected to BARRNet can reach (and be reached from) any host on any network on NSFNet and most other parts of the Internet.

Who Can Use BARRNet

BARRNet's primary use is for scientific research or instruction by its non-profit members. Use of BARRNet in support of a not-for-profit member's research or instruction is acceptable. Use of BARRNet for scientific research or instruction at for-profit affiliate sites may or may not be consistent with the purposes of BARRNet, and will be reviewed on a case-by-case basis. Commercial uses such as billing or advertising are prohibited.

Miscellaneous Information

Executive Director:

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(415) 723-3104

Technical Comittee Chair:

Philip Almquist
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(415) 723-2229

Network Operating Center

Manager: Ron Roberts
Business Hours: (415) 723-7360

After hours/weekends: (415) 723-1611
barrnet-noc@nic.barrnet.net

NorthWestNet

_ A_ d_ d_ r_ e_ s_ s:

Administrative:
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Western Interstate Commission on Higher Education (WICHE)
P.O. Drawer P
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Technical:
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_ E-_ m_ a_ i_ l:

Administrative: markwood@vaxf.colorado.edu
Technical: danj@cac.washington.edu

_ P_ h_ o_ n_ e:

Administrative: (303) 497-0220
Technical: (206) 543-7352

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

NorthWestNet (NWNet) is a mid-level network of the National Science Foundation Network (NSFNET). NWNet provides communication with NSFNET for research centers throughout the Northwest, including sites in Alaska, Idaho, Montana, North Dakota, Oregon, and Washington. The network supports both IP and DECnet within NWNet, but access to the NSFNET is restricted to IP only. A primary focus of NWNet is providing access by researchers in the Northwest to supercomputing resources.

The NWNet NOC and the NSFNET Nodal Switching Subsystem (NSS)

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for the Northwest are located at the University of Washington. The network is currently implemented using a mix of T1, 56 Kb/s, and voice grade (19.2 Kb/s) leased lines in a mostly-tree topology.

NWNet is funded by a grant from the National Science Foundation and by membership fees. A Management Committee comprised largely of representatives from the member institutions governs NWNet. Other committees that advise the Management Committee include the Technical Committee and the Training Committee (a subcommittee of the Technical Committee).

Several member institutions have large computers accessible via the Internet. For example, there are two Cray XMP/48 computers at NWNet sites (Boeing and Battelle). Some other resources available to NWNet members include: a mail gateway machine, relay.cac.washington.edu, which can route mail between the Internet, BITNET, CSNET, and UUCP networks; Internet access to the University of Washington library catalog (uwcat.lib.washington.edu-use the keypad + key or enter key to change screens; break the telnet connection to close) and the University of Oregon library catalog (janus.uoregon.edu); and the University of Washington Computing Information Center (CIC), which has more than 8000 books, 1200 serial titles, and 8500 technical reports related to computing.

NWNet sponsors a yearly seminar highlighting the resources and services of NWNet, as well as discipline-specific workshops for interested researchers currently using supercomputers or contemplating such use. We also maintain and distribute a training kit containing a manual and videotape geared toward training user-services personnel in TCP/IP, the use of NWNet, national networks, and supercomputing resources.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any IP host on the Internet may access NWNet sites. For DECnet access, consult the NWNet Network Operations Center.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

Use of the network is governed by an "Acceptable Use" policy, a copy of which is available on request. In general, use is limited to support for scientific research and instruction at member and associate member institutions.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

The 24x7 NOC hotline number is (206) 543-5128, or noc@nwnet.net.

SUNET

_ A_ d_ d_ r_ e_ s_ s:
SUNET
Umea Computing Center
S-901 87 Umea
SWEDEN

_ E-_ m_ a_ i_ l: sunet-staff@sunet.se (Operations staff)

_ P_ h_ o_ n_ e: +46 90 16 61 00 (Hans Wallberg)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

SUNET, or the Swedish University Network, interconnects local and regional networks at universities in Sweden. The goal of SUNET is to provide good data communications that are beneficial to the universities. The network is used by researchers and teachers of all disciplines. SUNET provides Swedish academic and research users with network resources for communications both within Sweden and around the world through electronic mail, remote login, file transfer, and other methods.

SUNET is a protocol-independent network based on Ethernet (IEEE 802.3) interconnections. Currently only IP and DECnet (and EARN) are carried over the backbone. The configuration of SUNET is a backbone star network centered at KTH in Stockholm with 64 kbps lines interconnecting the local Ethernets to one nation wide Ethernet. The lines are interconnected via remote bridges (Vitalink). Routers are used to support the various protocols: Cisco for IP and VAXes for DECnet (and EARN). SUNET also maintains a separate X.25 network.

There are two interconnected central mail hubs, one for IP/SMTP, RSCS/BSMTP and VMS/Mail and one for EAN/X.400 mail.

There are (at least) 3000 IP hosts and 650 DECnets in SUNET.

SUNET has international connections to

o + EARN (via NORDUnet)

o + EUnet via NORDUnet

o + HEPnet via NORDUnet

o + NORDUnet

o + NSFNET via NORDUnet

o + SPAN via NORDUnet

o + EANnet

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

It is possible for any IP host on the Internet to access SUNET.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

SUNET may only be used for academic and research traffic.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

See also the information about NORDUnet.

For more information about SUNET contact:
Hans Wallberg, Manager +46 90 16 61 00
hwg@umdc.umu.se
Bjorn Eriksen, Head of operations +46 8 790 6513
ber@sunet.se

THEnet - The Texas Higher Education Network

_ A_ d_ d_ r_ e_ s_ s:

Texas Higher Education Network Information Center
Office of Telecommunication Services
Service Building, Room 319
Austin, TX 78712-1024

_ E_ m_ a_ i_ l:

Internet: info@nic.the.net
BITNET: INFO@THENIC
SPAN: UTSPAN::THENIC::INFO
THEnet (DECnet): THENIC::INFO

_ P_ h_ o_ n_ e: (512) 471-2444
FAX: (512) 471-2449

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Texas Higher Education Network (THEnet) was formed in 1986 through a combination of networking efforts at Texas A&M University, the University of Houston, the University of Texas Health Science Center at San Antonio, and the University of Texas System. It covers the state of Texas, with a link to the Instituto Tecnologico y de Estudios Superiores de Monterrey in Monterrey, Mexico. THEnet's goal is to provide and advance the electronic exchange of information in

support of the teaching, research, development, and related collaborative activities of the Texas higher education and research communities.

THEnet is not a homogeneous network utilizing a single networking protocol. Rather it is a network of physical connections between and within organizations making various use of IP, DECnet, SNA, RSCS/NJE, and compressed digital video It provides researchers, faculty, and students the networking "tools" that they need for their particular situations. THEnet currently connects over 80 institutions, and consists

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of approximately 3000 DECnet nodes, over 10,000 IP hosts, appx. 150 BITNET nodes, and 10 IBM mainframe hosts connected over SNA.

Network Services

Network information and operations management are provided through the University of Texas (UT) System Office of Telecommunication Services (OTS). The OTS provides both network information center (NIC) and network operations center (NOC) services to THEnet member institutions.

Informative documents are available on node nic.the.net (Internet) via anonymous FTP, and THENIC (DECnet) via default DECnet file access. See the file THENET.INDEX for a list of available documents.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

THEnet is an NSF regional network, with access to the NSFNET backbone through the NSS (Nodal Switching Subsystem) at Rice University in Houston. THEnet is connected to the Space Physics Analysis Network (SPAN) by DECnet routers at the University of Texas at Austin and NASA Johnson Space Center. Access to ESnet and HEPnet (ESnet-DECnet) is also provided through UT Austin, an ESnet backbone site. THEnet has external BITNET connectivity provided by Rice University via connections to the University of Missouri and Louisiana State University and by their participation in the BITNET II

project (NJE over the TCP/IP-based Internet).

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

Membership in THEnet is open to all institutions of higher education in the state of Texas, as well as their affiliated research institutions. Commercial institutions which can demonstrate an education or research relationship to any THEnet higher education member are also eligible to join. Queries about membership or additional information should be directed to the postal address or one of the electronic mail addresses given above.

ILAN

_ A_ d_ d_ r_ e_ s_ s:
ILAN
Computer Center
Tel Aviv University
Ramat Aviv
ISRAEL

_ E-_ m_ a_ i_ l: hank@vm.tau.ac.il

_ P_ h_ o_ n_ e: +972 3 5450610 (Avi Cohen)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

ILAN, the Israeli Academic Network, established in 1984, is dedicated to universities and academic, medical, and non-profit research institutes. The network is widely used for scientific, educational, academic, and research purposes: commercial and political use is not allowed, either directly

or indirectly.

ILAN has installed six 64kb lines to create a central high-speed backbone between Israel's seven major universities. ILAN has international connections to EARN and Nysernet.

ILAN's former NJE traffic and all EARN/Bitnet network services now run on ILAN's TCP/IP backbone. We plan a 56kb link to Nysernet (the New York State Educational and Research Network), a regional network of NSFNET (the US National Science Foundation Network). In the interim, ILAN will connect to Nysernet via a 9.6kb IP link.

Our backbone supports "Aleph," a project for the computerization and interconnection of all university library card catalogs, which is near to completion. This system allows students and faculty to search card catalogs at local university libraries as well as libraries located at other universities within Israel. Since this system was developed long before the ILAN project, it was based on DECNET

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protocols, which required us to use a multi-protocol router.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

It is possible for any IP host on the Internet to access ILAN.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

ILAN may only be used for academic and research traffic.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

For more information about ILAN contact:
Avi Cohen
+972 3 5450610
a32@vm.tau.ac.il

Hank Nussbacher

+972 3 5450610
hank@vm.tau.ac.il

ESnet - Energy Services Network

_ A_ d_ d_ r_ e_ s_ s:
NERSC
L-561
Lawrence Livermore Labs
Livermore, Ca. 94550

_ E_ m_ a_ i_ l: info@es.net

_ P_ h_ o_ n_ e: 1-800-33-ESNET

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

ESnet is a computer data communications network managed and funded by the Department of Energy Office of Energy Research (DOE/OER) for the purpose of supporting open scientific research in multiple programs. ESnet is intended to facilitate access to resources at ER scientific facilities, to provide for information dissemination among scientific collaborators throughout all ER programs, and to provide widespread access to existing supercomputer facilities via remote login, electronic mail, file transfer, and related utilities.

ESnet is installed and operated by the National Energy Supercomputer Center (NERSC), formerly known as the National Magnetic Fusion Energy Computer Center (NMFECC), which is located at Lawrence Livermore National Laboratory (LLNL) in California. ESnet policy is guided by the ESnet Steering Committee, appointed by the DOE Office of Scientific Computing, with representatives from each of the Energy Research Programs. The ESnet program plan, prepared by this committee, is available from the National Technical Information Service as report DOE/ER-0341 (June 1987).

The ESnet backbone consists of largely of T1 links (1.544 megabit per second) interconnecting nineteen sites in the United States. Network access to Europe and Japan is also supplied in collaboration with foreign research facilities.

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ESnet will also provide backbone capabilties to the Magnetic Fusion Energy Network (MFEnet) and the High Energy Physics Network (HEPnet) communities.

In terms of protocols, ESnet supports TCP/IP and Digital Equipment Corporation's DECnet. ESnet will support X.25 and the OSI protocols as they become available from vendors.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s:

ESnet is not available for use by the general public, nor is it intended to compete with comparable commercial network services. ESnet is available for access by researchers, facilities, and groups participating in or collaborating with Office of Energy Research (OER)-sponsored activities. NERSC provides user services for ESnet.

Miscellaneous Information

For more information contact:

Jim Leighton, 415-422-4025, jfl@es.net, Network Manager
Tony Hain, 415-422-4200, hain@eagle.es.net, Associate Network Manager
Bob Aiken, 415-422-4474, aiken@es.net, Network Information and Services Group

_ A_ d_ d_ r_ e_ s_ s:
WVNET
837 Chestnut Ridge Road
Morgantown, WV 26505

_ E-_ m_ a_ i_ l: SITEREP@WVNVM.WVNET.EDU

_ P_ h_ o_ n_ e: 304-293-5192

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

WVNET, the West Virginia Network for Educational Telecomputing, supplies computing services to West Virginia's higher education institutions. The central site in Morgantown provides telecomputing for users at more than twenty remote sites.

The WVNET communications system is an intrastate network of Ethernet LANs, which support DECnet, LAT, and TCP/IP traffic. Digital T1 and analog telephone circuits connect the central and campus computing facilities.

Operating systems at WVNET include the MVS/XA (running OBS WYLBUR, ADABAS and CICS), VM/XA, and VAX/VMS. The _ W_ V_ N_ E_ T _ S_ o_ f_ t_ w_ a_ r_ e _ G_ u_ i_ d_ e, which describes academic and administrative software on these systems, is available for $5.90 (including postage).

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

WVNET users are connected to the NSFNET backbone via SURAnet. Connectivity is also provided via CREN (BITNET).

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k:

Organizations that are located in West Virginia and involved in education, research, or the economic development of the state can use WVNET. Nonprofit institutions may become

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associates. Examples of unacceptable usage include commercial order-entry and advertising commercial products.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n:

Interim Director: Henry Blosser, U1473@WVNVM.WVNET.EDU
New Accounts: John Fahey, U1440@WVNVM.WVNET.EDU

FidoNet Gateways

_ A_ d_ d_ r_ e_ s_ s:
c/o David Dodell, fidonet.org Administrator
10250 North 92nd Street, Suite 210
Scottsdale, AZ 85258-4599

_ E_ m_ a_ i_ l: hostmaster@fidonet.fidonet.org

_ P_ h_ o_ n_ e:
FAX: +1 (602) 451-1165
I prefer to communicate about FidoNet by email or FAX.

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

FidoNet allows MS and PC DOS personal computers, linked over dial-up telephone lines, to contact UNIX and UUCP computers via gateways. FidoNet, which was started in 1984, now consists of more than 11,000 computers, or nodes, run by local system administrators.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

FidoNet is fully coupled into the Internet. You do not need to know any specific gateways, just address the message correctly into the fidonet.org domain, and everything will be routed automatically.

FidoNet addresses can be addressed in the basic format of:

FirstName_LastName@pww.fzz.nxx.zyy.fidonet.org

ww= Point Number (This is usually not needed unless specific to a subsystem.)

zz= FidoNet Node

xx= FidoNet Network or Region

yy= FidoNet Zone (Presently only 1 to 5 are valid.)

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Therefore, as an example, user David Dodell resides at FidoNet address 1:114/15. My FidoNet Internet address is:

David_Dodell@f15.n114.z1.fidonet.org

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

No restrictions

CERFNet - California Education and Research Federation Network

_ A_ d_ d_ r_ e_ s_ s:
CERFnet
c/o San Diego Supercomputer Center
P. O. Box 85608
San Diego, CA 92186-9784

_ E_ m_ a_ i_ l: help@cerf.net

_ P_ h_ o_ n_ e: (619) 455-3900

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The California Education and Research Federation Network, CERFnet, is a data communications regional network that operates throughout California. The purpose of CERFnet is to advance science and education by assisting the interchange of information among research and educational institutions through high-speed data communications techniques.

CERFnet was launched in the spring of 1989 with a $2.8 million grant from the National Science Foundation. CERFnet links fifty of the leading research and education centers in California at data transfer rates of up to 1.544 megabits per second (T1). The CERFnet backbone nodes are located at UCLA, UC Irvine, SDSC, Caltech, and the UC Office of the President in Oakland, California. CERFnet membership is open to all organizations in California, including any university, college, industrial or government facility, hospital, or library.

CERFnet offers several different connection options. A CERF 1544 (1.544 Mbps), CERF 56 (56 kbps) or CERF 9.6 (9.6 kbps) entitles the subscriber to a dedicated leased circuit.

CERFnet offers DIAL N' CERF, a dial-up SLIP service to the network. DIAL N' CERF subscribers connect to the network by dialing up the nearest backbone node and logging on to a CERFnet terminal server.

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CERFnet also provides twenty-four-hour network surveillance and technical consulting, a telephone hotline ((619) 534-5087), weekly and monthly reports on network activity, a bimonthly newsletter, and CERFnet-sponsored seminars. In addition, CERFnet operates a Network Operations Center, located at the San Diego Supercomputer Center, and a Network Information Center (NIC).

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

CERFnet supports the TCP/IP protocol suite. Various documents, including miscellaneous information on CERFnet, are available on the CERFnet NIC. These are available via anonymous ftp to NIC.CERF.NET. There are several subdirectories: cerfnet_news, cerfnet_info, cerfnet_guide, and cerfnet_stats, which contain information such as the CERFnet bimonthly newsletter, acceptable use policy, brochure, and user's guide. (The CERFnet NIC is a UNIX-based workstation.)

_ W_ h_ o _ c_ a_ n _ u_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

Any IP host on the Internet may access CERFnet sites. Use of the network is governed by an acceptable use policy. A copy of this policy is available on request.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

For more information please contact:

Karen Armstrong McKelvey
mckelvey@sds.sdsc.edu

SprintMail X.400 Gateway

_ A_ d_ d_ r_ e_ s_ s:
Merit Computer Network
1075 Beal Ave.
Ann Arbor, MI 48109-2112

_ E_ m_ a_ i_ l: Customer.Service@Sprint.COM

_ P_ h_ o_ n_ e: 1-800-336-0437

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Merit staff operates a gateway between the Internet and SprintMail, which allows messages to be exchanged between SprintMail customers and Internet users. The gateway is connected to Sprintnet and to the Internet through Merit's connections to the NSFNET.

SprintMail, operated by Sprint International, is a commercial X.400 electronic mail network providing services to US customers and access to other networks domestically and internationally. Formerly known as Telemail, SprintMail uses the Sprintnet (formerly Telenet) public data network for its e-mail connections.

Merit provides hardware and software maintenance and administration and network operations (via the Merit Network Operations Center) for the Internet gateway; Sprint provides Sprintnet connectivity and user consulting and registration, as well as gateways to other X.400 networks.

The gateway is a Sun SPARCstation-I running Sun OS 4.0.3 and Sunlink MHS. An X.25 link to Sprintnet is connected to the Sun's serial port at 9600 bps. Protocols used are X.400 Message Handling System, X.225 session layer, X.224 transport class 0, and X.25. On the Internet side, the Simple Mail Transfer Protocol (RFC-822), Transfer Control Protocol, Internet Protocol, and Ethernet protocols are used.

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The gateway supports a directory function that allows SprintMail customers to be registered with a mnemonic name which can be used by Internet users when sending mail. SprintMail users who wish to register can contact Sprint Customer Service.

Merit provides domain name service for the SPRINT.COM domain as well as for some other domains on behalf of some SprintMail customers. For example, the COMPMAIL.COM domain is owned by the IEEE (Institute of Electrical and Electronic Engineering) Computer Society but is operated by Merit as part of the gateway function.

Network Access

From the Internet to SprintMail
To use the gateway, an Internet user can specify a registered SprintMail alias name, in the form:

John.Doe@Sprint.COM

Alternatively, the full X.400 Originator/Recipient (OR) name can be specified, (all on one line), for example:

/pn=John.Doe/admd=Telemail/o=Sprintintl/c=us/@Sprint.COM

The Internet host name after the at-sign, @, can be SPRINT.COM or another domain supported by the Merit gateway. X.400 OR names consist of a list of parameters and their values. X.400 parameters in OR names that can be used by the SprintMail gateway include:

ADMD Administrative Management Domain
PRMD Private Management Domain
PN Personal Name
G Given Name
S Surname
DD.UN User Name (DD is "Domain Defined")
O Organization
C Country (two-letter abbreviations must be used, for example, US, GB, JP)

From SprintMail to the Internet

When sending mail from the SprintMail X.400 environment to the Internet, the native syntax of the sender's system should be used. Use an "ADMD" of TELEMAIL, "PRMD" of INTERNET and "Country" of US, along with the "RFC-822" "domain

defined" attribute to specify the user's Internet mail address. For example, to send mail from the SprintMail system to an Internet user whose address is jdoe@engin.college.edu, type (all on one line):

(Site:Internet,ID:<jdoe(a)engin.college.edu>)

The angle brackets "< >" are required. The "(a)" replaces the at-sign, @, because that and most other special characters are illegal as specified in RFC 987, which makes it necessary to substitute "(u)" for underscore, _, "(b)" for bang (exclamation point), !, "(q)" for a quotation mark, ", and "(p)" for percent, %.

Resolving Problems

If a message sent across the gateway cannot be delivered, the gateway will send a return message to notify the sender of nondelivery. That notification message will explain the problem with the mail address. If you have further questions, call or send e-mail to Sprint Customer Service.

PSINet

_ A_ d_ d_ r_ e_ s_ s:
Performance Systems International
11800 Sunrise Valley Drive - Suite 1100
Reston, VA 22091

_ E_ m_ a_ i_ l: info@psi.com

_ P_ h_ o_ n_ e: 1-800-82PSI82
(703) 620-6651
FAX: (703) 620-4586

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

PSINet is a US-based commercial, national TCP/IP and OSI internetwork available throughout the continental US, Canada and Israel, with a wide spectrum of services for the individual and corporate user of electronic information. PSINet is currently a T1-based network co-located in telephone company facilities; it consists of over two hundred organizational networks. The PSINet operations center, located in Albany, NY, operates twenty-four hours a day, seven days a week. (A regional office is located in Santa Clara, California.) Local phone numbers through PSI's Individual Dialup Service (IDS) provides free telnet/rlogin access to any PSINet dedicated data line (SCS and CCS) customer sites in nearly forty cities throughout the US.

TCP/IP packet access is also provided on a dialup basis using V.32 modems in more than thirty cities. Three times a year a PSINet users group (PSITech) meets to discuss new services, new technologies, and operational requirements.

PSI's PSILink personal Internet access service is provided on a dialup basis in over 170 cities throughout North America, Europe and the Pacific Rim. The service includes electronic mail, USENET News, and anonymous file transfer capability. Free PSILink software for the PC, developed by PSI, is also provided.

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PSINet provides internetworking services to the NYSERNet user community, and also has connections to the NSFNET in Ithaca, NY.

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Any IP host on the Internet may access PSINet sites.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

There are no restrictions on use of PSINet for any purpose (including commercial) by its customers. As a co-founder of the Commercial Internet Exchange (CIX) with the other

unrestricted-usage commercial providers, this important capability is being widely extended throughout the US.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Network software research and development is done within PSI and is exported at no cost or nominal cost to academic, government, and nonprofit organizations. Exported technology includes SNMP, Z39.50, and X.500. PSI provides an entry-level UUCP email service and a White Pages service available over the Internet (see section 4.3 of the Internet Resource Guide). ClariNet News, a live electronic newspaper from ClariNet Communications Corp., is also available to PSI customers through the PSINet system.

MIDnet - A Midwestern Regional Network

_ A_ d_ d_ r_ e_ s_ s:
MIDnet
501 Building 113.1

Lincoln, Nebraska 68588-0202

_ E_ m_ a_ i_ l: nic@westie.mid.net

_ P_ h_ o_ n_ e: (402) 472-8971
FAX: (402) 472-8486

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

MIDnet is a Midwest regional research and education data communications network that provides access to the National Science Foundation Network (NSFNET) and to the Internet community. Our purpose is to promote advances in research and education by providing low-cost, reliable, high-speed connectivity to educational institutions, non-profit organzations, and businesses interested in the advancement of research and education.

MIDnet's mission is to give individuals at member sites in the seven state region of Arkansas, Iowa, Kansas, Missouri, Nebraska, Oklahoma, and South Dakota access to a broad range of advanced information resources such as large databases, supercomputers, libraries, data archives, and electronic mail.

MIDnet is an IP-based network running at speeds from 56 Kbps to T1 (1.544 mps), and currently connects sixty individual sites and two state networks using cisco and Proteon routers.

Major information resources include: the EROS Data Center (Sioux Falls, South Dakota), WUARCHIVE (Washington University in St. Louis), see Section 3-10, National Severe Storms Laboratory (University of Oklahoma), ARCHIE server (University of Nebraska-Lincoln) and on-line library catalogs and

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Campus Wide Information Systems.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

MIDnet is available to any IP host on the Internet.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ e_ t_ w_ o_ r_ k

Any IP host at any member organization may use MIDnet as long as they abide by the MIDnet Acceptable Use Policy (AUP). Any Internet-connected host may access MIDnet members IP hosts under the same usage policy.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Network Operations Center (402) 472-5032 noc@westie.mid.net

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

Further information may be obtained via anonymous FTP from westie.mid.net, directory pub. Included in this information is the MIDnet AUP,membership list, maps, meeting notices and minutes.

SDSCnet

_ A_ d_ d_ r_ e_ s_ s:
San Diego Supercomputer Center
PO Box 85608
San Diego, California 92186-9784

_ E_ m_ a_ i_ l: Paul Love, loveep@sds.sdsc.edu

_ P_ h_ o_ n_ e: (619) 534-5000

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

SDSCnet is a network that links academic, industrial, and government affiliates with the San Diego Supercomputer Center (SDSC) and, by extension, with NSFNET.

Participating organizations may use the network to login remotely to SDSC's supercomputer, parallel machines, and visualization resources; transfer files; send and receive electronic mail; and connect to other resources on NSFNET. Some organizations also receive software support. If an organization's network device(s) support(s) SNMP, the link is monitored for outages 24 hours/day seven days/week.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Connections to SDSCnet are dedicated links primarily at 56 Kbps and T1 speeds using the TCP/IP or DECnet protocols. (OSI protocols will be added when they become available.) Links to BITNET are also available for institutions that wish it and that qualify as members of CREN.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ S_ D_ S_ C_ n_ e_ t

A connection to this network is available to any academic, industrial, or government organization not otherwise connected to NSFNET that seeks such a connection. The cost depends on the preferred speed, network device, protocol of the connection, and the types of services required.

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_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

See also the description of the San Diego Supercomputer Center when it becomes available, and the description of CERFnet (section 5.34).

CSUNET - California State University Network

_ A_ d_ d_ r_ e_ s_ s:
California State University, Office of the Chancellor
Information Resources Technology
P.O. Box 3842
Seal Beach, CA 90740-7842

_ E_ m_ a_ i_ l: nethelp@csu.net or nethelp@calstate.edu

_ P_ h_ o_ n_ e: (213) 985-9445

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

CSUNET (California State University Network) spans the state of California. Its membership consists of the twenty California State University campuses, five California Community Colleges, and the California Department of Education.

CSUNET has four T1 connection points with the Internet, two with BARRNet (Stanford and UC Davis), one with CERFnet (UC Irvine) and one with SDSCnet/CERFnet (SDSC). CSUNET also has X.25 packet connections to SprintNet and 9600-baud X.25 and Telnet dial-up access for limited CSU-sponsored programs. Between the CSU campuses, CSUNET also supports DECnet, Appletalk, and SNA, along with TCP/IP.

In 1988, partial funding was received from the National Science Foundation for cisco routers. Today, however, CSUNET is funded entirely by the State of California in support of K-12, community college, and university-level education.

Logical and geographic maps of CSUNET are located in the csunet/maps subdirectory at "nic.csu.net" (130.150.102.20).

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any IP host of Internet member organizations may access CSUNET.

_____

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dance with the copyright notice appearing at the front of this guide.

Who Can Use the Resources/Restrictions

Any of the members may exchange traffic with any other member in the support of research, education, and/or scholarly activity. Any member may use any of the long-haul networks CSUNET connects to, subject only to the restrictions of the owner of the long-haul network.

Miscellaneous Information

Chris Taylor, Network Administrator
chris@calstate.edu. (213) 985-9669
Dave Reese, Network Engineering
dave@calstate.edu (714) 773-2159
Laura Guillory, Network User Services
laura@calstate.edu (213) 985-9641
Gary Brooker, Network Operations
gary@calstate.edu (213) 985-9533

WiscNet

_ A_ d_ d_ r_ e_ s_ s:
Attn: Michael Dorl
WiscNet
c/o Madison Academic Computing Center
1210 W. Dayton St.
Madison, WI 53706

_ E_ m_ a_ i_ l: wn-info@nic.wiscnet.net

_ P_ h_ o_ n_ e: (608) 263-4188 (Network Operations Center)

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

WiscNet is a nonprofit association that provides access to national network resources for higher education institutions, mostly in the state of Wisconsin. The primary purpose of WiscNet is to provide access to the Internet. WiscNet provides no direct services to end users, but rather acts as a conduit to the resources of the Internet and makes possible interchange of information using electronic mail and network news.

WiscNet is governed by a board of directors consisting of one member from each charter member institution plus the NSF proposal investigators. The board is reponsible for setting broad operating policy, establishing direction, establishing membership categories, and assessing membership fees. A Network Planning Committee works with the operating agent on network design issues.

The Madison Academic Computing Center at the UW-Madison provides day-to-day operational support for WiscNet. This includes a Network Operation Center that provides problem reporting and resolution services 24 hour a day, 365 days a year.

WiscNet operates a packet-switched network consisting of routers connected by T1 (1.544 Mbps) and DDS (56 Kbps)

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communications lines. This network is connected to the national network at UW-Madison by two T1 lines.

The network backbone consists of cisco AGS routers located at UW-Eau Claire, UW-Madison, UW-Milwaukee, UW-Oshkosh, and UW-Stevens Point. These backbone routers are redundantly connected by 256-Kbps circuits provided by the State of Wisconsin Department of Administration's Consolidated Data Network (CDN). End node sites are connected to the nearest backbone sites in their LATA by 56-Kbps DDS circuits.

WiscNet is connected to the CICNet (Big Ten universities plus the University of Chicago) regional network at UW-Madison by T1 lines to the University of Minnesota and to Argonne National Laboratory.

Who Can Use the Network

Membership in WiscNet is open to all educational institutions in Wisconsin, as well as to industrial research organizations. Use of the network is governed by the WiscNet Appropriate Use Policy (available upon request).

Miscellaneous Information

For membership information, contact:

Tad Pinkerton
Office of Information Technology
UW-Madison, WI 53706
(608) 262-8874

tad@macc.wisc.edu or

For technical assistance, contact the WiscNet Network Operations Center:
(608) 263-4188
wn-info@nic.wiscnet.net.

AARNET

_ A_ d_ d_ r_ e_ s_ s:
Geoff Huston, Network Technical Manager
AARNet
GPO Box 1142 Canberra ACT 2601 Australia

_ E_ m_ a_ i_ l: AARNet@AARNet.edu.au

_ P_ h_ o_ n_ e: +61 6 249 3385

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Australian Academic and Research Network (AARNet) is a national network that interconnects the major academic and research facilities within Australia. The network connects all Australian universities, the Commonwealth Scientific and Industrial and Research Organisation (CSIRO), and many other government, commercial, and industrial research facilities in Australia.

Internally the network uses a mix of 2-mbit and 48-kbit leased lines and multi-protocol routers to provide the connection infrastructure.

The network supports national TCP/IP and DECnet Phase IV services. The TCP/IP network is interconnected to the Internet via a PACCOM link to FIX-West at Mountain View, California. At time of writing this international link uses a 256-kbit satellite circuit.

Network Access

The network is connected to the Internet.

Who Can Use the Resource/Restrictions

AARNet can be used for academic and reseach purposes, and in servicing the broad requirements of the Australian academic and research sector.

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Miscellaneous Information

Documents, quarterly reports, usage graphs, and maps of AARNet are available by anonymous ftp from the host AARNet.edu.au.

A resource guide of services and organisations connected to AARNet can be found in the subdirectory /pub/resource-guide.

As well as providing networking services within Australia, AARNet funds a number of developmental programs within the country. These currently include a pilot national X.500 directory service and a national file information/archival service.

In general the Australian hosts on the Internet are grouped under the ".au" domain name.

UNINETT - Norwegian Academic Data Network

_ A_ d_ d_ r_ e_ s_ s:
UNINETT secretariat
SINTEF Delab
N-7034 Trondheim, Norway

_ E_ m_ a_ i_ l: sekr@uninett.no
C=no;P=uninett;O=uninett;S=sekr

_ P_ h_ o_ n_ e: +47 7 592980

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

UNINETT is the Norwegian academic data network. Its purpose is to support research and education and collaborative work in and among academic and non-profit research organizations in Norway by providing access to computer networks and network resources. UNINETT is both a network, an organization, and an infrastructure based on a set of datacommunication protocols. As the Norwegian branch of the Internet, EARN/BITNET, the European academic DECnet, and OSInet/IXI, UNINETT offers a variety of services connecting the Norwegian academic society to the rest of the academic world.

Electronic mail, file transfer, terminal access, directory services, and USENET Network News are among the services available on the UNINETT network.

By July 1991, about eighty academic and research organizations are connected to the UNINETT backbone, giving national and international connection to some eight thousand IP hosts, a few hundred DECnet hosts and X.400 MTAs, and a handful of EARN/BITNET nodes. The number of users is stipulated to be about fifteen thousand.

UNINETT is a member of NORDUnet, which is a cooperative effort of the academic networks in all of the Nordic countries and is connected internationally through the NORDUnet

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network.

The UNINETT activity is funded by The Norwegian Ministry of Education, Research and Church Affairs; the day-to-day work is organized by a secretariat sited at SINTEF Delab, Trondheim.

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s:

UNINETT can be reached from the Internet, IXI, and Public

X.25 EARN/NJE. We also have mail connectivity with the Norwegian PTTs public X.400 network.

_ W_ h_ o _ c_ a_ n _ u_ s_ e _ t_ h_ e _ n_ e_ t_ w_ o_ r_ k:

UNINETT is a non-commercial network for academic and research traffic only. However, recently some commercial organizations have gained access to the network, under restrictions that do not allow them to use the network for commercial purposes.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n:

See also the information about NORDUnet.

ARNET - Argentine Science Network

_ A_ d_ d_ r_ e_ s_ s:
UNDP Project ARG-86-026
Ministerio de Relaciones Exteriores y Culto
Reconquista 1088 1er. Piso - Informatica
(1003) Capital Federal
Buenos Aires, Argentina
Attention: Jorge Marcelo Amodio (NIC JMA49)

_ E_ m_ a_ i_ l: noc-arnet@atina.ar
or postmaster@atina.ar

_ P_ h_ o_ n_ e: (+541) 313-8082
Fax: (+541) 814-4824

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

ARNET, a TCP/IP network connected to the Internet, is the major science and research network of Argentina. It connects approximately three hundred sites, mainly universities and research organizations. ARNET provides electronic mail, USENET News, file server, and electronic mailing list services.

Like other cooperative networks, ARNET has no central planning or central authority. The current international link and the top-level AR domain are managed by the UNDP (United Nations Development Programme), Project ARG-86-026, at the Ministry of Foreign Affairs (MREC), together with the Secretariat of Science and Technology (SECYT). For the time being, the top-level subdomains are administered by the UNDP/MREC project.

ARNET is a store-and-forward message network based on the Unix communications facilities. The international electronic mail gateway and USENET news backbone, atina.ar, is a '386 machine running Unix System V connected to the MREC Local Area Network. The network is connected to the Internet through a satellite link to SURANet at the University of

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Maryland.

Most ARNET connections are over the public telephone network or the public packet-switching network, ARPAC, using the UUCP protocol in different environments. USENET news and most electronic mail traffic is brought to ARNET from uunet.uu.net via Internet.

Several major nodes, such as secyt.gov.ar (Secretaria de Ciencia y Tecnologia), dcfcen.edu.ar (Departamento de Computacion, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires), and opsarg.org.ar (Organizacion Panamericana de la Salud), call atina.ar over telephone lines, PSN ARPAC, or leased lines to distribute mail and news traffic to other nodes. Many nodes use various implementations of UUCP for MS-DOS with limited functionality.

Future plans

There is a cooperation agreement between the UNDP/MREC project and the SECYT to distribute Internet services. The first stage will be the installation of a couple of Unix boxes at major regional sites, interconnected through the PSN ARPAC and national satellite links using UUCP. The second stage will be the migration from UUCP to TCP/IP. There are under study different ways to distribute Internet services throughout the country, and to upgrade the international link to the Internet.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

ARNET's IP number is 140.191. Several bits of the address are reserved for subnetting. The subnet mask is 255.255.254.0.

The current MX-host for the AR domain is uunet.uu.net. Domain Name Service for AR domain is served by NS.UU.NET and UUCP-GW-1.PA.DEC.COM. Most systems on ARNET use the Internet addressing scheme and the UUCP bang notation.

9

Top-level-domain:	AR (Argentina)
Internet:	user@node.subdomain.ar
UUCP:	uunet!atina!node.subdomain.ar!user or uunet!atina!node!user

There are several top-level subdomains. Provincial subdomains are used when sites don't apply for organizational subdomains.

edu.ar	Academic and research institutions
org.ar	Non profit organizations
gov.ar	Government institutions and agencies
com.ar	Commercial organizations
mil.ar	Military institutions
mrec.ar	Ministry of Foreign Affairs Network

ba.ar	Buenos Aires
cb.ar	Cordoba
cc.ar	Chaco
ch.ar	Chubut
cn.ar	Corrientes
ct.ar	Catamarca
er.ar	Entre Rios
fm.ar	Formosa
jy.ar	Jujuy
lp.ar	La Pampa
lr.ar	La Rioja
mn.ar	Misiones
mz.ar	Mendoza
nq.ar	Neuquen
rn.ar	Rio Negro
sa.ar	Salta
sc.ar	Santa Cruz
se.ar	Santiago del Estero
sf.ar	Santa Fe
sj.ar	San Juan
sl.ar	San Luis
tf.ar	Tierra del Fuego
tm.ar	Tucuman

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

ARNET UUCP maps are available from USENET News or uunet.uu.net. The maps are organized by provinces. It will be available for anonymous ftp from "atina.ar" (140.191.2.2).

TANet - The Taiwan Academic Network

_ A_ d_ d_ r_ e_ s_ s:
Computer Center, Ministry of Education
12th Fl, No. 106
Sec. 2, Hoping E. Road
Taipei, Taiwan
Attention: Chen Wen-Sung

_ E_ m_ a_ i_ l: zchen@twnmoe10.edu.tw
or zchen@twnmoe10.bitnet

_ P_ h_ o_ n_ e: (886) 2-737-7010
FAX: (886) 2-737-7043

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

TANet, the Taiwan Academic Network, is a pilot project undertaken by the Ministry of Education and Universities Computer Center to establish a common national academic network infrastructure. To support research and academic institutions in Taiwan, TANet will provide access to unique resources and opportunities for collaborative work. TANet will be composed of most of the Taiwan Internet community, including industry networks such as SEEDNet (Software Engineering Environment Development Network).

Network Organization:

The management structure of TANet is a two-layer hierarchy. The TANet network service center (TANSC) is to be responsible for the national backbone network and management of international links. Within each regional area, a regional network service center (RNSC) will provide necessary services and support connections to the TANet backbone from the local-area network/campus network of each university/institution. At present, TANSC is run by the Ministry of Education computer center, and each RNSC is run by a major local university.

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Membership:

The following universities/institutions will be connected to TANet initially:

Taipei area:
- Ministry of Education Computer Center (MOECC)
- National Taiwan University (NTU)
- National Cheng-Chi University (NCCU)
- National Taiwan Institute of Technology (NTIT)
- National Taiwan Normal University (NTNU)
- Academic Sinica (SINICA)
- Tam-Kang University (TKU)
- Fu Jen University (FJU)
- Chinese Culture University (PCCU)
- National Taipei College of Technology (TIT)
- Institute for Information Industry (III)

Taoyuan area:
- National Central University (NCU)
- Yuan Ze Institute of Technology (YZIT)
- Telecom Laboratory, Ministry of Communication (MOCTL)

Hsinchu area:
- National Chiao-Tung University (NCTU)
- National Tsing-Hua University (NTHU)
- Industrial Technology Research Institute (ITRI)
- Chung-Hua Polytechnic Institute (CHPI)
- Synchrotron Radiation Research Center (SRRC)

Taichung area:
- National Chung-Hsing University (NCHU)
- Feng-Chia University (FCU)

Tainan area:
- National Cheng-Kung University (NCKU)
- National Chung-Cheng University (CCU)

Kaohsiung area:
- National Sun-Yat Sen University (NSYSU)
- National Kaohsiung Normal University (NKNU)

These bodies are the core membership of TANet. Other university/institutions may apply for membership and be

connected to TANet after obtaining their membership application.

Protocols:

The network protocols will initially focus on TCP/IP on the TANet backbone. Regional networks may support multiple pro- tocols and additional facilities (including X.25 transport or dial-up services) on a local basis in accordance with regional requirements. Support for OSI (CLNS) routing will be introduced in the near future. Existing Taiwan BITNET and ifNET (information NETwork) applications (including electronic mail delivery, NetNEWS, and file transfer) will be supported over TANet via IP connections.

Network Topology:

The network implementation uses a ring/mesh topology. It interconnects by intelligent routers and high-speed leased circuits/LANs together.

High-speed T1 (1.544 Mbps) circuits were installed between NSYSU and NTU, MOECC, NCU, NCTU, NTHU, and NCKU. NTU, NTHU, NCHU, and NCKU are now 9.6 kbps for backup purposes (they will be changed to at least 64 kbps in 1992). Dynamic ISDN links are also intended to provide backup services in the event of failure of a primary link. The bandwidth of each local link will depend on its local requirements; global considerations will dictate further moves toward higher bandwidths on the backbone links.

A 64 kbps link is now installed from the Ministry of Education Computer Center to Princeton University, and will be upgarded to 256 kbps before the end of 1992. This link will couple TANet to both JvNCnet and NSFNET..kp

OARnet - Ohio Academic Resources Network

_ A_ d_ d_ r_ e_ s_ s:
Attn: Alison Brown
OARnet
1224 Kinnear Road
Columbus, Ohio 43212

_ E_ m_ a_ i_ l: nic@oar.net

_ P_ h_ o_ n_ e: (614) 292-8100

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

OARnet is the regional network for the state of Ohio. It serves the higher education community, providing Ohio scholars access to colleagues worldwide. OARnet also provides commercial connectivity to industrial and commercial members with unrestricted traffic flow between other OARnet members and the Internet. Libraries, databases, national and international laboratories, and research centers are accessible, helping make Ohio schools competitive.

The Ohio Academic Resources Network (OARnet) was established in 1987 to provide statewide access to the Cray supercomputer at the Ohio Supercomputer Center. Since then it has evolved into a network supporting all aspects of higher education in Ohio. A primary goal of OARnet is to facilitate collaborative projects and sharing of resources between institutions, including those outside the state. OARnet connections are available to Ohio academic institutions and corporations engaged in reseach, product development, or instruction. Colleges, universities, and industries

currently use OARnet connections to communicate within the state and with colleagues around the country.

Network Access

OARnet uses the Internet (TCP/IP) and DECnet protocols over dedicated 56-kbps and T1 (1.544 megabit-per-second) circuits. OARnet participants using TCP/IP protocols are

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connected to the worldwide Internet. OARnet is also connected to NSFNET, the national research and education network sponsored by the National Science Foundation. Internet access is also provided by OARnet with 9.6 and 38.4 kbps dialup connections to OARnet POP (Points-of-Presence) locations throughout Ohio using V.32/V.42 modems.

Who Can Use the Network

There are no restrictions.

Miscellaneous

Network Operations Center (NOC)
Hours: 24x7 coverage

Hotline: (614) 292-5555

Email: noc@oar.net
OARnet User Problems: noc@oar.net
User Information: nic@oar.net
Engineering Staff: engineers@oar.net

See also Section 1.8, Ohio Supercomputer Center.

MOREnet - the Missouri Research & Education Network

_ A_ d_ d_ r_ e_ s_ s:
Missouri Research & Education Network
200 Heinkel Building
University of Missouri
Columbia, MO 65211

_ E_ m_ a_ i_ l: morenic@more.net

_ P_ h_ o_ n_ e: (314)-882-2000

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

MOREnet is a state network providing NSFNET communications and services to higher education, primary and secondary education, laboratories, and state agencies in Missouri. MOREnet's primary purpose is to develop, support, maintain, and cultivate applications for electronic interchange in support of its members. The secondary purpose of MOREnet is to foster information exchange and activities which support a broader cooperation among it members. MOREnet obtains its connection to the NSFNET through its membership in MIDNET.

MOREnet is funded by grants from the National Science Foundation and by membership fees. A Board of Directors comprised of representatives from each member has full policy and budgetary authority. Users of the network are represented though several advisory committees.

Currently MOREnet supports IP traffic and is developing statewide AppleTalk and Novell IPX networks.

MOREnet's information bulletin board is accessible at;

umcvmb.missouri.edu (128.206.1.1),
IBM 3270 terminal emulation is required.

login with userid MOREINFO,
no password is required

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_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Any IP host on the internet may access MOREnet.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ M_ O_ R_ E_ n_ e_ t

Any individual or organization needing internet access to support their education or research missions may request membership in MOREnet. Acceptable use of the network follows NSF guidelines. The needs of commercial organizations my be reviewed on a case by case basis.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Director: Bill Mitchell, ccwam@more.net

NOC Manager: Ben Colley, tpmaint@more.net

NIC Manager: Jim Newton, ccjimn@more.net

EMBnet - European Molecular Biology Network

_ A_ d_ d_ r_ e_ s_ s:
EMBL Data Library
Postfach 10.2209
Meyerhofstr. 1
6900 Heidelberg
Germany

_ E_ m_ a_ i_ l: embnet@embl-heidelberg.de

_ P_ h_ o_ n_ e: +49 6221 387258
FAX: +49 6221 387519

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

EMBnet is a project to develop the infrastructure for access to biotechnology information services for the research community in Europe. The project includes the formation of a network for access to, and exchange and analysis of, data of importance to molecular biology and biotechnology.

The network is based on nationally-appointed centres in European countries, appropriately staffed and equipped to provide a biocomputing service and to develop network-based services within their country. Additional nodes are involved as hosts of databases or specialised facilities. Current nodes and their contact representatives are listed below.

Initial network activities have centred around daily distribution of nucleotide sequence data from the EMBL Data Library using Internet, and sometimes DECnet over X.25. National EMBnet nodes therefore maintain remote copies of the EMBL Nucleotide Sequence Database for on-line access of further re-distribution within their country.

One main goal is to develop bioinformatics and its practice in general. Approaches and solutions are discussed among the project members via mailing lists, newsgroups and at annual workshops.

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Other activities and projects include promotion of computer conferencing, remote access to specialised facilities (eg sequence similarity searching on massively parallel computers), a training programme in bioinformatics, evaluation and implementation of Gopher servers, remote sequence database updating mechanisms.

W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ R_ e_ s_ o_ u_ r_ c_ e

In most cases the services provided by national nodes of EMBnet are intended for their national research community. In some cases there is a charging system, especially for commercial users. Other entries in the Internet Resource

Guide (eg EMBL Data Library) will give more specific details, or contact the resource directly.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

EMBnet received financial support from the EC BRIDGE programme, 1991-94. Major financial support is received by most of the national nodes to establish and run their services.

National EMBnet nodes:

Country	Contact Address
Austria	Vienna Biocenter, University of Vienna, Dr. Bohr-Gasse-3, 1030 Wien Tel: +43 222 79515 Fax: +43 1 7986224 E-mail: A5191DAA@vm.univie.ac.at
Belgium	Dept. Mol. Biology, Free University Brussels, Rue de l'Industrie 24, 1400 Nivelles Tel: +32 2 6509744 Fax: +32-67-287777 E-mail: rherzog@ulb.ac.be
Denmark	BIOBASE, Ole Worms Alle, Bygn. 170, Aarhus Universitet, DK-8000 Aarhus Tel: +45 86202711 Fax: +45 86131160 E-mail: hum@biobase.aau.dk
Finland	Centre for Scientific Computing, Finnish State Computer Centre, P.O. Box 40, SF-02101 Espoo Tel: +358 0 4572076 Fax: +358 0 4572302 E-mail: harper@convex.csc.fi
France	BISANCE, 45 rue des Saints-Peres, 75270 Paris Cedex 06 Tel: +33 1 429624 Fax: +33 1 42963497 E-mail: bisance@frciti51.bitnet

Germany GENIUS, DKFZ Molekular Biophysik,
Im Neuenheimer Feld 280,
6900 Heidelberg
Tel: +49 6221 422361
E-mail: dok252@cvx12.dkfz-heidelberg.de

Greece Babis Savakis,
Inst. of Molecular Biology and Biotechnology,
P.O. Box 1527, Heraklion 71110 CRETE
Tel: +30 81 212890 Fax: +30 81 231308
Savakis@nefelh.imbb.forth.gr

Israel INN, Biological services,
Weizmann Institute of Science,
Rehovot 76100
Tel: +972 8 342470 Fax: +972 8 344113
E-mail: lsestern@weizmann.weizmann.ac.il

Italy Sergio Gadaleta, Tecnopolis Csata Novus Ortus,
Strada prov. per Casamassima Km 3, 70010 Valenzano (Bari)
Tel: +39 80 8770336 Fax: +39 80 6951868
E-mail: gadaleta@mvx36.csata.it

Netherlands CAOS/CAMM Center,
Faculty of Science, University of Nijmegen,
Toernooiveld, 6525 ED Nijmegen
Tel: +31 80 653386 Fax: +31 80 652977
E-mail: caos@caos.caos.kun.nl

Norway The Norwegian EMBnet node,
The Biotechnology Centre of Oslo,

Gaustadalleen 21, N-0371 Oslo
Tel: +47 2 958766 Fax: +47 2 694130
E-mail: rodrigol@ulrik.uio.no

Spain Jose-Maria Carazo,
Centro Nacional de Biotecnologia, CSIC,

Universidad Autonoma de Madrid, 28049 Madrid
Tel: 34 1 3978430 Fax: 34 1 3974799
E-mail: carazo@cnb.uam.es

Sweden Peter Gad, Computer Dept.,
Biomedical Center, Box 570,
S-751 23 Uppsala
Tel: +46 18 174016 Fax: +46 18 551759
E-mail: gad@perrier.embnet.se

Switzerland Reinhard Doelz,
Biocomputing, Biozentrum der Universitaet,
Klingelbergstrasse 70, CH-4056 Basel
Tel: +41 61 267 2076 Fax: +41 61 261 6760
E-mail: doelz@urz.unibas.ch

UK SEQNET, SERC Daresbury Laboratory, Warrington,
Cheshire WA4 4AD
Tel: +44 925 603351 Fax: +44 925 603100
E-mail: bleasby@daresbury.ac.uk

Other nodes in EMBnet:

EMBL EMBL Data Library, Postfach 10.2209, Meyerhofstr. 1,
6900 Heidelberg, Germany
Tel: +49 6221 387258 Fax: +49 6221 387519
E-mail: Datalib@EMBL-Heidelberg.DE

ICGEB ICGEBnet, ICGEB, Padriciano 99, 34012 Trieste, Italy
Tel: +39 40 3757300 Fax: +39 40 226555
E-mail: simon@icgeb.trieste.it

UK-HGMP HGMP Resource Centre,
Clinical Research Centre, Watford Road,
Harrow, Middlesex, UK

Tel: +44 81 869 3446 Fax: +44 81 869 3807
E-mail: mbishop@crc.ac.uk

MIPS MIPS, MPI f.Biochemie,
Am Klopferspitz 18, 8033 Martinsried,
Germany
Tel: +49 89 8578 2656 Fax: +49 89 8578 2655
E-mail: mewes@vax1.mips.mpg.dbp.de

CEPH/ Genethon Claude Scarpelli, CEPHB/Genethon, 13, place de Rungis,
75013 Paris
Tel: +33 1 4565 1300
E-mail: claude@cephb.fr

HGMP-RC - UK Human Genome Mapping Project Resource Centre

_ A_ d_ d_ r_ e_ s_ s:
UK HGMP Resource Centre
Clinical Research Centre
Watford Road
Harrow MIDDX HA1 3UJ
United Kingdom

_ E_ m_ a_ i_ l: c.bates@CRC.AC.UK

_ P_ h_ o_ n_ e: + 44 81 3466
FAX: + 44 81 869 3807

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

In 1990, the UK Medical Research Council (MRC) founded, as part of the UK Human Genome Mapping Project, a Resource Centre (HGMP-RC) at the Clinical Research Centre (CRC), Harrow, Middlesex. The objectives of the HGMP-RC computing are to establish and make available databases of genes, genetic markers and map locations, and to develop new computing environments and methods for acquisition and analysis of such data. Computing and networking facilities were developed by the MRC to provide online computing support to the Project.

The facilities are connected to a number of other computing systems in centres of genetics and molecular biology research excellence worldwide through national and international wide area networks (WAN's) including the European Research Backbone Network (EBONE), INTERNET, Public Data Networks (Packet Switching and Telephone) in the UK and overseas, research and academic networks in the UK and overseas, European Molecular Biology Network (EMBNet) and others. Direct connectivity to US laboratories was implemented using a high-speed communication link, the UK-US 'fat pipe'.

A great deal of effort has been spent on improving services to the scientific community. Molecular genetics databases, application software and miscellaneous services are

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available on the HGMP computer systems and other systems around the world through the HGMP-RC Menu system using workstations, personal computers or terminals from number of manufacturers, equipped with appropriate networking and graphical facilities and connected to any of the above WAN's.

Network Access

The HGMP-RC computing facilities can be accessed in two ways:

- by using the IP (Internet Protocol) service
- by making an X29 call, using a PAD (packet assembler/disassembler)

Who can use the UK HGMP-RC Facilities

Registration is open, subject to the rules of HGMP, to any "bona fide" academic who applies, whether based in the UK or elsewhere. To register as a UK HGMP-RC facilities user please contact the address above (email is not used for registration applications).

References

For a detailed description of the system and services available see Rysavy, F.R.,Bishop, M.J. at al., "The UK Human Genome Mapping Project online computing service." "Computer Applications in the Biosciences", Vol.8, no.2. 1992 , Pages 149-154. Several user manuals describing the usage of the HGMP-RC computing facilities have been written and are available to registered users. The user support desk is maintained during working hours, providing practical help with users' problems. A programme of courses aimed at giving an understanding of what the facilities can provide are run regularly.

Chapter 6: Network Information Centers

This chapter lists network information centers (NICs) for various networks and disciplines in the Internet. Note that some NICs offer important services which are listed in other chapters.

Contents

6.1 BITNET Network Information Center [Jul89]

6.2 NIC.DDN.MIL - DDN Network Information Center [Jul92]

6.3 NNSC - NSF Network Service Center [Oct92]

6.4 OCEANIC - Ocean Network Information Center [Jun89]

6.5 SPAN_NIC - SPAN Network Information Center Online Database System [Aug89]

6.6 [Discontinued] CSNET CIC - CREN/CSNET Coordination and Information Center [Jun92]

BITNET Network Information Center

_ A_ d_ d_ r_ e_ s_ s:
BITNET Network Information Center
EDUCOM
Suite 600
1112 Sixteenth Street, NW
Washington, DC 20036

_ E_ m_ a_ i_ l: BITNET@BITNIC (on BITNET)
BITNET%BITNIC@CUNYVM.CUNY.EDU (on Internet)

_ P_ h_ o_ n_ e: (202) 872-4200

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

BITNIC provides and coordinates user support, information, and administrative services for BITNET, including:

- BITNEWS, an electronically distributed newsletter.
- On-line BITNET documentation accessible via LISTSERV and NETSERV server.
- On-line and telephone assistance for campus BITNET support staff and organizations seeking BITNET membership.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s:

Subscribe to BITNEWS by sending a mail message to LISTSERV@BITNIC (on BITNET) with any subject and the text

SUBSCRIBE BITNEWS your-name

in which ``your-name'' is replaced by your name.

Obtain a list of files available from LISTSERV@BITNIC by

sending it mail with any subject and the text

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SENDME NETINFO INDEX

Order any file listed by sending mail to LISTSERV@BITNIC with any subject and the text

SENDME filename filetype

using the filename and filetype of the file as shown in NETINFO INDEX.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ B_ I_ T_ N_ E_ T

The BITNIC services are supported by dues from the BITNET member organizations, and their primary purpose is to assist BITNET members. The on-line newsletter and files are, however, available to all who can access BITNET with electronic mail.

NIC.DDN.MIL - DDN Network Information Center

_ A_ d_ d_ r_ e_ s_ s:
DDN Network Information Center
Suite 200
14200 Park Meadow Drive
Chantilly, VA 22021

_ E_ m_ a_ i_ l: NIC@NIC.DDN.MIL (for general user questions)

_ P_ h_ o_ n_ e: 1-800-365-DNIC
(703) 802-4535
FAX: (703) 802-8376

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Network Information Center (NIC) is located in Chantilly, VA, and is managed by Network Solutions of Herndon, VA (as sub-contractors to Government Services, Inc.) The NIC host computer is a SUN 470 which runs the SUN 4.2 operating System. The NICs hostname is NIC.DDN.MIL and its Internet address is 192.112.36.5. The NIC provides general user services via telephone, electronic mail, and U.S. postal mail. The NIC operates a toll free telephone service Monday through Friday from 7AM to 7PM Eastern Standard Time. In addition to the telephone service, the NIC maintains several role mail boxes to answer user questions via E-mail. The telephone numbers and mail boxes are listed below:

Toll-Free: 1-800-365-3642

International: 1-703-802-4535

NIC's Role Mailbox Accounts:

NIC@NIC.DDN.MIL	General user assistance, document requests
REGISTRAR@NIC.DDN.MIL	User registration and whois updates
HOSTMASTER@NIC.DDN.MIL	Host, domain, network changes and updates

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ACTION@NIC.DDN.MIL	NIC Computer Operations
SUGGESTIONS@NIC.DDN.MIL	Comments on NIC Services
SERVICE@NIC.DDN.MIL	Automatic mail service
SCC@NIC.DDN.MIL	General Security related information and support

The NIC works closely with network Host Administrators, Node Site Coordinators, domain administrators, network coordinators, network protocol groups, vendors, contractors, government agencies, and military sponsors to assist new users and potential subscribers in obtaining pertinent network information.

The NIC provides databases and information servers of interest to network users, including the WHOIS "white pages" registry, the NIC/Query browsing system, TACNEWS, and the official DoD Host Name Service. The NIC is the source for official DDN protocol documents (other than the MIL-STDs), as well as other DDN documents, and maintains the RFC (Request for Comments) collection. Many of the online files are available through the NIC's automatic mail service, SERVICE@NIC.DDN.MIL.

The NIC registers hosts and domains, assigns IP network numbers and Autonomous System Numbers, and provides hostname translation tables and domain name system server files to the DDN Internet. The NIC also registers network users and issues MILNET TAC access cards.

ONLINE FILES

The NIC maintains many online files that are available to network subscribers via the file transfer protocol (FTP) or Kermit. These files contain information about protocols, site personnel, hosts, and other subjects relevant to network users. See the file netinfo/00netinfo-index.txt for an index to the files in the netinfo directory. See also the DDN New User Guide or contact the NIC User Assistance service for more information. Other publicly accessible directories include PROTOCOLS, RFC, IEN, SCC, and DDN-NEWS. Each of these directories has an index in the format 00directory-index.txt or directory-index.txt in order to allow users to quickly identify the files they need.

REGISTRATION SERVICES

The NIC is responsible for the registration of users, hosts,

domains, IP network numbers, and autonomous systems numbers (ASNs) for organizations connected to the DDN Internet.

To register a new user with the NIC, send a request to registrar@nic.ddn.mil, the NIC's role mailbox for user registrations. The template for user registration data can be found in the online file netinfo/user-template.txt. The NIC registers users from the Military Community, primarily by accepting and processing templates from MILNET host administrators. These requests often involve TAC Access--i.e., dialup access to a MILNET host via a Terminal Access Controller. The NIC issues and distributes TAC Access Cards to users who require the service. In general, the NIC registers users from the Internet community only if they are POCs for a domain or a network.

To include a new host in the DDN Internet Host Table, an administrator must complete the template found in netinfo/ihost-template.txt file and return it to HOSTMASTER@NIC.DDN.MIL. To be included in the Host Table, a host must act as a domain or IN-ADDR server, be a gateway, or be essential for mail routing.

Twice weekly, host information is generated into the DDN Internet Host Table as netinfo/hosts.txt, which is a listing of the hosts, gateways, and networks attached to the Internet and registered with the NIC. From this file, two addi-

tional files are generated: hosts.txt.Z, a UNIX compressed version of the hosts.txt file; and mil-hosts.txt, a complete listing of MILNET hosts from the hosts.txt file.

Domains are registered via the domain template found in the NIC online file netinfo/domain-template.txt. New domain information is installed in the seven DNS root servers twice weekly. Information on the root servers is kept in netinfo/root-servers.txt. The domains registered with the NIC are listed in netinfo/domain-info.txt. A listing of the netaddresses of the domain servers for individual top-level domains can be found in netinfo/domains.txt.

To obtain an IP network number assignment, a network POC must complete the template in netinfo/internet-number-template.txt and returns the template to HOSTMASTER. The file netinfo/networks.txt contains a complete list of government-sponsored networks.

Address-to-hostname inverse resolution is accomplished via IN-ADDR domains, which are registered in the domain root

servers via an IN-ADDR template sent to the HOSTMASTER mail-box. This template is located in the file netinfo/inaddr-template.txt.

To obtain an autonomous system numbers (ASNs) assignment, a user must complete the template found in netinfo/asn-template.txt and submit it to HOSTMASTER@NIC.DDN.MIL. Assigned ASNs are listed in netinfo/asn.txt.

POC information on individuals who are not already registered with the NIC is extracted from domain, network, and ASN templates and automatically placed in the WHOIS database.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ R_ e_ s_ o_ u_ r_ c_ e

Anyone who is connected to the Internet can use the NIC's WHOIS services or obtain its public netinfo files via FTP.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

The NIC maintains various mailing lists. Information can be obtained from its User Assistance personnel as described

above.

_ S_ u_ p_ p_ l_ e_ m_ e_ n_ t_ a_ r_ y
_ D_ o_ c_ u_ m_ e_ n_ t_ s _ o_ n _ n_ n_ s_ c._ n_ s_ f._ n_ e_ t

WHAT-THE-NIC-DOES.TXT available in the netinfo directory.

References Available on the Internet:

The NIC has Requests For Comment (RFCs), Internet Engineering Notes (IENs), For Your Information (FYI) documents, and other miscellaneous network resource and reference files available in its netinfo, rfc, and ien directories.

NNSC - NSF Network Service Center

_ A_ d_ d_ r_ e_ s_ s:
NNSC
Bolt Beranek and Newman Inc.
Systems and Technologies Division
10 Moulton Street, Mail Stop 6/3B
Cambridge, MA 02138

_ E_ m_ a_ i_ l: nnsc@nnsc.nsf.net

_ P_ h_ o_ n_ e: (617) 873-3400
FAX: (617) 873-5620

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The NSF Network Service Center (NNSC) is sponsored by the National Science Foundation (NSF). The purpose of the NNSC is to collect, maintain and distribute information about NSFNET and provide assistance to NSFNET end-users. The objective of the NNSC project is to make general information and support services available to researchers who are using the NSFNET (or plan to use it) so that they can be more productive.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

The NNSC delivers documents by electronic mail to any user with an e-mail connection to the Internet. Send e-mail to the automatic Info-Server at the address "info-server@nnsc.nsf.net".

If you have a full Internet connection, you can also get our documents through anonymous file transfer (FTP) from nnsc.nsf.net. The NNSC strives to supply its documents by both e-mail and FTP.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ N_ N_ S_ C

NNSC services are geared toward users of NSFNET, however the

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staff will provide assistance, either directly or by referring questions to a more appropriate source for information, to users with general Internet-related questions or problems.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

In addition to publishing the Internet Resource Guide, the NNSC also distributes a hardcopy newsletter, the NSF Network News. For more information, please contact the NNSC.

The on-line e-mail address, nnsc@nnsc.nsf.net, and the telephone Hotline, (617) 873-3400, are both used to answer ques-

tions from individual users

OCEANIC - Ocean Network Information Center

_ A_ d_ d_ r_ e_ s_ s:
Katherine A. Bouton
University of Delaware

College of Marine Studies
700 Pilottown Rd.
Lewes, DE 19958 USA

_ E_ m_ a_ i_ l:
OCEANIC@delocn.udel.edu

_ P_ h_ o_ n_ e: (302) 645-4278
FAX: (302) 645-4007

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

OCEANIC, the Ocean Network Information Center primarily supports the World Ocean Circulation Experiment (WOCE) research program. Examples of OCEANIC content are:

- WOCE program information
  - o + summaries of research projects with emphasis on data collection.
  - o + WOCE Field Program plans, resources and maps.
  - o + WOCE administrative information.
- Directories of oceanographic datasets:
  - o + holdings of major data centers.
  - o + directories of datasets of special interest to WOCE.
- A WOCE data-tracking system:
  - o + datasets planned, being collected, being analyzed, and in data centers.
- A library of data products.

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OCEANIC also includes:

- A searchable directory of oceanographers on Internet, SPAN, Telemail (Omnet and Kosmos), and Bitnet.

- A searchable international oceanographic research ship schedules.

OCEANIC is self-explanatory and menu-driven. Though intended to work with simple terminals, to view graphical material, you must use a terminal-emulation program compatible with the Tektronix 4010 standard.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

INTERNET: telnet to host delocn.udel.edu (128.175.24.1) and login with username INFO. No password is required.

SPAN: use SET HOST DELOCN, and login with username INFO. No password is required.

TELEMAIL/ OMNET (Domestic USA): Use command GOTO SONIC.

Users in Alaska should use Telenet/Omnet network address 909014 and follow the instructions above.

INTERNATIONAL DIRECT: The preferred method is via the international packet-switched network address:

311030200612 - if your national system requires a 12-digit address
31103020061200 - if your national system requires a 14-digit address

Some national systems require two zeroes in front of the address. You may need to experiment.

You will connect directly into OCEANIC. No password is required.

INTERNATIONAL TELEMAIL/Omnet: You may connect via Telemail/Omnet at one of these addresses:

311090900003 - if your local network requires a 12-digit

address
31109090000300 - if your local network requires a 14-digit address

(NOTE: Users in Canada should use Datapac network address 1311090900014.)

You will get a Telenet "@" prompt after entering this address.

```
@ MAIL
Username?      YOUR USERNAME
Password?      YOUR PASSWORD
Once you are signed on to TELEMAIL:
Command?       GOTO SONIC
```

DIRECT DIAL UP: You may access OCEANIC directly using a modem (up to 2400 baud, set at 7,1,N). Dial (302) 645-4204. Login with user name INFO. No password is required.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ O_ C_ E_ A_ N_ I_ C

No restrictions. All oceanographers and meteorologists are welcome.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Telex: 7407728 WDIU UC

System Manager: Walt Dabell
(302) 645-4225
Internet: walt@delocn.udel.edu
Span: DELOCN::WALT

SPAN_NIC - SPAN Network Information Center
Online Database System

_ A_ d_ d_ r_ e_ s_ s:
SPAN Network Information Center
SPAN Operations Center
NASA/Goddard Space Flight Center
Code 630.2
Greenbelt, Maryland 20771

_ E_ m_ a_ i_ l: NETMGR@NSSDCA.GSFC.NASA.GOV [Internet]
NSSDCA::NETMGR [SPAN]

_ P_ h_ o_ n_ e: 301-286-7251 or FTS 888-7251

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The SPAN NIC supports an interactive database system which can be accessed by logging in to the SPAN NIC host.

The information in the database is grouped into six categories:

(1) SPAN information section: General Information about SPAN, Administration structure of SPAN, History of SPAN

(2) Query SPAN database of NODEs: Complete information about a particular node, Listing of nodes by a particular field, Complete listing of all nodes in the database

(3) INTERmail syntaxes: How to send mail from SPAN to other users on other Networks and vice versa including SPAN to X.25 hosts; SPAN to NASAmail; GSFCmail; TELEmail; OMNET; SPAN to INTERnet (ex. ARPAnet); SPAN to BITnet & EARN; SPAN to NSFnet; SPAN to JANET; SPAN to MFEnet; JUNET; UUCP; ACSnet

(4) Important NEWS briefs: This section changes periodically to broadcast to the general SPAN public things

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that are happening on SPAN.

(5) Access SPAN Library of Documents: Have document e-mailed to you; Request document be postal mailed to you

(6) How to access other Network Information Centers (NICs)

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

"Host Information

DECnet		Internet	
NODEnumber	NODEname	IP Address	Domain Name
6.132 (6276)	NSSDC	128.183.10.59	NSSDC.GSFC.NASA.GOV
6.133 (6277)	NSSDCA	128.183.10.4	NSSDCA.GSFC.NASA.GOV

NSSDC is a VAX 11/780. NSSDCA is a VAX 8650.

To connect to the SPAN NIC via DECNET, type:

SET HOST NSSDCA <CR>

and log in as user SPAN_NIC. You can also set host to NSSDC.

To connect to the SPAN NIC via the Internet, telnet to either system and log in as SPAN_NIC.

Dial-in and Telenet access are also availalble. Contact the SPAN NIC for details.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ S_ P_ A_ N _ N_ I_ C

All services are available to users of SPAN and the DECnet Internet. Users who are part of the Internet are also welcome to use this service.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s _ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

For further assistance:

Linda Porter, Acting SPAN Operations Manager - for SPAN policy issues. SSL::PORTERL or PORTERL@SSL.MSFC.NASA.GOV

Pat Sisson, SPAN Security Manager - for security related matters. NSSDCA::SISSON or SISSON@NSSDCA.GSFC.NASA.GOV

Dave Peters, SPAN Internetwork Manager - for interworking issues. NSSDCA::PETERS or PETERS@NSSDCA.GSFC.NASA.GOV

To receive hard copy of SPAN documents. NSSDCA::REQUEST or REQUEST@NSSDCA.GSFC.NASA.GOV

[Discontinued] CSNET CIC - CREN/CSNET Coordination and Information Center

The CSNET CIC - CREN/CSNET Coordination and Information Center) was shut down when CSNET ceased operations in October 1991.

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The CSNET Info-Server has been consolidated with the Info-Server operated by the NSF Network Service Center (NNSC). See Section 6.3.

- o + The Info-Server: info-server@nnsc.nsf.net. This automatic program distributes documents in response to specially formatted messages. The documents are also available to Internet users through standard anonymous FTP login.

For instructions about this and other services, send a message to info-server@nnsc.nsf.net with "HELP" in the body of the message.

Other User Services operated by the CSNET CIC were:

- o + The User Name Server: Discontinued. There are no plan to revive this service.

- o + Fixaddr: This program is a helpful first step in converting mailing lists to to up-to-date domain-style addresses. The NNSC plans restore it if there is sufficient demand.

- o + Nslookup: For hosts that do not have access to domain servers, the nslookup program accepts domain names or

IP addresses and sends back a message containing all domain nameserver records (not just the MX ones). This program has been temporarily discontinued, but may be revived in the near future.

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Chapter M: Miscellaneous Resources

This section lists diverse Internet resources which defied better categorization.

Contents

M.1 Linotype Postscript Typesetter [Jun89]

M.2 CIAC - DOE Computer Incident Advisory Capability [Sep92]

M.3 Geographic Name Server [Apr90]

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M.5 NEST - Columbia University's Network Simulation Tool [Sep92]

M.6 PROPHET - NIH Sponsored Software Package for Biomedical Besearchers [Nov89]

M.7 FAST - A Computer Network Broker for Standard Electronic Parts [Jul92]

M.8 VAX Book [Sep92]

M.9 CAOS/CAMM Center - Dutch Expertise Center for Computer Assisted Chemistry [Sep92]

M.10 CancerNet - Mail Server Providing Cancer Information from NCI [Sep92]

Chiron: Linotype Postscript Typesetter

_ A_ d_ d_ r_ e_ s_ s:
Chiron Inc.
P.O. Box 609
Cambridge, MA 02238

_ E-_ m_ a_ i_ l: joe@wjh12.harvard.edu

_ P_ h_ o_ n_ e: (617) 864-7853

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

Chiron Inc. owns a Linotype Linotronic 300P (PostScript L300), and operates primarily from the UNIX environment. The L300 produces typeset hardcopy at standard resolution of 1270 and high resolution of 2540.

Services range from keyboarding manuscripts, interfacing files from various word-processing programs, writing page formatting software (primarily in TROFF), to running users' PostScript files. In addition, TeX output is supported on the L300 with all Computer Modern typefaces and mixed with Adobe typefaces. This service is primarily for the book and journal business, and Chiron prefers jobs exceeding 50 pages.

Prices vary according to the services rendered.

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

Email to setup or for small jobs, ftp for larger files.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ P_ r_ i_ n_ t_ e_ r

No restrictions. Standardized fee structure for ``hang tape,'' quotes for jobs that include editorial or formatting work.

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CIAC - DOE Computer Incident Advisory Capability

_ A_ d_ d_ r_ e_ s_ s:
Computer Incident Advisory Capability
Lawrence Livermore National Laboratory
P.O. Box 808, L-303
Livermore, CA 94550

_ E_ m_ a_ i_ l: ciac@llnl.gov

_ P_ h_ o_ n_ e: (510) 422-8193 /FTS

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The Computer Incident Advisory Capability (CIAC) of the Department of Energy (DOE) is located at the Lawrence Livermore National Laboratory in Livermore, California. CIAC is the DOE crisis center for the handling of computer related security incidents. CIAC rapidly investigates reports of possible computer system penetrations, computer viruses, and

similar problems. Stopgap software solutions are provided in real-time while robust binary and source level patches are developed. CIAC distributes information about computer related threats to sites that may be vulnerable to those specific threats. CIAC also retains systems consultants, applications specialists, and research scientists to assist researchers in the security arena.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

CIAC facilities are accessible via the Internet for electronic mail and file transfer.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ C_ I_ A_ C

CIAC is primarily for the use of the DOE community, but is also available to cooperate as needed, and as available, in major security incidents involving other organizations.

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_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Further information can be obtained at the address above or through the following contacts at CIAC:

Project Leader:
Steve Mick, Lawrence Livermore Nat'l Lab
P.O. Box 808, L-303, Livermore, CA 94550
Phone: (415) 422-8193, Email: smick@llnl.gov

CIAC Team Members (same address as above):

Karyn Pichnarczyk	karynp@llnl.gov
Marvin Christensen	mjchristensen@llnl.gov
Allan Van Lehn	vanlehn3@llnl.gov
Bill Orvis	orvis@llnl.gov
Steve Weeber	weeber@llnl.gov
Rich Feingold	feingoldra@llnl.gov
Cindy Durflinger	durfling@llnl.gov

Geographic Name Server

_ A_ d_ d_ r_ e_ s_ s:
2145 Blaney Drive
Ann Arbor, MI 48103

_ E-_ m_ a_ i_ l: libert@eecs.umich.edu

_ P_ h_ o_ n_ e: (313) 662-6520

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

As part of a network mapping project, we have implemented a TCP-based geographic name server. In response to queries consisting of a city name and/or ZIP code and an optional state and/or country abbreviation, the server retrieves a variety of data from a database containing information on all US cities (~150,000). Queries containing UNIX ed(1)-style regular expressions are also supported.

The geographic names database contains state, county, latitude and longitude for all US cities. It also contains 1980 census population, elevation, area code, and ZIP code for a large subset of the cities, as well as a small number of international cities. The database contains information about other geographic features such as counties, states, rivers, lakes, summits, etc. in addition to populated places.

The raw data were obtained from the United States Geodetic Survey (USGS) and the US Postal Service. USGS is developing a Geographic Names Information System (GNIS) as the main repository for its ongoing National Gazetteer project.

_ N_ e_ t_ w_ o_ r_ k _ a_ c_ c_ e_ s_ s

Telnet to port 3000 on martini.eecs.umich.edu. The interface is self-explanatory, though not necessarily human-friendly (it is designed for use by programs).

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_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ S_ e_ r_ v_ i_ c_ e

No restrictions.

_ D_ i_ s_ c_ l_ a_ i_ m_ e_ r

Merit Computer, Inc. is not responsible for supporting or maintaining this service or its data.

_ F_ o_ r _ A_ d_ d_ i_ t_ i_ o_ n_ a_ l
_ I_ n_ f_ o_ r_ m_ a_ t_ i_ o_ n

The author of this server is Tom Libert (libert@eecs.umich.edu).

MOSIS Integrated Circuit Fabrication Service

_ A_ d_ d_ r_ e_ s_ s:
The Mosis Service
USC/Information Sciences Institute
4676 Admiralty Way
Marina del Rey, CA 90292-6695

_ E-_ m_ a_ i_ l: MOSIS@MOSIS.EDU

_ P_ h_ o_ n_ e: (310) 822-1511, Extension 172 or 117
FAX: (310) 823-5624

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The MOSIS Service is a low-cost prototyping service for custom and semi-custom VLSI circuit development. MOSIS provides fast-turnaround fabrication of integrated circuits by subcontracting with major mask, fabrication and assembly vendors. MOSIS runs can support projects designed using the set of generic MOSIS design rules, the wafer fabricator's design rules or the DoD's. MOSIS-compatible standard cell libraries have been loaded onto Cascade, Cadence, Dazix, Mentor, Synopsys and Viewlogic. A wider range of layout tools can be used to generate full custom designs. Designs are typically sent to MOSIS through the Internet in CIF format or on tape in Calma GDSII or MEBES format and parts are shipped to designers via Federal Express. To obtain E-Mail information about MOSIS send a message to MOSIS@MOSIS.EDU in one of the following formats. Take care not to include extra colons in your message or MOSIS will not be able to parse it.

To get general information about MOSIS:

```
REQUEST: INFORMATION
TOPIC: TOPICS
REQUEST: END
```

_____
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To get MOSIS prices and fab schedule:

```
   REQUEST: INFORMATION
   TOPIC: PRICE_SCHED,SCHED
   REQUEST: END
```

To get a MOSIS User Manual:

```
   REQUEST: INFORMATION
   TOPIC: USER_MANUAL, MANUAL_UPDATES
   REQUEST: END
```

To get response from MOSIS staff member:

```
   REQUEST: ATTENTION
   (your message here)
   REQUEST: END
```

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

MOSIS can be reached via E-mail at mosis@mosis.edu.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ M_ O_ S_ I_ S

MOSIS customers must either provided a purchase order to cover costs or be sponsored by DARPA or NSF. Funding is also available to universities teaching VLSI design classes. For details contact the MOSIS Service at <MOSIS@MOSIS.EDU> or Fax (310) 823-6714.

NEST - Columbia University's Network Simulation Tool

_ A_ d_ d_ r_ e_ s_ s:
Alexander Dupuy
450 Computer Science
Columbia University
New York, NY 10027

_ E-_ m_ a_ i_ l: nest-request@cs.columbia.edu

_ P_ h_ o_ n_ e: (212) 939-7000
FAX: (212) 666-0140

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The NEST simulation package developed at Columbia is an environment for rapid prototyping and simulation of distributed networked systems. NEST users can develop and test distributed systems and protocols (from crude models to actual system code) within simulated network scenarios.

NEST is organized as a simulation server, responsible for execution of complex simulation scenarios, and a separate graphical interface for simulation control. The client/server model permits distribution of NEST over a network environment. Thus, complex simulations may be migrated to powerful remote computational servers. Alternatively, complex studies/development efforts by multiple teams may utilize a shared multi-site simulation/integration testbed.

Simulation servers are created using the NEST library, a C-language library which runs under most Unix variants, and on POWER (IBM RS/6000), SPARC, MIPS, 680x0 and VAX architectures. The NEST library provides a simple, high-level message-passing facility among a set of concurrent light-weight processes which simulate a distributed system.

The interface provided by the NEST library allows users to link in their own C code and run it on one or more nodes in a simulated distributed environment. NEST provides the

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following operations in this environment:

- send messages to neighboring nodes
- receive messages (optionally, with timestamps)
- check for available messages
- control passage of simulation time

The user can also provide C code which simulates the behavior of a channel, and associate it with one or more communications channels. More than one function can be associated with a channel, and the following operations are provided:

- alter contents of messages
- control transmission delay of messages
- drop messages (cause them to not be received)

Finally, a monitor function can be provided by the user, which runs periodically in the simulation, and can perform modifications to the network scenario as noted below in the description of the NEST generic monitor. In addition, the functionality provided by most available Unix libraries is accessible within a simulation server.

Users interact with NEST through the NEST generic monitor, an X-based graphical interface supporting editing and modification of simulation scenarios as well as dynamic reconfiguration of a simulation during execution. Thus, it is possible to study the dynamic response of a distributed system to failures, burst-loads or other complex dynamical changes.

The nest monitor provides the following operations for manipulation of the network simulation scenario:

- create and delete nodes
- create and delete links
- start and stop functions running on nodes

- o + change the function associated with a node
- o + change the list of channel functions associated with an edge
- o + change the weight parameter associated with an edge
- o + change the monitor function which runs periodically
- o + show the current status of a node in the simulation

NEST includes documentation and complete C source code for both the NEST library and the NEST generic monitor. The NEST library will run under most Unix variants, including AIX, SunOS, Ultrix, 4.x BSD, and System V. The NEST generic monitor is an X application which uses the XView library. The currently released version of NEST is version 2.6.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

NEST documentation and full source is available via anonymous FTP from cs.columbia.edu [128.59.16.20] in the nest directory. Some files are stored as compressed tar archives - be sure to remember to use binary mode when transferring them!

There are several files in the ~ftp/nest directory:

nest-2.6.tar.Z	Source for Nest 2.6 library & UI display
nest-2.6-patch.*	Patches to Nest 2.6 library - please apply all
nest-25-doc.tar.Z	Lineprinter formatted documentation
nest-25-doc2.tar.Z	Scribe and PostScript formatted docs

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e _ S_ e_ r_ v_ i_ c_ e

The NEST software is distributed under this arrangement for research and evaluation purposes only. Any redistribution or commercial use of the software itself in any form is prohibited without further licensing from Columbia University.

PROPHET

_ A_ d_ d_ r_ e_ s_ s:
BBN Systems and Technologies Corporation
10 Moulton St.
Cambridge, MA 02138
ATTN: K. McCarthy, MS 6/4C

_ E-_ m_ a_ i_ l: prophet-help@bbn.com

_ P_ h_ o_ n_ e: (617) 873-2669

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

PROPHET is an NIH sponsored graphics-oriented software package designed to give biomedical researchers a wide range of computing capabilities which can increase productivity and expand computational options. Tools for data management, analysis, and scientific visualization include: comprehensive capabilities in statistics and mathematical modeling, molecular modeling and display, nucleic acid and protein sequence manipulation, and a high level programming language. Some of the other services PROPHET offers are: access to databases of biomedical interest, such as the Protein Data Bank from Brookhaven National Laboratory, GenBank, the Cambridge Crystallographic Database, and the PIR protein sequence database, user support via electronic mail, a telephone hotline, an online help system, an electronic newsletter, and an organized user group, extensive documentation, and numerous research application-specific programs. Software created by biomedical investigators, such as MBIR, and commercial software, such as SAS, can be utilized within PROPHET. Users are also connected via the Internet to a broad community of life science researchers. Capabilities exist for establishing both moderated and unmoderated bulletin boards in various scientific domains of interest.

PROPHET's open architecture design and advanced software engineering results in a highly portable and well supported package. The Biomedical Research Technology Program of NIH's Division of Research Resources provides PROPHET at low

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cost to ensure that easy availability and wide distribution will foster use of distributed network workstations in research and lead to increased productivity.

Network Access

PROPHET is on the Internet. The databases can also be reached via the Internet or direct-dial telephone links.

Who Can Use PROPHET

NIH grantees and their co-workers

Miscellaneous Information

Further information may also be obtained by calling or writing:

Dr. Richard DuBois, Biomedical Research Technology Program, Division of Research Resources, Westwood Bldg., Rm. 8A-15, National Institutes of Health, 5333 Westbard Ave, Bethesda, MD 20892. (301) 496-5411 or rbe@nihcu.bitnet

or

Dr. Howard Bilofsky, Intelligent Systems Research and Development Department, BBN Systems and Technologies Corporation, 10 Moulton St, Cambridge MA 02138. (617) 873-3553 or bilofsky@bbn.com

FAST - A Computer Network Broker for Standard Electronic Parts

_ A_ d_ d_ r_ e_ s_ s:
The FAST Project - USC/ISI
P.O. Box 10907
Marina del Rey, CA 90295-8831

_ E-_ m_ a_ i_ l: FAST@ISI.EDU

_ P_ h_ o_ n_ e: (310) 822-1511
FAX: (310) 823-1482

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

FAST is a prototype, automated broker for standard, off-the-shelf items. Electronic and optical parts and components and laboratory and test equipment are readily purchased through the FAST service.

FAST is ONEstop shopping. It is a complete value-added service that handles quoting, ordering, expediting and returns. One purchase order with FAST allows customers to acquire items easily and quickly from a very large vendor base.

The FAST broker currently serves more than 100 university, commercial and government customers. As of June 1992, it

had acquired items from over 1,500 suppliers.

FAST's customers request quotes and place orders from FAST via EDI (Electronic Data Interchange - standard email or EDI X12). FAST sources (often in a fully automated fashion) incoming rfqs and redistributes them to vendors who carry the requested items.

FAST communicates with its vendors using EDI (standard email or EDI X12) or fax. All vendor responses are collected by FAST and sent back to the customers via EDI. The customers pick the best quote/item and place the order from FAST via EDI. FAST sends EDI orders for the items to the vendors. The vendors invoice FAST and customers reimburse FAST.

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FAST also offers a one-step quote-and-order option, where the customer specifies what selection criteria FAST should use when evaluating incoming vendor quotes. The "best" quote is then automatically turned into an order by FAST.

Customers are charged an 8% service fee (8% of the cost of the merchandise acquired through FAST) for the service.

N e t w o r k A c c e s s

FAST can be accessed via email over the Internet (FAST@ISI.EDU) or via EDI X12 over any commercial VAN (Value Added Network).

W h o C a n U s e F A S T

The service is open to anybody who can establish a blanket purchase order with FAST. Under certain circumstances FAST requires the blanket purchase order to be accompanied by prepayment. Please send a message to FAST@ISI.EDU containing the lines

```
REQUEST: INFORMATION
TOPIC: INTRODUCTION
REQUEST: END
```

for further information about how to use the service and on how to establish a FAST account.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

For further information about FAST, please contact:

Anna-Lena Neches or Robert Wormuth
The FAST Project - USC/ISI
P.O. Box 10907
Marina del Rey, CA 90292-8831

Phone: (310) 822-1511
Email: FAST@ISI.EDU, ALNeches@ISI.EDU, Wormuth@ISI.EDU

VAX Book

_ A_ d_ d_ r_ e_ s_ s:
Joseph E. St. Sauver
Assistant Director, Academic User Services
235 Computing Center
University of Oregon
Eugene, OR 97403

_ E-_ m_ a_ i_ l: JOE@OREGON.UOREGON.EDU or JOE@OREGON

_ P_ h_ o_ n_ e: (503) (503) 346-1720
FAX: (503) 346-4397

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The 326-page "VAX Book" attempts to answer most of the ques-

tions that University of Oregon users have had about using VMS, EDT, the networks, statistics and graphics packages, etc. Most of the concepts presented are illustrated by means of annotated examples. A detailed table of contents and index are included.

The book is available in either Digital Standard Runoff output format suitable for printing on a line printer, or in PostScript form suitable for printing on an Apple LaserWriter or other 300 DPI PostScript printer. I am also making the raw .RNO files (and the code used to convert the guide into TeX) available for those of you who are interested in customizing the "VAX Book" for your own site.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

To get a free PostScript copy of the "VAX Book" via anonymous FTP, try:

```
$ FTP DECOY.UOREGON.EDU   (DECOY.UOREGON.EDU=128.223.32.19)
Name: anonymous           Login as "anonymous."
Password: blah            Use whatever you want for a password.
*cd pub/vaxbook           Change to the pub/vaxbook directory.
```

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```
*dir                      Look at the directory (if you want to).
*get README               Check out the README file for help.
*binary                   Switch to binary mode.
*get vms.ps               Get the postscript version of the book.
*get errata.ps            Get errata pages for "VAX Book."
*quit
```

Note that your FTP commands might be somewhat different from those shown.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ t_ h_ e "_ V_ A_ X _ B_ o_ o_ k"

Anyone on the Internet may access the "VAX Book."

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

If you like the "VAX Book," have any suggestions for additions, or catch any errors, please drop a note to Joe St Sauver at the above address. Eventually there may be a revision and comments are always helpful.

CAOS/CAMM Center - Dutch Expertise Center
for Computer Assisted Chemistry

_ A_ d_ d_ r_ e_ s_ s:
CAOS/CAMM Center
Faculty of Science
University of Nijmegen
Toernooiveld

6525 ED NIJMEGEN, The Netherlands

_ E_ m_ a_ i_ l: post@caos.caos.kun.nl

_ P_ h_ o_ n_ e: +31 80 653386
FAX: +31 80 652977

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

The CAOS/CAMM Center is the Dutch National Expertise center for Computer Assisted Chemistry, funded by the Dutch National Science Foundation NWO. It is an Academic Institution and it offers chemists an elaborate package of software tools, for remote use on a "central" computer system.

The emphasis is on easy accessibility, achieved by the application of menu controlled front-ends and interfaces and on integration of the various tools and data bases. An example of the latter is the interconversion of molecular structure files between structural databases, modeling software and computational chemistry programs. All available tools are presented to the user in a hierarchy of simple menus, where the tools are arranged according to their application. The Center supports its users through a combination of online Help facilities, practical courses and the (re)production of manuals. E-mail facilities, NEWS and Conferencing systems are used to improve the exchange of information and experience among the users, including the Center's picstaff.

All tools and programs are arranged in packages, covering four major chemical areas:

_____
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A: CAOS (Computer Assisted Organic Synthesis)
Available tools are Reaction Retrieval Systems and Fine directories and Synthesis Planning programs.

B: CAMM (Computer Assisted Molecular Modeling)
Available tools are 3-D Structural data bases and a variety of modeling programs.

C: CompChem (Computational Chemistry)
Available tools are Advanced modeling programs, visualization tools, the quantum chemistry literature database and computational tools for both Molecular Mechanics/Dynamics and Quantum Chemical calculations.

D: Area CAMMSA (Computer Assisted Macromolecular Sequence Analysis; BioInformatics)
Available tools are all major nucleic acid and protein sequence data bases and programs for data base query and retrieval, homology searching, protein analysis, nucleic acid analysis, alignment and phylogeny construction.

Expert help is available on each of the systems supported by the Center. All data bases supported by the Center are updated on a daily, weekly, monthly or quarterly basis, dependent on the rate with which new material is being produced and available. User interaction with the tools supplied is fully structure oriented whenever applicable, i.e. most input is by means of structural formulas to be drawn on the screen and output is structure oriented where appropriate.

It is the Center's policy to provide users with all documentation that is available with a program or data base, and to complement this information with on-line Help, with extra manual and "introductions" where necessary and with document files in a central document directory from which all material can be down loaded.

N e t w o r k A c c e s s

Access to the Center is possible in many different ways. The route to be chosen will depend on a user's local situation. Many routes connect to the Center's terminal servers which will distribute incoming calls over the available resources.

1. DECnet. Only possible if you are setting up the connection from a local VAX in The Netherlands.

Use the command SET HOST CAOS

2. TCP/IP Available if your local machine has access to Internet. (In principle world wide).

Use the command TELNET
caos1.caos.kun.nl(131.174.82.227) or
caos2.caos.kun.nl(131.174.82.228)

3. X.25 In principal available world wide when you have access to an X.25 packet switching network.

"Dial" number (0)204 18802008099 or if you are in Europe and have access to the IXI backbone (0)204 3044008699. This connection is slower than routes 1 and 2 because they use a 9.6 kb PAD. On response from the PAD answer with a <return> to connect to a terminal server which will prompt with <Local>. Type C(onnect) CAOS in response to be connected to one of the Center's nodes.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ R_ e_ s_ o_ u_ r_ c_ e

Use of the Center's resources is open for all chemists employed by Dutch Chemical Research institutions, and as far as the Center's resources allow, for users outside Holland. Currently sufficient resources available.

Access is only possible at a subscription basis. Requests for a Userid and a Password should be mailed to the above e-mail address.

A subscription includes:

- o + a maximum of 2 simultaneous interactive processes
- o + free use of all CAOS/CAMM utilities for e-mail, NEWS bulletin boards, downloading, plotting, etc.
- o + 10 MB free disk space (additional space will cost Hfl. 500,- per 5 MB/year).
- o + NO additional charges (i.e. free CPU use etc.)

Current subscription rates are:

Hfl. 1500/year for each of the packages A,B and C mentioned above.
Hfl. 2250/year for package D.

A reduction is applied for combinations of packages;
Hfl. 2625/year for any two packages and Hfl. 3000 for more than 2.

For accounts opened after July 1st., the charge will be 50% of the yearly fee.

Subscriptions are automatically renewed for another year, unless the Center receives written (e-mail) notice of cancellation before November 1st.

All prices quoted above refer to Academic accounts in The Netherlands. Not-for-profit organizations pay a surcharge of 25%, as do Academic Institutions abroad. For commercial companies, individual licenses have to be negotiated on the basis of each software tool requested.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

Short (1 week) trial accounts may be granted on request, at the Center's discretion. E-mail requests to the address above.

_ R_ e_ f_ e_ r_ e_ n_ c_ e_ s

GOPHER access to Service description at
camms1.caos.kun.nl(131.174.82.237)

CancerNet - Mail Server Providing Cancer Information from NCI

_ A_ d_ d_ r_ e_ s_ s:

International Cancer Information Center
National Cancer Institute
Building 82, Room 123
Bethesda, Maryland 20892

_ E_ m_ a_ i_ l: icic@icicb.nci.nih.gov

_ P_ h_ o_ n_ e: (301) 496-8880
FAX: (301) 480-8105

_ D_ e_ s_ c_ r_ i_ p_ t_ i_ o_ n

CancerNet is a quick and easy way to obtain, through electronic mail, information from the National Cancer Institute's Physician Data Query (PDQ) database. CancerNet also has information about PDQ, PDQ distributors, and other products and services of the NCI, including a list of patient publications available from the Office of Cancer Communications.

CancerNet includes state-of-the-art summaries on prognosis, staging, histology, and treatment of more than 75 types and sites of cancer. For each cancer diagnosis, there are two different statements available, a technical summary geared to the needs of the health care professional, which includes references to published literature; and a patient information statement which is written in easy-to-understand language. Screening guidelines and supportive care statements on the management of side effects of cancer and its treatment are also available. The information is updated monthly. CancerNet is a trademark of the National Cancer Institute.

_ N_ e_ t_ w_ o_ r_ k _ A_ c_ c_ e_ s_ s

Send a mail message to cancernet@icicb.nci.nih.gov. Leave the subject line blank. In the body of the mail message, enter "help" to receive the instructions and most current

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contents list.

_ W_ h_ o _ C_ a_ n _ U_ s_ e _ T_ h_ e _ C_ a_ n_ c_ e_ r_ N_ e_ t

The information is intended for use by the health care professionals involved in cancer care to make them aware of current cancer information. Current PDQ/CancerNet users include physicians and other health professionals, basic and clinical researchers, policy-makers, health and science reporters, and the general public.

_ M_ i_ s_ c_ e_ l_ l_ a_ n_ e_ o_ u_ s

The entire PDQ database contains the information in CancerNet, in addition to summaries of cancer clinical trials currently accruing patients and directories of physicians and organizations that treat cancer. The database is available through various commercial and nonprofit database distributors. See the CancerNet Contents List for information on NCI database availability.

The CancerFax service from NCI provides the same information as CancerNet. Call 1-301-402-5874 from your fax machine and follow the prompts to request a CancerFax contents list with appropriate code numbers. CancerFax is a trademark of the National Cancer Institute.

World Wide Web (WWW)

CERN, Switzerland
Finnish University & Research Network
Hebrew University of Jerusalem
New Jersey Institute of Technology

World Wide Web at CERN

European Particle Physics Laboratory, Geneva, Switzerland

Telnet INFO.CERN.CH or 128.141.201.74

CERN Information

CERN is the European Particle Physics Laboratory in Geneva, Switzerland.
Select by number information here, or elsewhere (Return for more). This
is a demo of the alpha test 1.0 line mode browser.

Help[1]	On this program, or the World-Wide Web project[2].
Phone book[3]	People, phone numbers, accounts and email addresses. See also the analytical Yellow Pages[4], or the same index in French: Pages Jaunes[5].
CC Documentation[6]	Index of computer centre documentation, newsletters, news, help files, etc...
News[7]	A complete list of all public CERN news groups, such as news from the CERN User's Office[8], CERN computer center news[9], student news[10]. See also Private groups[11] and Internet news[12].

From other sites:-

See online data by subject[13], pointers to other forms of online data[14],
and the following specific databases:

SLAC SPIRES[15]	The High Energy Physics preprint index at Stanford Linear Accelerator, California. (This is the same information avialable via the QSPIRES facility on BITNET. Include the word "FIND" as the first keyword, eg: K FIND AUTHOR FRED.).
DESY documents[16]	Documents and help files from the DESY lab in Hamburg.
VMS Help[17]	VMS help data now available via a WWW gateway.
Hacker Jargon[18]	An index to a cross-referenced set of hacker terms. A demonstration of the WWW gateway to the Graz Technical University Hyper-G database.
W.A.I.S.[19]	All kinds of information available from "Wide Area Information Servers".
Hacker Jargon[18]	An index to a cross-referenced set of hacker terms. A demonstration of the WWW gateway to the Graz

Technical
University Hyper-G database.

W.A.I.S.[19] All kinds of information available from "Wide Area Information Servers".

CERN RPC[20] The user guide for the RPC system developed in CERN CN
division (not Sun/RPC). This is an example of documentation (partially) converted into hypertext.

Helsinki[21] Helsinki Technical University information service (Mostly Finnish).

Gophers[22] Campus-wide information systems using "Gopher" software.

(See also the CERN internal home page[23].) If you use this service frequently, please install the W3 browser on your own machine (see instructions[24]). If you have any problems or suggestions, please mail www-bug@info.cern.ch.

World Wide Web at Finnish University and Research Network

```
TELNET INFO.FUNET.FI or 128.214.6.100
login: www

FUNET INFORMATION SERVICE

   This hyper-text information service provides information from FUNET[1],
   Finnish University and Research networks and the services[2] available in
   FUNET.

   Also information from different universities in Finland[3] is available as
   well as from the  Finnish EUnet network[4].

   WWW is hyper-text based information service available from CERN.  A wide
   collection of information is also available from the  CERN WWW server[5].
   Please see what nice things are put to WWW there!
```

World Wide Web at Hebrew University of Jerusalem

```
TELNET VMS.HUJI.AC.IL or 128.139.4.3
Username: WWW

          THE HEBREW UNIVERSITY OF JERUSALEM CAMPUS INFORMATION SYSTEM

 [1]Help on this program.                                    [1]
 [2]Libraries and Databases.                                 [2]
 [3]Local Library Information.                               [3]
 [4]Message board.                                           [4]
 [5]Municipal Information.                                   [5]
 [6]University Information.                                  [6]
 [7]Computation Center Information.                          [7]
 [8]What's new on the Information System.                    [8]

         ******  LIBRARIES AND DATABASES                      ******

 [1]Aleph libraries in israel.                               [1]
 [2]Libraries in the world.                                  [2]
 [3]Databases and bibliographies.                            [3]
 [4]Gophgers around the world.                               [4]
 [5]Wais Databases.                                          [5]
 [6]Campus-Wide Information Systems.                         [6]
 [7]Archie: Archive Servers Listing Service.                 [7]
 [8]Electronic Books.                                        [8]
 [9]FREE-NET Systems.                                        [9]
 [10]NASA Databases.
[10]
 [11]Network Information Services.
[11]
 [12]Miscellaneous resources.
[12]
 [13]FTP Public Domain sites.                                .FTP
[13]
 [14]Netfind.                                               .INTERNET
[14]
 [15]BITNET name server.                                     .BITNET
[15]
 [16]Internet Glossary.                                     .INTERNET
[16]
 [17]Telnet tips.                                          .TELNET
[17]
 [18]News Groups.
[18]
```

World Wide Web at New Jersey Institute of Technology

TELNET EIES2.NJIT.EDU or 128.235.1.43
login: www

The Electronic Information Exchange System II (EIES2) is a second generation computer-mediated communications system developed at The New Jersey Institute of Technology, Center for Information Age Technology (CIAT) and Computerize Conferencing and Communications Center (CCCC)with support from the New Jersey Office of Telecommunications and Information Services (OTIS), the Commission on Science and Technology, the National Science Foundation, and partnerships with AT&T Information Systems, Computer Sciences Corporation, Jutland Institute of Technology in Denmark and Annenberg/CPB,. EIES2 has been under development since 1985. It has evolved to provide an easy to use learner interface plus advanced features to satisfy both the first time member and the most advanced members.

EIES2 is currently in use at NJIT for project coodination and electronic class room applications. For more information contact the Computerized Conferencing and Communications Center (CCCC) at NJIT, King Blvd., Newark, NJ 07102, telephone (201) 596-EIES.