

CHAP6

COLLABORATORS

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Chapter 1

CHAP6

1.1 Chapter 6: TELNET (Mining the Net, part 1)

Like any large community, cyberspace has its libraries, places you can go to look up information or take out a good book. Telnet is one of your keys to these libraries.

```
What is TELNET?
Using TELNET
Library catalogues
Finger
Finding someone on the net
When things go wrong
  >> Telnet sites
  >> Telnet BBSs
```

FYI:

The Usenet newsgroups `alt.internet.services` and `alt.bbs.internet` can provide pointers to new telnet systems. Scott Yanoff periodically posts his "Updated Internet Services List" in the former; Thomas Kreeger periodically posts "Zamfield's Wonderfully Incomplete, Complete Internet BBS List" in the latter newsgroup. The `alt.bbs.internet` newsgroup is also where you'll find Aydin Edguer's compendium of Internet-BBS- related FAQs. Peter Scott, who maintains the Hytelnet database, runs a mailing list about new telnet services and changes in existing ones. To get on the list, send him a note at `scott@sklib.usask.ca`.

1.2 Chapter 6: Telnet (1 of 6) -- What is TELNET?

Telnet is a program that lets you use the power of the Internet to connect you to databases, library catalogs, and other information resources around the world. Want to see what the weather's like in Vermont? Check on crop conditions in Azerbaijan? Get more information about somebody whose name you've seen online? Telnet lets you do this, and more.

Alas, there's a big "but!!" Unlike the phone system, Internet is

not yet universal; not everybody can use all of its services. Almost all colleges and universities on the Internet provide telnet access. So do the WELL, Netcom and the World. But the Freenet systems do not give you access to every telnet system. And if you are using a public-access UUCP or Usenet site, you will not have access to telnet.

The main reason for this is cost. Connecting to the Internet can easily cost \$1,000 or more for a leased, high-speed phone line.

Some databases and file libraries can be queried by e-mail, however; we'll show you how to do that later on. In the meantime, the rest of this chapter assumes you are connected to a site with at least partial Internet access.

1.3 Chapter 6: Telnet (2 of 6) -- Using TELNET

Using TELNET

Most telnet sites are fairly easy to use and have online help systems. Most also work best (and in some cases, only) with VT100 emulation. Let's dive right in and try one.

At your host system's command line, type

```
telnet access.usask.ca
```

and hit enter. That's all you have to do to connect to a telnet site! In this case, you'll be connecting to a service known as Hytelnet, which is a database of computerized library catalogs and other databases available through telnet. You should see something like this:

```
Trying 128.233.3.1 ...
Connected to access.usask.ca.
Escape character is '^J'.
```

```
Ultrix UNIX (access.usask.ca)
```

```
login:
```

Every telnet site has two addresses -- one composed of words that are easier for people to remember; the other a numerical address better suited for computers. The "escape character" is good to remember. When all else fails, hitting your control key and the] key at the same time will disconnect you and return you to your host system. At the login prompt, type

```
hytelnet
```

and hit enter. You'll see something like this:

```

Welcome to HYTELNET
      version 6.2
.....

What is HYTELNET?      <WHATIS>      .      Up/Down arrows MOVE
Library catalogs      <SITES1>      .      Left/Right arrows SELECT
Other resources      <SITES2>      .      ? for HELP anytime
```

```

Help files for catalogs      <OP000>      .
Catalog interfaces          <SYS000>      .      m returns here
Internet Glossary           <GLOSSARY>    .      q quits
Telnet tips                 <TELNET>     .
Telnet/TN3270 escape keys   <ESCAPE.KEY> .
Key-stroke commands        <HELP.TXT>    .

```

.....

HYTELNET 6.2 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

The first choice, "<WHATIS>" will be highlighted. Use your down and up arrows to move the cursor among the choices. Hit enter when you decide on one. You'll get another menu, which in turn will bring up text files telling you how to connect to sites and giving any special commands or instructions you might need. Hytelnet does have one quirk. To move back to where you started (for example, from a sub-menu to a main menu), hit the left-arrow key on your computer.

Play with the system. You might want to turn on your computer's screen-capture, or at the very least, get out a pen and paper. You're bound to run across some interesting telnet services that you'll want to try -- and you'll need their telnet "addresses."

As you move around Hytelnet, it may seem as if you haven't left your host system -- telnet can work that quickly. Occasionally, when network loads are heavy, however, you will notice a delay between the time you type a command or enter a request and the time the remote service responds.

To disconnect from Hytelnet and return to your system, hit your q key and enter.

Some telnet computers are set up so that you can only access them through a specific "port." In those cases, you'll always see a number after their name, for example: india.colorado.edu 13. It's important to include that number, because otherwise, you may not get in.

In fact, try the above address. Type

```
telnet india.colorado.edu 13
```

and hit enter. You should see something like this:

```
Trying 128.138.140.44 ...
```

Followed very quickly by this:

```
telnet india.colorado.edu 13
```

```

Escape character is '^]'.
Sun Apr  5 14:11:41 1992
Connection closed by foreign host.

```

What we want is the middle line, which tells you the exact Mountain Standard Time, as determined by a government-run atomic clock in Boulder, Colo.

1.4 Chapter 6: Telnet (3 of 6) -- LIBRARY CATALOGS

More than 200 libraries, from the Snohomish Public Library in Washington State to the Library of Congress and the libraries of Harvard University, are now available to you through telnet. You can use Hytelnet to find their names, telnet addresses and use instructions.

Why would you want to browse a library you can't physically get to? Many libraries share books, so if yours doesn't have what you're looking for, you can tell the librarian where he or she can get it. Or if you live in an area where the libraries are not yet online, you can use telnet to do some basic bibliographic research before you head down to the local branch.

There are several different database programs in use by online libraries. Harvard's is one of the easier ones to use, so let's try it.

Example search of Harvard catalogue

A particularly interesting system is the one run by the Colorado Alliance of Research Libraries, which maintains databases for libraries throughout Colorado, the West and even in Boston.

telnet pac.carl.org.

Follow the simple log-in instructions. When you get a menu, type 72 (even though that is not listed), which takes you to the Pikes Peak Library District, which serves the city of Colorado Springs.

Several years ago, its librarians realized they could use their database program not just for books but for cataloging city records and community information, as well. Today, if you want to look up municipal ordinances or city records, you only have to type in the word you're looking for and you'll get back cites of the relevant laws or decisions.

Carl will also connect you to the University of Hawaii library, which, like the one in Colorado Springs, has more than just bibliographic material online. One of its features is an online Hawaiian almanac that can tell you everything you ever wanted to know about Hawaiians, including the number injured in boogie-board accidents each year (seven).

1.5 ...Catalogues (1 of 1) -- Search of Harvard Library catalogue

```
*****
*****
***      ***      ***
*** VE *** RI ***
***      ***      ***
*****          *****
**** TAS ****
***      ***
*****
***
H A R V A R D    U N I V E R S I T Y
O F F I C E F O R I N F O R M A T I O N T E C H N O L O G Y

HOLLIS      (Harvard OnLine LIbrary System)

HUBS        (Harvard University Basic Services)

IU          (Information Utility)

CMS         (VM/CMS Timesharing Service)
```

** HOLLIS IS AVAILABLE WITHOUT ACCESS RESTRICTIONS **
Access to other applications is limited to individuals who have been

granted specific permission by an authorized person.

To select one of the applications above, type its name on the command line followed by your user ID, and press RETURN.

** HOLLIS DOES NOT REQUIRE A USERID **

EXAMPLES: HOLLIS (press RETURN) or HUBS userid (press RETURN)

====>

Type

hollis

and hit enter. You'll see several screens flash by quickly until finally the system stops and you'll get this:

WELCOME TO HOLLIS
(Harvard OnLine Library Information System)

To begin, type one of the 2-character database codes listed below:

HU	Union Catalog of the Harvard libraries
OW	Catalog of Older Widener materials
LG	Guide to Harvard Libraries and Computing Resources
AI	Expanded Academic Index (selective 1987-1988, full 1989-)
LR	Legal Resource Index (1980-)
PA	PAIS International (1985-)

To change databases from any place in HOLLIS, type CHOOSE followed by a 2-character database code, as in: CHOOSE HU

For general help in using HOLLIS, type HELP. For HOLLIS news, type HELP NEWS. For HOLLIS hours of operation, type HELP HOURS.

ALWAYS PRESS THE ENTER OR RETURN KEY AFTER TYPING YOUR COMMAND

The first thing to notice is the name of the system: Hollis. Librarians around the world seem to be inordinately fond of cutesy, anthropomorphized acronyms for their machines (not far from Harvard, the librarians at Brandeis University came up with Library On-Line User Information Service, or Louis; MIT has Barton).

If you want to do some general browsing, probably the best bet on the Harvard system is to chose HU, which gets you access to their main holdings, including those of its medical libraries. Chose that, and you'll see this:

THE HARVARD UNIVERSITY LIBRARY UNION CATALOG

To begin a search, select a search option from the list below and type its code on the command line . Use either upper or lower case.

AU	Author search
TI	Title search
SU	Subject search
ME	Medical subject search
KEYWORD	Keyword search options
CALL	Call number search options
OTHER	Other search options

For information on the contents of the Union Catalog, type HELP.
To exit the Union Catalog, type QUIT.

A search can be entered on the COMMAND line of any screen.

ALWAYS PRESS THE ENTER OR RETURN KEY AFTER TYPING YOUR COMMAND.

Say you want to see if Harvard has shed the starchy legacy of the Puritans, who founded the school. Why not see if they have "The Joy of Sex" somewhere in their stacks? Type

TI Joy of Sex

and hit enter. This comes up:

HU: YOUR SEARCH RETRIEVED NO ITEMS. Enter new command or HELP. You typed:
TI JOY OF SEX

ALWAYS PRESS THE ENTER OR RETURN KEY AFTER TYPING YOUR COMMAND.

OPTIONS: FIND START - search options HELP
QUIT - exit database
COMMAND?

Oh, well! Do they have anything that mentions "sex" in the title? Try another TI search, but this time just: TI sex. You get:

HU GUIDE: SUMMARY OF SEARCH RESULTS 2086 items retrieved by your search:
FIND TI SEX

1	SEX
2	SEX A
823	SEXA
827	SEXBO

```

831    SEXCE
833    SEXDR
834    SEXE
879    SEXIE
928    SEXJA
929    SEXLE
930    SEXO
965    SEXPI
968    SEXT
1280   SEXUA
2084   SEXWA
2085   SEXY

```

```

-----
OPTIONS: INDEX (or I 5 etc) to see list of items      HELP
                                                    START - search options
                                                    QUIT - exit database
        REDO - edit search
COMMAND?

```

If you want to get more information on the first line, type 1 and hit enter:

```

HU INDEX: LIST OF ITEMS RETRIEVED      2086 items retrieved by your search:
FIND TI SEX

```

```

-----
SEX
  1 geddes patrick sir 1854 1932/ 1914  bks

```

```

SEX A Z
  2 goldenson robert m/ 1987  bks

```

```

SEX ABUSE HYSTERIA SALEM WITCH TRIALS REVISITED
  3 gardner richard a/ 1991  bks

```

```

SEX AETATES MUNDI ENGLISH AND IRISH
  4 irish sex aetates mundi/ 1983  bks

```

```

SEX AFTER SIXTY A GUIDE FOR MEN AND WOMEN FOR THEIR LATER YEARS
  5 butler robert n 1927/ 1976  bks

```

```

----- (CONTINUES) -----
OPTIONS: DISPLAY 1 (or D 5 etc) to see a record      HELP
        GUIDE                MORE - next page        START - search options
        REDO - edit search                QUIT - exit database
COMMAND?

```

Most library systems give you a way to log off and return to your host system. On Hollis, hit escape followed by

xx

1.6 Chapter 6: Telnet (4 of 6) -- FINGER

This is a handy little program which lets you tell others more about you -- and which you can sometimes use to find out more about people whose names you see on the Net.

It uses the same concept as telnet or ftp . But it works with only one file, called .plan (yes, with a period in front). This is a text file you create with a text editor in your home directory. You can put your phone number in there, or your address, or anything at all.

To finger somebody else's .plan file, type this at the command line:

```
finger email-address
```

where email-address is the person's e-mail address. You'll get back a display that shows the last time the person was online, whether they've gotten any new mail since that time and what, if anything, is in their .plan file.

Some people and institutions have come up with creative uses for these .plan files, letting you do everything from checking the weather in Massachusetts to getting the latest baseball standings. Try fingering these e-mail addresses:

weather@cirrus.mit.edu	Latest National Weather Service weather forecasts for regions in Massachusetts.
quake@geophys.washington.edu	Locations and magnitudes of recent earthquakes around the world.
jtchern@ocf.berkeley.edu	Current major-league baseball standings and results of the previous day's games.
nasanews@space.mit.edu	The day's events at NASA.

1.7 Chapter 6: Telnet (5 of 6) -- FINDING SOMEONE ON THE NET

So you have a friend and you want to find out if he has an Internet account to which you can write? The quickest way may be to just pick up the phone, call him and ask him. Although there are a variety of "white pages" services available on the Internet, they are far from complete -- college students, users of commercial services such as CompuServe and many Internet public-access sites, and many others simply won't be listed. Major e-mail providers are working on a universal directory system, but that could be some time away.

In the meantime, a couple of "white pages" services might give you some leads, or even just entertain you as you look up famous people or long-lost acquaintances.

The whois directory provides names, e-mail and postal mail address and often phone numbers for people listed in it. To use it, telnet to

```
internic.net
```

No log-on is needed. The quickest way to use it is to type

```
whois name
```

at the prompt, where "name" is the last name or organization name you're looking for.

Another service worth trying is the "knowbot" system reachable by telnet to

```
nri.reston.va.us 185
```

Again, no log-on is needed. This service actually searches through a variety of other "white pages" systems, including the user directory for MCIMail. To look for somebody, type

```
query name
```

where "name" is the last name of the person you're looking for. You can get details of other commands by hitting a question mark at the prompt.

1.8 Chapter 6: Telnet (6 of 6) -- Telnet problems

WHEN THINGS GO WRONG:

- * Nothing happens when you try to connect to a telnet site. The site could be down for maintenance or problems.
- * You get a "host unavailable" message. The telnet site is down for some reason. Try again later.
- * You get a "host unknown" message. Check your spelling of the site name.
- * You type in a password on a telnet site that requires one, and you get a "login incorrect" message. Try logging in again. If you get the message again, hit your control and] keys at the same time to disengage and return to your host system.
- * You can't seem to disconnect from a telnet site. Use control-] to disengage and return to your host system.

1.9 TELNET SITES

AGRICULTURE

PENPages, run by Pennsylvania State University's College of Agricultural Sciences, provides weekly world weather and crop reports from the U.S. Department of Agriculture. These reports detail everything from the effect of the weather on palm trees in Malaysia to the state of the Ukrainian wheat crop. Reports from Pennsylvania country extension officers offer tips for improving farm life. One database lists Pennsylvania hay distributors by county -- and rates the quality of their hay!

The service lets you search for information two different ways. A menu system gives you quick access to reports that change frequently, such as the weekly crop/weather reports. An index system lets you search through several thousand online documents by keyword. At the main menu, you can either browse through an online manual or chose "PENPages," which puts you into the agriculture system.

```
Telnet: psupen.psu.edu
```

User name: PNOTPA

California State University's Advanced Technology Information Network provides similar information as PENPages, only focusing on California crops. It also maintains lists of upcoming California trade shows and carries updates on biotechnology.

Telnet: caticsuf.cati.csufresno.edu

Log in: public

You will then be asked to register and will be given a user name and password. Hit "a" at the main menu for agricultural information. Hit "d" to call up a menu that includes a biweekly biotechnology report.

AIDS

The University of Miami maintains a database of AIDS health providers in southern Florida.

Telnet: callcat.med.miami.edu

Log in: library

At the main menu, select P (for "AIDS providers" and you'll be able to search for doctors, hospitals and other providers that care for patients with AIDS. You can also search by speciality.

See also under Health and Conversation.

AMATEUR RADIO:

The National Ham Radio Call-Sign Callbook lets you search for American amateur operators by callsign, city, last name or Zip code. A successful search will give you the ham's name, address, callsign, age, type of license and when they got it.

Telnet: callsign.buffalo.edu 2000 or ham.njit.edu 2000.

When you connect, you tell the system how you want to search and what you're looking for. For example, if you want to search for hams by city, you would type

city city name

and hit enter (for example: city Kankakee).

Other search choices are "call" (after which you would type a ham's name), "name," and "zip" (which you would follow with a Zip code). Be careful when searching for hams in a large city; there doesn't seem to be anyway to shut off the list once it starts except by using control-]. Otherwise, when done, type

quit

and hit enter to disconnect.

ANIMALS

See under Health.

ART

The National Gallery of Art in Washington maintains a database of its holdings, which you can search by artist (Van Gogh, for example) or medium (watercolor, say). You can see when specific paintings were completed, what medium they are in, how large they are and who donated it to the gallery.

Telnet: ursus.maine.edu

Login: ursus

At the main menu, hit your b key and then 4 to connect to the gallery database.

CALCULATORS

Hewlett-Packard maintains a free service on which you can seek advice about their line of calculators.

Telnet: hpcvbbs.cv.hp.com

No log-in is needed.

CONGRESS

The Library of Congress Information Service lets you search current and past legislation (dating to 1982).

Telnet: locis.loc.gov

Password: none needed.

When you connect, you'll get a main menu that lets you select from several databases, including the Library of Congress card catalog (with book entries dating to 1978) and a database of information on copyright laws.

For the congressional database, select the number next to its entry and hit enter. You'll then be asked to choose which legislative year to search. After that, a menu similar to this will come up:

```
***C103- THE LEGISLATIVE INFORMATION FILE FOR THE 103RD CONGRESS,
        which was updated on 05/10/93 and contains 4,044 records,
        is now available for your search.
```

CURRENCY: All information is NOT current through the above date, which is machine generated when ANY information is added to the file. Bill numbers, official titles, sponsors, and status (STEP) added within 48 hours. Indexing terms and digests added later, in some cases several weeks after the bill is added to the file.

TO START	RETRIEVE to find:	EXAMPLES:
SEARCH:	member name ----->	retrieve rep gingrich
		retrieve sen kennedy
	bill number ----->	retrieve h.r. 1
	subject keywords ----->	retrieve day care

FOR HELP: Type the word HELP and press the ENTER key.

READY FOR NEW COMMAND:

CONVERSATION

Communications Canada, a Canadian government agency is developing Conversational Hypertext Access Technology (CHAT) is a system being developed by Communications Canada to provide easy database access to people with little or no computer experience, using what are known as hypertext links. Instead of cryptic computer commands, users type questions in English.

Telnet: debra.doc.ca

Log in: chat

You chose one of the three databases now online, one on AIDS, and then ask questions in English.

Ask the AIDS database, "When was AIDS first discovered?" and it answers:

"The first case of AIDS in North America was diagnosed in 1979. Before that, it existed in Africa, probably beginning in the 1950's. AIDS was discovered in North America when a number of young men with a history of homosexuality developed a rare type of cancer called Kaposi's sarcoma."

Sometimes, you do have to rephrase your question. For example, when asked "What is the link between AIDS and drug use?" the computer responds:

"I know two things about drugs: the drugs that are used to treat people with AIDS, and the risks that drug users have in getting AIDS. Please ask about treatments or drug users."

COPYRIGHT LAW

See under Congress.

CURRENT EVENTS

Every year, the CIA publishes a Fact Book that is essentially an almanac of all the world's countries and international organizations, including such information as major products, type of government and names of its leaders. It's available for searching through the University of Maryland Info Database.

Telnet: info.umd.edu

User name: info

Chose a terminal type and hit enter (or just hit enter if you are using VT100). At the main menu, choose the number next to "Government" and hit enter. One of your options will then be for "Factbook." Chose that one, and you can then search by country or agency.

ENVIRONMENT

The U.S. Environmental Protection Agency maintains online databases of materials related to hazardous waste, the Clean Lakes program and cleanup efforts in New England. The agency plans to eventually include cleanup work in other regions, as well. The database is actually a computerized card catalog of EPA documents -- you can look the documents up, but you'll still have to visit your regional EPA office to see them.

Telnet: epaibm.rtpnc.epa.gov

No password or user name is needed. At the main menu, type

public

and hit enter (there are other listed choices, but they are only for use by EPA employees). You'll then see a one-line menu. Type

ols

and hit enter, and you'll see something like this:

NET-106 Logon to TS004 in progress.

DATABASES:

N	NATIONAL CATALOG	CH	CHEMICAL COLL. SYSTEM
H	HAZARDOUS WASTE	1	REGION I
L	CLEAN LAKES		

OTHER OPTIONS:

?	HELP
Q	QUIT

ENTER SELECTION -->

Choose one and you'll get a menu that lets you search by document title, keyword, year of publication or corporation. After you enter the search word and hit enter, you'll be told how many matches were found. Hit 1 and then enter to see a list of the entries. To view the bibliographic record for a specific entry, hit V and enter and then type the number of the record.

The University of Michigan maintains a database of newspaper and magazine articles related to the environment, with the emphasis on Michigan, dating back to 1980.

Telnet: hermes.merit.edu

Host: mirlyn

Log in: meem

GEOGRAPHY

The University of Michigan Geographic Name Server can provide basic information, such as population, latitude and longitude of U.S. cities and many mountains, rivers and other geographic features.

Telnet: martini.eecs.umich.edu 3000

No password or user name is needed. Type in the name of a city, a Zip code or a geographic feature (Mt. McKinley, for example) and hit enter.

By typing in a town's name or zip code, you can find out a community's county, Zip code and longitude and latitude. Not all geographic features are yet included in the database.

GOVERNMENT

See under Current Events.

HEALTH

The U.S. Food and Drug Administration runs a database of health-related information.

Telnet: fdabbs.fda.gov

Log in: bbs

You'll then be asked for your name and a password you want to use in the future. After that, type

topics

and hit enter. You'll see this:

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

You'll be able to search these topics by key word or chronologically. It's probably a good idea, however, to capture a copy of the manual, first, because the way searching works on the system is a little odd. To capture a copy, type

manual

and hit enter. Then type

scan

and hit enter. You'll see this:

FOR LIST OF AVAILABLE TOPICS TYPE TOPICS
OR ENTER THE TOPIC YOU DESIRE ==>

MANUAL
BBSUSER
08-OCT-91
1 BBS User Manual

At this point, turn on your own computer's screen-capture or logging function and hit your 1 key and then enter. The manual will begin to

scroll on your screen, pausing every 24 lines.

HIRING AND COLLEGE PROGRAM INFORMATION

The Federal Information Exchange in Gaithersburg, MD, runs two systems at the same address: FEDIX and MOLIS. FEDIX offers research, scholarship and service information for several federal agencies, including NASA, the Department of Energy and the Federal Aviation Administration. Several more federal agencies provide minority hiring and scholarship information. MOLIS provides information about minority colleges, their programs and professors.

Telnet: `fedix.fie.com`

User name: `fedix` (for the federal hiring database) or
`molis` (for the minority-college system)

Both use easy menus to get you to information.

HISTORY

Stanford University maintains a database of documents related to Martin Luther King.

Telnet: `forsythetn.stanford.edu`

Account: `socrates`

At the main menu, type

`select mlk`

and hit enter.

SKI REPORTS

See under weather.

SPACE

NASA Spacelink in Huntsville, Ala., provides all sorts of reports and data about NASA, its history and its various missions, past and present. You'll find detailed reports on every single probe, satellite and mission NASA has ever launched along with daily updates and lesson plans for teachers.

The system maintains a large file library of GIF-format space graphics, but you can't download these through telnet. If you want them, you have to dial the system directly, at (205) 895-0028.

Telnet: `spacelink.msfc.nasa.gov`

When you connect, you'll be given an overview of the system and asked to register and chose a password.

The NED-NASA/IPAC Extragalactic Database lists data on more than 100,000 galaxies, quasars and other objects outside the Milky Way.

Telnet: `ipac.caltech.edu`.

Log in: `ned`

You can learn more than you ever wanted to about quasars, novae and related objects on a system run by the Smithsonian Astrophysical Observatory in Cambridge, Mass.

Telnet: `cfa204.harvard.edu`

Log in: einline

The physics department at the University of Massachusetts at Amherst runs a bulletin-board system that provides extensive conferences and document libraries related to space.

Telnet: spacemet.phast.umass.edu

Log on with your name and a password.

SUPREME COURT DECISIONS

The University of Maryland Info Database maintains U.S. Supreme Court decisions from 1991 on in its Government area.

Telnet: info.umd.edu

User name: info

and hit enter. Chose a terminal type and hit enter (or just hit enter if you are using VT100). At the main menu, choose the number next to "Government" and hit enter. One of your options will then be for "US." Select that number and then, at the next menu, choose the one next to "Supreme Court."

TELNET

Hytelnet, at the University of Saskatchewan, is an online guide to hundreds of telnet sites around the world.

Telnet: access.usask.ca

Log in: hytelnet.

TIME

To find out the exact time:

Telnet: india.colorado.edu 13

You'll see something like this:

Escape character is '^]'.
Sun Apr 5 14:11:41 1992

Connection closed by foreign host.

The middle line tells you the date and exact Mountain Standard Time, as determined by a federal atomic clock.

WEATHER

The University of Michigan's Department of Atmospheric, Oceanographic and Space Sciences supplies weather forecasts for U.S. and foreign cities, along with skiing and hurricane reports.

Telnet: madlab.sprl.umich.edu 3000 (note the 3000).

No log-in name is needed.

Also see under Weather in the FTP list for information on downloading satellite and radar weather images.

Also see AGRICULTURE

1.10 TELNET BBSs

You might think that Usenet , with its hundreds of newsgroups , would be enough to satisfy the most dedicated of online communicators.

But there are a number of "bulletin-board" and other systems that provide even more conferences or other services, many not found directly on the Net. Some are free; others charge for access. They include:

Cimarron. Run by the Instituto Technical in Monterey, Mexico, this system has Spanish conferences, but English commands, as you can see from this menu of available conferences:

List of Boards

Name	Title
General	Board general
Dudas	Dudas de Cimarron
Comentarios	Comentarios al SYSOP
Musica	Para los afinados.....
Libros	El sano arte de leer.....
Sistemas	Sistemas Operativos en General.
Virus	Su peor enemigo.....
Cultural	Espacio Cultural de Cimarron
NeXT	El Mundo de NeXT
Ciencias	Solo apto para Nerds.
Inspiracion	Para los Romanticos e Inspirados.
Deportes	Discusiones Deportivas

To be able to write messages and gain access to files, you have to leave a note to SYSOP with your name, address, occupation and phone number. To do this, at any prompt , hit your M key and then enter, which will bring up the mail system. Hitting H brings up a list of commands and how to use them.

Telnet: bugs.mty.itesm.mx (8 p.m. to 10 a.m., Eastern time, only).

At the "login:" prompt , type

bbs

and hit enter.

Cleveland Free-Net. The first of a series of Freenets, this represents an ambitious attempt to bring the Net to the public. Originally an in-hospital help network, it is now sponsored by Case Western Reserve University, the city of Cleveland, the state of Ohio and IBM. It uses simple menus, similar to those found on CompuServe, but organized like a city:

<<< 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
-

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      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
-----

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h=Help, x=Exit Free-Net, "go help"=extended help

Your Choice ==>

The system has a vast and growing collection of public documents, from copies of U.S. and Ohio Supreme Court decisions to the Magna Carta and the U.S. Constitution. It links residents to various government agencies and has daily stories from USA Today. Beyond Usenet (found in the Teleport area), it has a large collection of local conferences on everything from pets to politics. And yes, it's free!

Telnet: freenet-in-a.cwru.edu or
freenet-in-b.cwru.edu

When you connect to Free-Net, you can look around the system. However, if you want to be able to post messages in its conferences or use e-mail, you will have to apply in writing for an account. Information on this is available when you connect.

Dialog. This commercial service offers access to a large variety of databases -- for a fairly sizable fee. You need a Dialog account to use the system through the Net.

Telnet: dialog.com

DUBBS. This is a bulletin-board system in Delft in the Netherlands. The conferences and files are mostly in Dutch, but the help files and the system commands themselves are in English.

Telnet: tudrwa.tudelft.nl

ISCA BBS. Run by the Iowa Student Computer Association, it has more than 100 conferences, including several in foreign languages. After you register, hit K for a list of available conferences and then J to join a particular conference (you have to type in the name of the conference, not the number next to it). Hitting H brings up information about commands.

Telnet bbs.isca.uiowa.edu
At the "login:" prompt, type

bbs

and hit enter.

Whole Earth 'Lectronic Link (WELL). Itself a major Net access point in the San Francisco area, the WELL is also a unique online community

that maintains dozens of conferences on every imaginable topic (seven devoted just to the Grateful Dead). WELL users are intelligent and opinionated; discussions are often fast and furious. The Electronic Frontier Foundation was basically started in a series of online conversations on the WELL. Although it has a serious San Francisco flavor, it has users from across the country (enough to support both East Coast and Midwest conferences).

For its conferences, the WELL uses PicoSpan software, which presents messages differently than rn or nn. When you enter a conference, you can call up a list of "topics." Enter a topic number, and all of the messages start scrolling down the screen, sort of like the music on an old-fashioned player-piano. There is some online help, but new users are sent a written manual. See Chapter 2 for information on access charges (one advantage to connecting to the WELL through telnet is that unless you live in the Bay Area, it is likely to be much cheaper than other access methods).

Telnet: well.sf.ca.us

Youngstown Free-Net. The people who created Cleveland Free-Net sell their software for \$1 to anybody willing to set up a similar system. A number of cities now have their own Free-Nets, including Youngstown, Ohio. Telnet: yfn.ysu.edu At the "login:" prompt, type

visitor

and hit enter.