

Into the Internet (Part 2)

Mail

The most fundamental facility offered on the Internet is email. Using this you can do all the things that you might expect from any message system, like post or fax. Although email has traditionally been in the form of ASCII text, there are now extensions to allow multimedia mail - i.e. with pictures etc. Mail is fundamental because many other Internet services can as a last resort be accessed using it. Often there will be better ways, but if mail is all you've got then with a little effort there are many things you can do. Typically this would involve you mailing a message to a computer to ask it to do something for you, and when it has completed its task it will mail you back a message with the results.

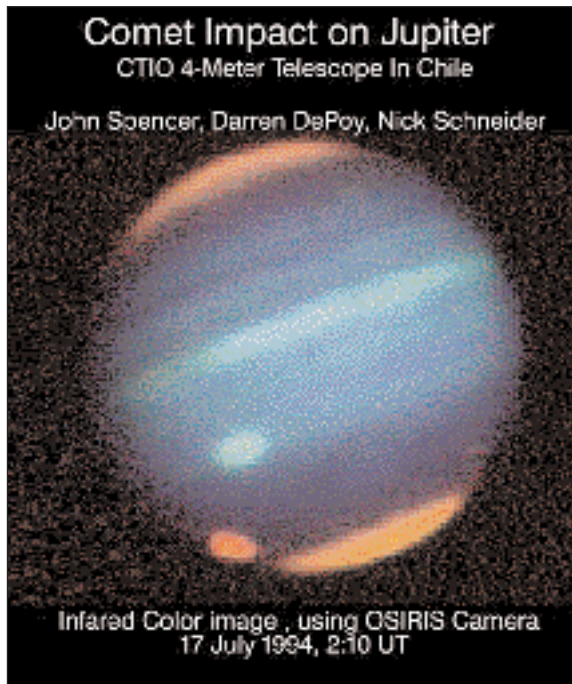
File Transfer

Traditionally computer communications has been about transferring files. There are on the Internet millions of files you can access. The way to do this is by ftp (file transfer protocol). ftp is an interactive session you conduct with another computer. Using either command line instructions or a graphical interface, you can access the file/directory system on the remote computer, move around it, and transfer files to or from your own computer. Gaining access to ftp usually requires you to give a user name of anonymous (referred to as anonymous ftp) and a password consisting of your email address. It comes as some surprise to discover that there are thousands of computers whose file systems you can wander quite freely around,

taking whatever files appeal to you.

What sort of files are there then? As you might expect there is the usual vast array of PD files, just as you would find in any PD library or traditional bulletin board. Because many of the computer systems are in academic institutions, files often cover the more technical areas of computing, and are therefore not usually popular enough to get into

Last month David Pilling described how to gain access to the Internet. This month he describes some of the useful things you can do once you're online



An image of the Shoemaker - Levy impact on Jupiter, downloaded via the

the more traditional sources of PD.

But don't imagine for one minute that all the files you can access are concerned with computing. The subject range is vast - one good example is a project to put all the great works of literature online.

Already you can download the texts of many well-known books. Another example is weather satellite images that are updated daily. Many international standards documents are also available.

Some computer related businesses run their own systems,

allowing you to download files related to products - e.g. software updates, problem solving forums etc.; and of course email is an ideal way to tackle the technical support staff of companies on the other side of the world.

The catch with having so many files on offer, is how do you find the one you're looking for? One way is to make use of a service called Archie (which has nothing to do with Acorn computers). You access this using Telnet, which is the main Internet protocol for providing error-free connections between different locations on the system. Telnet allows you to talk to Archie, and ask to be told where a file is on the Internet. So if you know the name of the program or file you want, Archie will give you a list of ftp sites from where it is available. Another tool for finding the resource you want is called Gopher.

Newsgroups

Newsgroups are discussion forums. There is one for almost every subject you can imagine. You can read all the messages written to the Newsgroup, and post your own comments, which in turn can be read by everyone else. Just to pick out one example, the comp.sys.acorn series of groups are devoted to Acorn computers. Here you can find all the latest news and gossip about the Acorn world. Newsgroups devoted to technical subjects can be very useful. Often they represent a group of people who can answer any question about a given subject. Other newsgroups are just for fun. In all of them, discussions sometimes become heated.

Newsgroups are probably one of the few places where you can express an opinion to a large audience without any editorial control. It's no surprise then that the first test cases of libel are currently appearing in courts around the

Some examples from the thousands of newsgroups - the subjects are self-explanatory!

```
alt.autos.antique
alt.bonsai
alt.current-events.bosnia
alt.education.disabled
alt.rock-n-roll.stones
alt.suburbs
alt.tv.red-dwarf
comp.lang.c++
comp.sys.acorn.tech
misc.invest.real-estate
rec.arts.movies.reviews
rec.heraldry
rec.sport.golf
sci.bio.technology
sci.geo.meteorology
sci.military
soc.culture.magyar
```

world. Newsgroups have added two words to the language. To flame someone is to write a message criticising them in forceful terms. An FAQ is a frequently asked question. Since the same questions often get asked over and over again, many newsgroups have their own FAQ list, which is a file of commonly asked questions about the subject, and their answers. Often these FAQ lists provide good introductions to subjects and are worth reading even if you don't want to join in the discussions.

There are network newsletters and magazines. Usually you just send an email message to an address, and subsequent issues are mailed to you. As with everything else, these exist on all sorts of subjects. There have also been attempts at radio programs. These take the form of sound files that you can ftp, and then play back. With current technology they tend to be large!

Another service that has recently gained a lot of attention is

the World Wide Web (WWW), originally developed by scientists at the European Particle Physics research centre (CERN). This can be viewed in the same way as a traditional multimedia document with embedded text, graphics and hypertext style links, but with the objects coming from different computers via the net. By following the links you can access information from many different sources. There are WWW browsers available for PC and Mac systems, but not yet Acorn, though Acorn hopes to be demonstrating a RISC OS WWW browser at Acorn World.

The Internet will change the world. It will do this by making information cheaper to access, and by promoting collaboration and interaction between people. Anyone who has ever had to do research in the traditional way, using a library, will immediately appreciate the benefits of having access to all the information on a given subject without leaving their desk (how many times have you had to wait a week or more while your local library obtains a reference source not in stock?). Once the impact of the Internet in making research more efficient filters through over the next few years, we might expect to see a sudden leap in the rate of technological progress.

The Internet will make the world a smaller place. This is because many activities which once would have required you to be located in a major city, can now be pursued from anywhere with a phone line. It also makes communicating with someone in another country as easy as with someone in the next room. It's quite an exciting thought that whatever problem you may have, it might be solved almost instantly by someone on the other side of the world.

What is not so obvious from the Internet is what form the data

information superhighway will take. Many proponents of the latter see it as a way of promoting material, in particular TV, that is already available from other sources. Such systems are also likely to be one-sided - large amounts of data will flow into

market phenomenon, and in its current form probably never will be - not everyone can type or wants to

Similarly, much of the current charm of the Internet is how much can be had for little or no cost. Commercial interests may see this

The Internet will also bring many fascinating problems for governments. For example, it is already possible to buy software in the USA and import it into the UK (via the network) without UK customs having any idea of the transfer, and thus any chance to

An Internet Session

So... you've found your way through the minefield of modems, comms packages, host providers, TCP/IP and what-have-you, and you are logged on to the Internet. What can you do? Well first of all... be patient! A global information network is a little more complex than the data bus connected to your IDE drive, and things can take what at first seems like an inordinately long time to happen. You must be prepared for some frustration as a command takes a minute or two to process, or you fail to access a site because it is busy. Occasionally the system can be so impossibly slow that it's best just to quit and try again later (it's usually better before 2pm UK time, when the USA wakes up).

Another word of warning: accessing the Internet from an Acorn is NOT EASY! The software is primitive, and unless you're a comms buff you will spend a lot of time trying to fathom out the complexities of access. It might be better to wait until new user-friendly software appears, such as that promised by the BBC Networking Club.

Still not put off? OK, if you have registered your interest in one or more newsgroups, the first thing to happen when you log on is that any messages posted since your last call (or within a given timeframe) are automatically downloaded to your system. You might therefore see a message like this:

```
Checking for new groups since last call
Checking group comp.sys.acorn,comp.sys.acorn.tech ,comp
.sys.acorn.announce
and any newsgroup postings will be downloaded to your
hard disc at this point.
```

Let's suppose you now want to conduct an ftp session, and you want to look for files containing weather satellite

images. You could use Archie to find suitable files for you, using the keyword weather. There are a number of Archie servers available located all round the world; normally you would use your local server, but if it is busy you could log on to the USA, Germany, Taiwan etc. One of the UK sites is located at Imperial College; using Telnet to log on you would issue the following command:

```
telnetarchie.doc.ic.ac.uk
```

Once logged on, the command to search for something is prog, so in our case we would type:

```
prog weather
```

This should (after a short wait while Archie performs its search) display a list of ftp sites that have weather listed among their files. The list might look something like this:

```
Location: /.11/FreeBSD/ports/util/expect/example
FILE      -rwxr-xr-x    003 bytes   23:05 18 Jun 1994 weather
```

```
Location: /.2/SimTel/msdos
DIRECTORY drwxr-xr-x   512 bytes   06:46 18 Sep 1994 weather
```

```
Location: /.9/inet/facts
DIRECTORY drwxr-xr-x   512 bytes   05:27 20 Sep 1994 weather
```

Having decided which site you want to try, you can then use the appropriate command to log onto the server, and then move around the directory structure using commands such as cd to change directory and ls to look at what's there. Once you've located the file you want, a simple get command will download it to your system.

This is a necessarily brief description and in no way

people's homes with little flowing back. This is in stark contrast to many of today's popular Internet activities, which rely on interacting with other users; for example, most people post as much mail as they receive. At the moment the Internet is far from being a mass

as undesirable and seek to change the situation. Some of the providers of information may seek to get a return on their investments. At the moment, when you or I get a file of jokes from a US university computer, the US taxpayer is presumably funding our entertainment.

impose duty. The USA may have banned the export of encryption technology, but it is just as easy to ftp all sorts of useful software from the USA whether you live in Watford or Wyoming.

I hope that this series has convinced you that

