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About InfoPop/Windows 1.01



This version of InfoPop uses the Windows help utility WINHELP.EXE. We hope you find InfoPop/Windows a useful educational tool as well as a pointer to various internet resources. This version contains all the information found in the DOS-based InfoPop plus a bit more. The DOS version of InfoPop comes with it's own search engine and help compiler and runs in two modes: regular and TSR.

This file may be freely distributed, so long as no charge is made. If you have suggestions or corrections, please send them to me at the address below and they'll be incorporated into the next edition

Be sure to make liberal use of the ANNOTATE feature (under Edit) to make updates and/or corrections to information contained here.

This file was last updated June 8, 1993.

Clyde W. Grotophorst
GMUtant Software
email: wallyg@fen1.gmu.edu
bbs: (703) 993-2219
CIS: 70704,3376
phone: (703) 993-2239
fax: (703) 993-2229

TSR

Terminate-Stay-Resident

Bypassing a technical explanation, a TSR is a program that loads into your PC's memory then goes to 'sleep'...ready to pop-up and run whenever a particular key sequence is pressed. TSR's serve little purpose in multitasking environment like Windows.

Due to the compression scheme used by the Windows 3.1 help compiler (HC31.EXE), you can not use this database with the version of Winhelp that came with Windows 3.0

GMUtant Software
Route 1, Box 296
Hamilton, VA 22068

Here are a few products from the algorithmicians at GMUtant Software:



BIBL (rhymes with nibble). A full-featured system for managing your personal and/or office library on an DOS-based PC. Features include: multiple databases; mouse support; Windows 3.1 clipboard support; 15+ reports; full-text and/or keyword searching; large (700 character) note field for each record (with word wrap); global find & replace; ASCII import/export; link text files (and PCX images) to individual records; and more. Network version (specify NOVELL or NETBIOS) of the product (BIBL/NET) is also available. BIBL is SHAREWARE and is available from the following sources:

Compuserve
gopher
GMUtant OnLine BBS.
ftp

INFOPOP (DOS version) - a TSR guide to the internet. Comes with utility for making your own pop-up help systems. Non-TSR version also included which is great for mounting on a network server.

GOVDOX - a check-in system for managing U.S. Government Documents. Now in release 8.24. GOVDOX, like all GMUtant Products, is available on our BBS.

BIBL via ftp

```
ftp gmuvax2.gmu.edu  
username: anonymous  
password: PutYourEmailAddressHere  
cd library  
binary get bibl84sw.zip  
bye
```

GMUVAX2 will be taken out of service soon, so this address is probably only valid thru July 1993.

point your gopher client to fenwick.gmu.edu
then access the Computers/Technology/Software
section.

Filename: BIBL84SW.ZIP

ZIP is a file extension one encounters on files that have been compressed according to PKWARE's ZIP format. Typically a ZIP file contains within it a number of files which have been compressed and then combined.' To extract the files contained within a ZIP file you need a copy of the utility program PKUNZIP.EXE - available on BBS's (including the GMutant BBS).

syntax: C:>PKUNZIP NameOfZipFile (return)

Single-user: Go IBMAPPS, Library 7: BIBL84.ZIP
Network (Novell): Go NOVUSER, file BIBNET43.ZIP
Network (Netbios): Go IBMAPPS, Library 7, file: BIBLAN43.ZIP



GMutant Online BBS

The BBS focuses on programming (C, C++ and Pascal) as well as files of interest to librarians and/or information professionals. We use the BBS to provide support for various GMutant Software products as well.

phone: (703) 993-2219

speed: 1200,2400,9600 v.32/v.42bis

hours: 24 hours a day

bitnet

[BITNET \(history/background\)](#)

[Sending files via Bitnet](#)

[Selected BITNET magazines](#)

[Listservers](#)

BITNET is a telecommunications network that links users in academic institutions in the United States and in foreign countries. The purpose of BITNET is to facilitate communication among universities. Any university may use the network for either academic or administrative communications. Universities with any one of a large set of minicomputers and mainframes can easily become part of the network, since the communications software supports a wide variety of different hardware. The computers in BITNET are connected via leased telephone lines, and users can share information through electronic mail in the form of interactive messages, text files, and computer programs.

The network was founded in the spring of 1981 by establishing a link between the City University of New York CUNY and Yale University. At first, there was considerable doubt over whether the "network would ever reach a useful critical mass." Indeed, even though several dozen institutions had expressed an interest in joining such a service, in a survey conducted prior to implementing the network, only six universities were actually linked to BITNET by the end of 1981. Two years later, the network had grown to 19 sites with a total of 65 nodes. In the summer of 1988, there were over 1,500 nodes connected to the network.

BITNET's philosophy was that each subscribing academic institution would lease a line to the nearest existing network node and provide at least one connection point for future members. New members would thus increase the geographic distribution of the network. BITNET was a cooperative network in that each node contributed communications lines, storage and processing without charge to the other nodes. Moreover, the network relied heavily on volunteer efforts and informal agreements between universities to maintain and operate the network.

[Sending files via Bitnet
listservers](#)

Bitnet listservers

definition: A program available on many BITNET connected computers that can act as a mail forwarding system and as a file repository. BITNET is another network that links many colleges and universities. It does not normally link to military or government institutions as does the Internet. The idea of mailing lists has been given new life with the advent of computer networks. Most of us are on mailing lists, be they for magazines, bills, or those silly pamphlets you get from your Senator. Computers have brought a whole new degree of speed and functionality to mailing lists, as you will see. In BITNET, mailing lists are used mainly to keep people with similar interests in contact. There are several formats in which this contact can take place. These are "forums", "digests", and "electronic magazines".

FORUMS are a good example of how the utility of mailing lists has been expanded in BITNET. Let's say that you have subscribed to a forum for people interested in COBOL (gack!). How you could subscribe to such a list will be described later. Someone (anyone!) on the mailing list sends mail to a server where the list is kept. This server forwards the mail to all of the people in the forum. When mail from a forum arrives in your computer mailbox, the header will look much like this:

```
Date: Fri, 10 Sep 88 23:52:00 EDT
Reply-To: COBOL Discussion List <COBOL-L@METRO>
Sender: COBOL Discussion List <COBOL-L@METRO>
From: Ted Kord <BEETLE@JLIVM>
Subject: No More Perform-Through-Varyings!
To: Daniel Lawrence Shaw <DANIEL@YALEVM>
```

This looks a little confusing, but there really isn't much to it. In this example, Ted Kord ("From:") sent mail to the COBOL-L list address. This server then forwarded the mail to everybody on the list, including Daniel Lawrence Shaw ("To:"). Note the line named "Reply-To:". This line tells your mail software that when you reply to the note that the reply should go to the list... meaning *everybody* on the list. People will in turn reply to your mail, and you have a forum.

This is usually very interesting, but it can lead to problems. First among these is the volume of mail you can receive. If you are in a very active forum, you can get 50 or more pieces of electronic mail in a single day. If you are discussing an emotional topic, expect more. Many people have a tendency to "flame". The speed and immediacy of electronic mail makes it very easy to whip out a quick, emotional, response, to which there will be similar replies. We advise you to take some time and think out your responses to forum postings before inadvertently starting a "flame war".

[subscribing to lists](#)

A server that controls a mailing list is called a "list server." Most Most of these have the terribly original userid of LISTSERV. One of these servers can control subscriptions to many mailing lists.

The most difficult concept behind list servers is the difference between a LISTSERV and its list-ids. When you subscribe to a mailing list, you send the appropriate command to a LISTSERV. When you want to communicate to the people on the mailing list, you send mail to the list-id. For example, there is a list named LIAISON. To subscribe to this list, you would send a command to LISTSERV@BITNIC. You could then correspond with people on that mailing list by sending mail to LIAISON@BITNIC.

LIAISON is a list-id, a "satellite" of the LISTSERV. We mention this because many people make the mistake of sending commands by mail to list-ids. This annoys people to no end and creates a lot of unnecessary network traffic.

To subscribe to a lists, you would send a LISTSERV a SUBSCRIBE command, which has the following syntax:

```
SUBscribe listname your_full_name
```

In this example, Kristen Shaw is sending LISTSERV@BITNIC the command to subscribe to LIAISON:

```
VM/CMS: TELL LISTSERV AT BITNIC SUB LIAISON Kristen Shaw  
VMS/JNET: SEND LISTSERV@BITNIC "SUB LIAISON Kristen Shaw"
```

If you misspell your name when entering a SUBscribe command, simply re-send it with the correct spelling. To delete her name from the mailing list, Kristen would enter an UNSUBscribe command:

```
VM/CMS: TELL LISTSERV AT BITNIC UNSUB LIAISON  
VMS/JNET: SEND LISTSERV@BITNIC "UNSUB LIAISON"
```

Those are the basic commands you need to know in order to access LISTSERV controlled mailing lists.

The MESSAGE (sometimes called "interactive message") is the fastest and most convenient method of communication available through BITNET. It is the network's equivalent of a telephone conversation. The difference is that the words are typed instead of spoken. The message you type is transmitted immediately (well, quickly) to its destination. In BITNET this destination is the network address (userid@node) of the person you want to contact. If the person you are contacting is logged on, the message will be displayed on their screen. If not, their computer will tell you so. In this case, your message is lost forever. In other words, no one is there to answer the phone. However, many people run a program which will act like an answering machine and hold your message until they log on.

The syntax to send messages depends on your computer and system software. People on VM/CMS systems would type something like this:

```
TELL userid AT node message
```

For example: TELL KRISTEN AT MARIST Hey Kristen, What's up?

People on VAX/VMS systems using the JNET networking software would use this syntax:
SEND userid@node "message"

For example: SEND KRISTEN@MARIST "Hey Kristen, What's up?"

The quotes around the message are optional. However, the JNET networking for VAX/VMS will translate your entire message into upper-case characters if you DO NOT use them. Many people find receiving messages like that extremely annoying.

You should consult your local system documentation for more information on TELL or SEND and their capabilities. When a message arrives on your screen, it will look something like this:

```
FROM MARIST(KRISTEN): Hello! It's been a while, no?
```

FILES are another way to communicate over BITNET. The text files and programs that you store on your computer can be transmitted to users at other nodes. People on VM/CMS systems would use a syntax like this:

SENDFILE filename filetype filemode userid AT node

For example: SENDFILE BITNET USERHELP A KRISTEN AT MARIST

The syntax for VMS/JNET systems is quite similar:

SEND/FILE filename.extension userid@node

For example: SEND/FILE BITNET.USERHELP KRISTEN@MARIST

The file sent is stored in the "electronic mailbox" of the recipient until he/she logs on. People on VM/CMS systems would use the RECEIVE or RDRLIST commands to process files sent to them in this way. People on VAX/VMS systems would use the RECEIVE command. You should check your local documentation for information on these commands.

SEND/FILE and SENDFILE are useful for sending programs or large volumes of data over the network. However, they shouldn't be used for everyday communication.

Selected BITNET magazines

AIR

AIR is a newsletter for people interested in institutional research and planning analysis. For a subscription, send mail to John Muffo, IRMUFFO@VTVM1.

ATHENE

Athene is a free network "magazine" devoted to amateur fiction written by the members of the online community. Athene does not limit itself to any specific genre, but will publish quality short stories dealing with just about any interesting topic, including: science fiction; fantasy; religion; mystery; computers; humor; psychology; sports; politics and/or business. To subscribe, mail a request to Jim McCabe, MCCABE@MTU55. Be sure to mention if you want it in ASCII or Postscript.

BIOSPHERE Newsletter

BioSphere newsletter may be of interest for those of you concerned about the problems facing our environment. To get a subscription, send this command to LISTSERV@UBVM: SUB BIOSPH-L your_full_name. Back issues of the magazine are available from the server UMNEWS@MAINE (on the MAGAZINE disk).

CCNEWS

CNEWS is a weekly electronic magazine for campus computing center newsletter editors. In it they discuss common interests and concerns about delivery of news and information. These include desktop publishing, printing, operational aspects of developing newsletters, writing, and computing-related issues relevant to campus computing center information dissemination. The archive of CCNEWS also includes the full text of contributed articles from campus computing newsletters and other sources. You can subscribe to CCNEWS magazine by sending the command: SUB CCNEWS Your_Full_Name - Institution to LISTSERV@BITNIC.

DISTED

The On-Line Journal of Distance Education and Communication Special Interest Group has two primary concerns: First, it is concerned with distance education as the organized method of reaching geographically disadvantaged learners. Second, the Journal is interested in projects concerned with overcoming cultural barriers through the use of electronic communication. To subscribe, send the this command to LISTSERV@UWAVM via mail or message: SUB DISTED your_full_name

INTERNATIONAL INTERCULTURAL Newsletter

XCULT-L is an international intercultural newsletter written by undergraduate and graduate students at Penn State University who are enrolled in Speech Communication 497B: Cross-cultural Communication. Each week, students write on a topic being discussed in class. Topics range from non-dominant cultures in the U.S. to corporate cultures to the use nonverbal communication in international communication. Participants who receive the newsletter are encouraged to join in the discussions or contribute their own topics and issues. You can subscribe to XCULT-L by sending the command "SUB XCULT-L firstname lastname" to LISTSERV@PSUVM.

MEDNEWS

Mednews is a weekly electronic newsletter. Regular columns consist of medical news summary from USA Today, Center For Disease Control MMWR, weekly AIDS Statistics from the CDC, plus other interesting medical news items. To subscribe, send the following command to LISTSERV@ASUACAD via mail or message: SUB MEDNEWS Your_Full_Name.

NETWORK AUDIO BITS

Network Audio Bits and Audio Software Review is an electronic audio magazine devoted primarily to Compact Disc and Vinyl LP Record reviews. Subscriptions are available by sending mail to MURPH@MAINE. Back issues are available from UMNEWS@MAINE (EMAGS disk).

THE PUBLIC-ACCESS COMPUTER SYSTEMS REVIEW

An electronic journal, the Public-Access Computer Systems Review, has been established on the Public-Access Computer Systems Forum (PACS- L@UHUPVM1). The PACS Review will cover all computer systems that libraries make available to their patrons, including CAI and ICAI programs, CD-ROM databases, expert systems, hypermedia systems, information delivery systems, local databases, online catalogs, remote end-user search systems, and other systems. To join the PACS Forum, send the following command to LISTSERV@UHUPVM1 via mail or message: SUBSCRIBE PACS-L your_full_name.

PSYCHNET

Psychnet is a weekly newsletter keeping the psychology community informed and in contact. To subscribe, send mail to Robert C. Morecock, EPSYNET@UHUPVM1.

QUANTA

Quanta is a magazine devoted to Science Fiction and topics related to science fiction. It is published bi-monthly by Dan Appelquist (R746DA1@CMUCCVMB). Send mail to Dan to subscribe, submit material, or just to receive more info. Quanta is published in both straight ASCII and PostScript formats.

SCUP Newsletter

SCUP is a newsletter for people interested in college and university planning. For a subscription send mail to SCUP@TUFTS.

USSR-D

USSR-D (USSR news and information digest) is a regular digest of traffic culled from USSR-L (USSR news & information list), a public discussion and distribution list dedicated to the dissemination and analysis of non-classified news and information regarding the Union of Soviet Socialist Republics and its past and present (if not future) constituent Soviet Socialist Republics. To subscribe send the command Sub USSR-D Your_full_name to LISTSERV@INDYCMS.

Welcome to the University of Houston Libraries
Public-Access Computer Systems Forum

Overview

The Public-Access Computer Systems Forum (PACS-L) is a computer conference that deals with all computer systems that libraries make available to their patrons. Utilizing PACS-L, users discuss topics such as CD-ROM databases, expert systems, hypertext programs, microcomputer labs, locally-mounted databases, network-based information resources, and OPAC's.

The conference does not deal with staff-oriented functions in integrated library systems (e.g., acquisitions, cataloging, circulation, and serials control), staff-oriented microcomputer use (e.g., spreadsheets and word processing), or mediated online searching.

While many users are librarians, PACS-L also serves computer specialists, faculty members, and others. The conference was founded in June 1989 by Charles W. Bailey, Jr. Currently, there are over 6,400 users in 56 countries. The conference is moderated by Dana Rooks and Jill Hackenberg. The Information Technology Division of the University of Houston provides technical support for the conference.

Messages sent to PACS-L are reviewed by the conference moderators, who distribute messages on appropriate topics to conference participants. PACS-L moderators reserve the right to reject any posting that we feel is not appropriate for PACS-L. Normally, PACS-L users receive 5-15 messages per day. Please do not send messages longer than about 250 lines; break long messages up into multiple shorter messages.

The University of Houston Libraries provides PACS-L as a public service. It does not verify the accuracy of submitted messages nor does it endorse the opinions expressed by message authors. Authors of PACS-L messages are solely responsible for content of their messages.

All messages to the conference are automatically archived. Users can search the message database for specific information using complex Boolean queries. The most reliable method of searching the database is to submit batch search jobs to the list server via e-mail messages. Search features include nested Boolean expressions, search limitation by date and time, and SOUNDEX searches.

An electronic journal, **The Public-Access Computer Systems Review**, was established in September 1989. The first issue was published in January 1990. The journal became refereed in November 1991. Articles are stored as individual files on the list server, and an annotated table of contents for each issue is sent out as an e-mail message to all PACS-L users. After looking over the table of contents, users can retrieve article files of interest. The journal is cataloged on OCLC and RLIN.

The first two volumes of The Public-Access Computer Systems Review are also available in book form from the American Library Association's Library and Information Technology Association (LITA). The price of each volume is \$17 for LITA members and \$20 for non-LITA members. To order, contact: ALA Publishing Services, Order Department, 50 East Huron Street, Chicago, IL 60611-2729, (800) 545-2433.

Volume one has a special section on SPIRES that describes how this powerful system is being used for locally mounted databases and campus-wide information systems, plus an in-depth symposium about staffing issues and public-access computer systems. It also has articles about Carnegie Mellon University's Library Information System II (and other innovative library automation systems), text management software, CD-ROM LAN

implementations and network licensing agreements, Z39.50, and other topics.

Volume two has a special section about major electronic serials on networks that includes papers by the editors and publishers of EJournal, The Electronic Journal of Communication, the Journal of the International Academy of Hospitality Research, New Horizons in Adult Education, the Newsletter on Serials Pricing Issues, Postmodern Culture, and PSYCOLOQUY as well as a guide to the important LISTSERV software. It also has a substantial symposium about network-based information resources and scholarly communication, plus a paper on machine-readable data files in libraries.

Volume three has papers on campus-wide information systems and tools, including UC Berkeley's Infocal Campus Information Service, HYTELNET, LIBS Internet Access Software, and nonbibliographic applications of Z39.50. It includes an in-depth investigation of the future of electronic publishing, a paper on The Online Journal of Current Clinical Trials, and a bibliography about electronic publishing on networks. It also contains papers on reshaping library services and staffing to support emerging electronic information systems; the Canadian Network for the Advancement of Research, Industry, and Education; and search failures in information retrieval systems.

All three volumes include columns by Walt Crawford and Martin Halbert, plus book reviews. Volume three introduced a new columnist, Priscilla Caplan. Topics covered include artificial intelligence, the Common Command Language, copyright and digital media, enhanced OPACs, help systems, hypermedia, Internet resources, and USMARC format integration.

Contact the Editor-in-Chief, Charles W. Bailey, Jr. (LIB3@UHUPVM1), for further information about the PACS Review.

An electronic newsletter, Public-Access Computer Systems News, is also distributed on PACS-L. The first issue was published in March 1990. Issues are sent out as messages on PACS-L. Back issues are stored on the list server. The newsletter is cataloged on OCLC and RLIN. For further information, contact the Co-Editor, Dana Rooks, LIBL@UHUPVM1.

Information Systems Instruction & Support, the Library, the University of California at Berkeley distributes its electronic newsletter, Current Cites, on PACS-L.

A second list, PACS-P, was established in January 1991 for users that want to receive PACS-L publications, but do not want to receive messages from PACS-L users. PACS-P serves over 1,420 users in 43 countries.

Selected Commands

To join PACS-L, send the following e-mail message to LISTSERV@UHUPVM1: SUBSCRIBE PACS-L First Name Last Name. (The UH list server also has an Internet address: LISTSERV@UHUPVM1.UH.EDU.)

To receive the PACS-L publications only (no messages from PACS-L users), send the following message to LISTSERV@UHUPVM1: SUBSCRIBE PACS-P First Name Last Name. Do NOT subscribe to both PACS-L and PACS-P; PACS-L users receive all publications as part of their subscription.

To sign off PACS-L, send the following e-mail message to LISTSERV@UHUPVM1: UNSUBSCRIBE PACS-L.

To stop PACS-L mail when you go on vacation, send the following e-mail message to LISTSERV@UHUPVM1: SET PACS-L NOMAIL.

To resume PACS-L mail delivery, send the following e-mail message to `LISTSERV@UHUPVM1`:
`SET PACS-L MAIL`.

To determine what your PACS-L distribution settings are, send the following message to `LISTSERV@UHUPVM1`: `QUERY PACS-L`. This is a useful command to try if you stop receiving PACS-L mail. The moderators may have had to set you to `NOMAIL` because of problems with your e-mail account.

To send a message to the PACS-L, send your e-mail message to `PACS-L@UHUPVM1`.

To obtain a list of PACS-L users, send the following e-mail message to `LISTSERV@UHUPVM1`:
`REVIEW PACS-L F=MAIL`.

To receive full documentation about searching the message database, send the following e-mail message to `LISTSERV@UHUPVM1`: `INFO DATABASE`. (A brief tutorial is also available. Send the message `GET SEARCH DOC F=MAIL` to `LISTSERV@UHUPVM1`.)

To see what files are available, send the following e-mail message to `LISTSERV@UHUPVM1`:
`INDEX PACS-L F=MAIL`.

The file name for a PACS Review table of contents file starts with the word `CONTENTS`. For example: `CONTENTS PRV3N8`.

The file name for a PACS News issue file starts with the word `PACSNEWS`. For example: `PACSNEWS V3N16`.

The file name for a Current Cites issue file starts with the word `CURRENTC`. For example: `CURRENTC V3N12`.

To retrieve a file, send the following e-mail message to `LISTSERV@UHUPVM1`: `GET File Name File Type`.

To have a file sent via e-mail instead of via file transfer, add `"F=MAIL"` after the `GET` command. For example, to retrieve `CONTENTS PRV2N1` via e-mail, send the following e-mail message to `LISTSERV@UHUPVM1`: `GET CONTENTS PRV2N1 F=MAIL`.

To retrieve the cumulative index for volumes one to three of The Public-Access Computer Systems Review, send the following e-mail message to `LISTSERV@UHUPVM1`: `GET INDEX PRV1 F=MAIL`.

For More Information About PACS-L

Bailey, Jr., Charles W. "Electronic (Online) Publishing in Action . . . The Public-Access Computer Systems Review and Other Electronic Serials." Online 15 (January 1991): 28-35.

Bailey, Jr., Charles W. "The Public-Access Computer Systems Forum: A Computer Conference on BITNET." Library Software Review 9 (March-April 1990): 71-74.

Revised 6/1/93

CompuServe

CompuServe is an online network that's been around just over 10 years. The number of services available here is staggering... as are the charges if you get carried away with using the system.

What can you do via CompuServe? Access ZiffNet; send mail to other users; send faxes to any fax machine; access the Internet (for messages of 50K or less only); download any of thousands of SHAREWARE programs; talk directly to vendors and users of products from hundreds of companies (Novell, QuarterDeck, TurboPower Software, Borland, and Microsoft); shop over 100 stores in the electronic mall; access a multitude of information systems (e.g., Books in Print, Computer Library, Magazine Database Plus, IQ Quest (indexing 850 publications), Executive News Service, UK Company Library; join any of the many forums available on the system to talk with others who share your interest; and more...

With CIM, CompuServe's new Information Manager package, you can navigate CompuServe with your mouse, download in the background, compose and read your mail offline, and more. Also, be sure to investigate OZCIS - a new navigation program for CompuServe power users. OzCIS is an excellent package that will likely reduce the time you spend online...much faster than the CIM product sold by CompuServe. To get a copy of **OZCIS**, visit IBMCOM forum, library 9 or call GMUtant OnLine BBS.

Cost? On March 1, 1993, connect rates (other than basic service) per hour were:

bps	\$ 6.00 per hour
/2400 bps	\$ 8.00 per hour
bps	\$ 16.00 per hour

There's a \$ 2.00 per month charge regardless of use, to cover things like CompuServe magazine. If you want the CIM software it costs approximately \$ 25 -- which includes a \$ 25.00 usage credit). Some services (e.g., ZiffNet and many others) carry charges beyond the basic connect rate.

[email to compuserve user via internet](#)
[access phone numbers](#)

Sending email to a compuserve user via the internet

Assuming you know the individuals compuserve address (e.g., 70404,3376 is mine), you can send an email message via the internet.

Here's how you would send me a message (e.g., a correction to some of the data in the Infopop/Win database):

70404.3376@compuserve.com

CompuServe Access Numbers

phone	city	speed supported
201/783-5400	Montclair, NJ	300/1200/2400(cps) 224MNP
201/783-0644	Montclair, NJ	9600(cps) V.32/v.42
201/984-7921	Morristown, NJ	300/1200/2400(cps) 224MNP
201/984-7633	Morristown, NJ	1200(cps)VADIC
201/984-5113	Morristown, NJ	9600(cps) V.32/v.42
201/643-0404	Newark, NJ	300/1200/2400(cps) 224MNP
201/623-5666	Newark, NJ	9600(cps) v.32/v.42
201/444-3913	Ridgewood, NJ	300/1200/2400(cps) 224MNP
201/368-8300	Rochelle Park, NJ	300/1200/2400(cps) 224MNP
201/368-0912	Rochelle Park, NJ	9600(cps) v.32/v.42
201/696-6104	Wayne, NJ	300/1200/2400(cps) 224MNP
202/388-3303	Washington, DC	300/1200/2400(cps) 224MNP
203/926-0316	Bridgeport, CT	300/1200/2400(cps) 224MNP
203/929-4918	Bridgeport, CT	9600(cps) v.32/v.42
203/794-9169	Danbury, CT	300/1200/2400(cps) 224MNP
203/468-7165	East Haven, CT	300/1200/2400(cps) 224MNP
203/466-3619	East Haven, CT	9600(cps) v.32/v.42
203/548-9369	Hartford, CT	300/1200/2400(cps) 224MNP
203/727-8708	Hartford, CT	9600(cps) v.32/v.42
203/444-2509	New London, CT	300/1200/2400(cps) 224MNP
203/324-8943	Stamford, CT	300/1200/2400(cps) 224MNP
203/324-1115	Stamford, CT	9600(cps) v.32/v.42
203/756-5022	Waterbury, CT	300/1200/2400(cps) 224MNP
203/756-2832	Waterbury, CT	1200 CPS VADIC
203/222-8558	Westport, CT	300/1200/2400(cps) 224MNP
205/558-4000	Birmingham, AL	300/1200/2400(cps) 224MNP
205/933-6212	Birmingham, AL	9600(cps) v.32/v.42
205/671-3917	Dothan, AL	300/1200/2400(cps) 224MNP
205/766-9925	Florence, AL	300/1200/2400(cps) 224MNP
205/536-1346	Huntsville, AL	300/1200/2400(cps) 224MNP
205/478-0688	Mobile, AL	300/1200/2400(cps) 224MNP
205/260-0171	Montgomery, AL	300/1200/2400(cps) 224MNP
205/270-5845	Montgomery, AL	9600(cps) v.32/v.42
205/553-1120	Tuscaloosa, AL	300/1200/2400(cps) 224MNP
206/332-8100	Blaine, WA	300/1200/2400(cps) 224MNP
206/252-3550	Everett, WA	300/1200/2400(cps) 224MNP
206/754-2200	Olympia, WA	300/1200/2400(cps) 224MNP
206/242-5767	Seattle, WA	300/1200/2400(cps) 224MNP
206/242-9992	Seattle, WA	9600(cps) v.32/v.42
206/922-7181	Tacoma, WA	300/1200/2400(cps) 224MNP
206/922-1246	Tacoma, WA	9600(cps) v.32/v.42
207/871-1276	Portland, ME	300/1200/2400(cps) 224MNP
207/775-6249	Portland, ME	9600(cps) v.32/v.42
208/344-1845	Boise, ID	300/1200/2400(cps) 224MNP
208/788-5060	Ketchum, ID	300/1200/2400(cps) 224MNP
208/232-9452	Pocatello, ID	300/1200/2400(cps) 224MNP
209/251-2890	Fresno, CA	300/1200/2400(cps) 224MNP
209/453-1487	Fresno, CA	9600(cps) v.32/v.42
209/521-9970	Modesto, CA	300/1200/2400(cps) 224MNP
209/465-7284	Stockton, CA	300/1200/2400(cps) 224MNP
210/233-6682	Brownsville, TX	300/1200/2400(cps) 224MNP
210/722-8008	Laredo, TX	300/1200/2400(cps) 224MNP
210/736-8600	San Antonio, TX	300/1200/2400(cps) 224MNP
210/736-8645	San Antonio, TX	9600(cps) v.32/v.42
212/608-9012	New York, NY	1200 CPS VADIC
212/758-0330	New York, NY	1200 CPS VADIC
212/608-6021	New York, NY	300/1200/2400(cps) 224MNP
212/888-1020	New York, NY	300/1200/2400(cps) 224MNP
212/766-2080	New York, NY	9600(cps) v.32/v.42
212/593-3972	New York, NY	9600(cps) v.32/v.42
213/629-4095	Los Angeles, CA	300/1200/2400(cps) 224MNP
213/689-9019	Los Angeles, CA	1200 CPS VADIC
213/624-3730	Los Angeles, CA	9600(cps) v.32/v.42
214/953-1168	Dallas, TX	1200 CPS VADIC
214/953-0436	Dallas, TX	300/1200/2400(cps) 224MNP
214/720-9183	Dallas, TX	9600(cps) v.32/v.42
215/776-1087	Allentown, PA	300/1200/2400(cps) 224MNP
215/776-0801	Allentown, PA	9600(cps) v.32/v.42
215/277-3708	Norristown, PA	300/1200/2400(cps) 224MNP
215/277-1301	Norristown, PA	9600(cps) v.32/v.42
215/563-1305	Philadelphia, PA	300/1200/2400(cps) 224MNP
215/561-1634	Philadelphia, PA	9600(cps) v.32/v.42
215/375-0914	Reading, PA	300/1200/2400(cps) 224MNP
216/869-5085	Akron, OH	300/1200/2400(cps) 224MNP
216/836-0679	Akron, OH	9600(cps) v.32/v.42
216/452-3491	Canton, OH	300/1200/2400(cps) 224MNP
216/781-4135	Cleveland, OH	300/1200/2400(cps) 224MNP
216/781-7598	Cleveland, OH	9600(cps) v.32/v.42
216/678-5066	Ravenna, OH	300/1200/2400(cps) 224MNP
216/757-0084	Youngstown, OH	300/1200/2400(cps) 224MNP
217/352-0041	Champaign, IL	300/1200/2400(cps) 224MNP
217/356-1082	Champaign, IL	9600(cps) v.32/v.42
217/422-2075	Decatur, IL	300/1200/2400(cps) 224MNP
217/789-0944	Springfield, IL	300/1200/2400(cps) 224MNP
218/722-0058	Duluth, MN	300/1200/2400(cps) 224MNP
219/294-8629	Elkhart, IN	300/1200/2400(cps) 224MNP
219/447-0510	Ft. Wayne, IN	300/1200/2400(cps) 224MNP
219/884-4940	Gary, IN	300/1200/2400(cps) 224MNP
219/271-0489	South Bend, IN	1200 CPS VADIC
219/271-9197	South Bend, IN	300/1200/2400(cps) 224MNP
219/271-0016	South Bend, IN	9600(cps) v.32/v.42
219/267-7712	Warsaw, IN	300/1200/2400(cps) 224MNP
301/403-1600	Hyattsville, MD	300/1200/2400(cps) 224MNP
301/403-1687	Hyattsville, MD	9600(cps) v.32/v.42
302/945-5245	Rehoboth Beach, DE	300/1200/2400(cps) 224MNP
302/731-2965	Wilmington, DE	300/1200/2400(cps) 224MNP
302/456-3542	Wilmington, DE	9600(cps) v.32/v.42
303/925-5892	Aspen, CO	300/1200/2400(cps) 224MNP
303/623-4711	Denver, CO	1200 CPS VADIC
303/629-9145	Denver, CO	300/1200/2400(cps) 224MNP
303/595-0123	Denver, CO	9600(cps) v.32/v.42
303/668-0991	Dillon, CO	300/1200/2400(cps) 224MNP
303/259-5880	Durango, CO	300/1200/2400(cps) 224MNP
303/223-1535	Ft. Collins, CO	300/1200/2400(cps) 224MNP
303/945-0351	Glenwood Spring, CO	300/1200/2400(cps) 224MNP
303/241-1885	Grand Junction, CO	300/1200/2400(cps) 224MNP

303/356-1180 Greeley, CO 300/1200/2400(cps) 224MNP
303/651-3207 Longmont, CO 300/1200/2400(cps) 224MNP
303/663-0992 Loveland, CO 300/1200/2400(cps) 224MNP
303/879-4900 Steamboat Spngs, CO 300/1200/2400(cps) 224MNP
303/949-1336 Vail, CO 300/1200/2400(cps) 224MNP
304/345-9730 Charleston, WV 300/1200/2400(cps) 224MNP
304/733-4010 Huntington, WV 300/1200/2400(cps) 224MNP
304/291-5884 Morgantown, WV 300/1200/2400(cps) 224MNP
304/291-6783 Morgantown, WV 9600(cps) v.32/v.42
304/485-4225 Parkersburg, WV 300/1200/2400(cps) 224MNP
304/233-9470 Wheeling, WV 300/1200/2400(cps) 224MNP
305/429-0552 Deerfield Beach, FL 300/1200/2400(cps) 224MNP
305/426-0228 Deerfield Beach FL 9600(cps) v.32/v.42
305/772-1339 Ft. Lauderdale, FL 300/1200/2400(cps) 224MNP
305/772-9264 Ft. Lauderdale, FL 9600(cps) v.32/v.42
305/262-1643 Miami, FL 300/1200/2400(cps) 224MNP
305/262-9325 Miami, FL 9600(cps) v.32/v.42
307/234-6914 Casper, WY 300/1200/2400(cps) 224MNP
307/637-3027 Cheyenne, WY 300/1200/2400(cps) 224MNP
307/733-1640 Jackson, WY 300/1200/2400(cps) 224MNP
307/742-9641 Laramie, WY 300/1200/2400(cps) 224MNP
307/742-2320 Laramie, WY 9600(cps) v.32/v.42
309/827-3343 Bloomington, IL 300/1200/2400(cps) 224MNP
309/685-1275 Peoria, IL 300/1200/2400(cps) 224MNP
310/397-7887 Culver City, CA 300/1200/2400(cps) 224MNP
310/390-4188 Culver City, CA 9600(cps) v.32/v.42
310/599-5966 Long Beach, CA 300/1200/2400(cps) 224MNP
310/591-5768 Long Beach, CA 9600(cps) v.32/v.42
310/214-1442 Torrance, CA 300/1200/2400(cps) 224MNP
310/370-2831 Torrance, CA 9600(cps) v.32/v.42
312/372-1402 Chicago, IL 1200 CPS VADIC
312/263-5636 Chicago, IL 300/1200/2400(cps) 224MNP
312/693-0330 Chicago, IL 300/1200/2400(cps) 224MNP
312/201-0711 Chicago, IL 9600(cps) v.32/v.42
312/693-4100 Chicago, IL 9600(cps) v.32/v.42
313/769-2012 Ann Arbor MI 300/1200/2400(cps) 224MNP
313/761-9300 Ann Arbor, MI 9600(cps) v.32/v.42
313/535-1122 Detroit, MI 300/1200/2400(cps) 224MNP
313/535-0084 Detroit, MI 1200 CPS VADIC
313/535-1466 Detroit, MI 9600(cps) v.32/v.42
313/238-6202 Flint, MI 300/1200/2400(cps) 224MNP
313/463-1945 Mt. Clemens, MI 300/1200/2400(cps) 224MNP
313/334-2900 Pontiac, MI 300/1200/2400(cps) 224MNP
313/335-2680 Pontiac, MI 9600(cps) v.32/v.42
313/362-3242 Troy, MI 300/1200/2400(cps) 224MNP
313/244-8740 Troy, MI 9600(cps) v.32/v.42
314/875-0746 Columbia, MO 300/1200/2400(cps) 224MNP
314/635-9170 Jefferson City, MO 300/1200/2400(cps) 224MNP
314/241-3110 St. Louis, MO 1200 CPS VADIC
314/241-5337 St. Louis, MO 300/1200/2400(cps) 224MNP
314/421-5651 St. Louis, MO 9600(cps) v.32/v.42
315/451-0337 Syracuse, NY 300/1200/2400(cps) 224MNP
315/451-8093 Syracuse, NY 9600(cps) v.32/v.42
315/737-2101 Utica, NY 300/1200/2400(cps) 224MNP
316/689-8132 Wichita, KS 300/1200/2400(cps) 224MNP
316/687-0634 Wichita, KS 9600(cps) v.32/v.42
317/638-5785 Indianapolis, IN 1200 CPS VADIC
317/631-6824 Indianapolis, IN 300/1200/2400(cps) 224MNP
317/638-8129 Indianapolis, IN 9600(cps) v.32/v.42
317/448-9925 Lafayette, IN 300/1200/2400(cps) 224MNP
317/447-5557 Lafayette, IN 9600(cps) v.32/v.42
317/284-3812 Muncie, IN 300/1200/2400(cps) 224MNP
317/935-0061 Richmond, IN 300/1200/2400(cps) 224MNP
318/234-9880 Lafayette, LA 300/1200/2400(cps) 224MNP
318/433-0215 Lake Charles, LA 300/1200/2400(cps) 224MNP
318/324-9982 Monroe, LA 300/1200/2400(cps) 224MNP
318/424-5380 Shreveport, LA 300/1200/2400(cps) 224MNP
319/364-1437 Cedar Rapids, IA 300/1200/2400(cps) 224MNP
319/323-7388 Davenport, IA 300/1200/2400(cps) 224MNP
401/438-7960 Providence, RI 300/1200/2400(cps) 224MNP
402/474-9005 Lincoln, NE 300/1200/2400(cps) 224MNP
402/474-2316 Lincoln, NE 9600(cps) v.32/v.42
402/345-3602 Omaha, NE 1200 CPS VADIC
402/345-5012 Omaha, NE 300/1200/2400(cps) 224MNP
402/345-9557 Omaha, NE 9600(cps) v.32/v.42
403/466-5083 Edmonton, AB 300/1200/2400(cps) 224MNP
403/440-2744 Edmonton, AB 9600(cps) v.32/v.42
404/266-7060 Atlanta, GA 300/1200/2400(cps) 224MNP
404/261-0646 Atlanta, GA 1200 CPS VADIC
404/841-0578 Atlanta, GA 9600(cps) v.32/v.42
405/945-1018 Oklahoma City, OK 300/1200/2400(cps) 224MNP
405/942-7278 Oklahoma City, OK 9600(cps) v.32/v.42
405/624-5107 Stillwater, OK 300/1200/2400(cps) 224MNP
406/245-0863 Billings, MT 300/1200/2400(cps) 224MNP
406/449-3680 Helena, MT 300/1200/2400(cps) 224MNP
407/933-5703 Kissimmee, FL 300/1200/2400(cps) 224MNP
407/723-2622 Melbourne, FL 300/1200/2400(cps) 224MNP
407/896-3053 Orlando, FL 300/1200/2400(cps) 224MNP
407/896-6122 Orlando, FL 9600(cps) v.32/v.42
407/778-0550 Vero Beach, FL 300/1200/2400(cps) 224MNP
407/863-7031 West Palm Beach, FL 300/1200/2400(cps) 224MNP
407/881-7439 West Palm Beach, FL 1200 CPS VADIC
407/840-1219 West Palm Beach FL 9600(cps) v.32/v.42
408/646-1687 Monterey, CA 300/1200/2400(cps) 224MNP
408/754-2751 Salinas, CA 300/1200/2400(cps) 224MNP
408/988-5366 Santa Clara, CA 300/1200/2400(cps) 224MNP
408/727-8113 Santa Clara, CA 9600(cps) v.32/v.42
408/476-0126 Santa Cruz, CA 300/1200/2400(cps) 224MNP
408/462-9666 Santa Cruz, CA 9600(cps) v.32/v.42
409/835-0236 Beaumont, TX 300/1200/2400(cps) 224MNP
409/696-7986 College Station, TX 300/1200/2400(cps) 224MNP
409/756-8904 Conroe, TX 300/1200/2400(cps) 224MNP
409/763-5125 Galveston, TX 300/1200/2400(cps) 224MNP
410/266-7530 Annapolis, MD 300/1200/2400(cps) 224MNP
410/832-2702 Baltimore, MD 1200 CPS VADIC
410/832-0160 Baltimore, MD 300/1200/2400(cps) 224MNP
410/494-8403 Baltimore, MD 9600(cps) v.32/v.42
410/548-1502 Ocean City, MD 300/1200/2400(cps) 224MNP
412/285-8187 Butler, PA 300/1200/2400(cps) 224MNP
412/261-4192 Pittsburgh, PA 300/1200/2400(cps) 224MNP

412/391-8218 Pittsburgh, PA 1200 CPS VADIC
412/471-6417 Pittsburgh, PA 9600(cps) v.32/v.42
413/549-7431 Amherst, MA 300/1200/2400(cps) 224MNP
413/731-9680 Springfield, MA 300/1200/2400(cps) 224MNP
413/739-3314 Springfield, MA 9600(cps) v.32/v.42
414/731-4345 Appleton, WI 300/1200/2400(cps) 224MNP
414/494-0917 Green Bay, WI 300/1200/2400(cps) 224MNP
414/453-5132 Milwaukee, WI 300/1200/2400(cps) 224MNP
414/453-3010 Milwaukee, WI 9600(cps) v.32/v.42
414/458-3421 Sheboygan, WI 300/1200/2400(cps) 224MNP
415/296-8362 San Francisco, CA 300/1200/2400(cps) 224MNP
415/296-8972 San Francisco, CA 1200 CPS VADIC
415/434-1580 San Francisco, CA 9600(cps) v.32/v.42
415/591-5415 San Mateo, CA 300/1200/2400(cps) 224MNP
415/802-0130 San Mateo, CA 9600(cps) v.32/v.42
415/454-9935 San Rafael, CA 300/1200/2400(cps) 224MNP
415/721-7226 San Rafael, CA 9600(cps) v.32/v.42
416/367-8122 Toronto, ON 9600(cps) v.32/v.42
416/367-1743 Toronto, ON 300/1200/2400(cps) 224MNP
417/236-5786 Branson, MO 300/1200/2400(cps) 224MNP
417/887-8422 Springfield, MO 300/1200/2400(cps) 224MNP
419/243-2818 Toledo, OH 300/1200/2400(cps) 224MNP
419/242-5706 Toledo, OH 9600(cps) v.32/v.42
501/521-5386 Fayetteville AR 300/1200/2400(cps) 224MNP
501/521-3774 Fayetteville, AR 9600(cps) v.32/v.42
501/376-8374 Little Rock AR 300/1200/2400(cps) 224MNP
501/376-8544 Little Rock, AR 9600(cps) v.32/v.42
502/583-1277 Louisville KY 300/1200/2400(cps) 224MNP
502/568-6250 Louisville, KY 9600(cps) v.32/v.42
502/683-0777 Owensboro KY 300/1200/2400(cps) 224MNP
503/967-2460 Albany, OR 300/1200/2400(cps) 224MNP
503/689-9800 Eugene, OR 300/1200/2400(cps) 224MNP
503/689-6031 Eugene, OR 9600(cps) v.32/v.42
503/779-0504 Medford, OR 300/1200/2400(cps) 224MNP
503/239-6124 Portland, OR 300/1200/2400(cps) 224MNP
503/238-6729 Portland, OR 9600(cps) v.32/v.42
503/362-2523 Salem, OR 300/1200/2400(cps) 224MNP
503/362-0358 Salem, OR 9600(cps) v.32/v.42
504/383-9801 Baton Rouge LA 300/1200/2400(cps) 224MNP
504/383-9998 Baton Rouge, LA 9600(cps) v.32/v.42
504/733-2297 New Orleans LA 300/1200/2400(cps) 224MNP
504/733-3184 New Orleans, LA 9600(cps) v.32/v.42
505/265-7046 Albuquerque NM 1200 CPS VADIC
505/255-8626 Albuquerque NM 300/1200/2400(cps) 224MNP
505/662-4122 Los Alamos NM 300/1200/2400(cps) 224MNP
507/388-8723 Mankato MN 300/1200/2400(cps) 224MNP
507/285-1277 Rochester MN 300/1200/2400(cps) 224MNP
508/667-2939 Billerica, MA 300/1200/2400(cps) 224MNP
508/667-1765 Billerica, MA 9600(cps) v.32/v.42
508/588-1837 Brockton, MA 300/1200/2400(cps) 224MNP
508/677-0405 Fall River, MA 300/1200/2400(cps) 224MNP
508/820-9349 Framingham, MA 300/1200/2400(cps) 224MNP
508/371-0354 Framingham, MA 300/1200/2400(cps) 224MNP
508/448-3007 Groton, MA 300/1200/2400(cps) 224MNP
508/568-8019 Hudson, MA 300/1200/2400(cps) 224MNP
508/975-2040 Lawrence, MA 300/1200/2400(cps) 224MNP
508/897-4746 Maynard, MA 300/1200/2400(cps) 224MNP
508/359-7603 Medfield, MA 300/1200/2400(cps) 224MNP
508/533-2722 Medway, MA 300/1200/2400(cps) 224MNP
508/478-0653 Mendon, MA 300/1200/2400(cps) 224MNP
508/366-2617 Westborough, MA 300/1200/2400(cps) 224MNP
508/791-0745 Worcester, MA 300/1200/2400(cps) 224MNP
508/849-1000 Worcester, MA 9600(cps) v.32/v.42
509/326-6526 Spokane, WA 300/1200/2400(cps) 224MNP
509/326-0318 Spokane, WA 9600(cps) v.32/v.42
510/889-0369 Castro Valley, CA 300/1200/2400(cps) 224MNP
510/482-0190 Oakland, CA 300/1200/2400(cps) 224MNP
510/530-3393 Oakland, CA 9600(cps) v.32/v.42
510/682-0762 Pleasant Hill, CA 300/1200/2400(cps) 224MNP
510/682-2055 Pleasant Hill, CA 9600(cps) v.32/v.42
510/373-0546 Pleasanton, CA 300/1200/2400(cps) 224MNP
512/444-0566 Austin, TX 300/1200/2400(cps) 224MNP
512/326-1155 Austin, TX 9600(cps) v.32/v.42
512/882-1465 Corpus Christi, TX 300/1200/2400(cps) 224MNP
512/887-2891 Corpus Christi, TX 9600(cps) v.32/v.42
513/771-8543 Cincinnati, OH 300/1200/2400(cps) 224MNP
513/771-0592 Cincinnati, OH 9600(cps) v.32/v.42
513/226-1907 Dayton, OH 300/1200/2400(cps) 224MNP
513/224-4576 Dayton, OH 9600(cps) v.32/v.42
514/879-8519 Montreal PQ 300/1200/2400(cps) 224MNP
514/879-5826 Montreal PQ 9600(cps) v.32/v.42
515/276-5992 Des Moines IA 300/1200/2400(cps) 224MNP
515/276-7231 Des Moines, IA 9600(cps) v.32/v.42
516/981-1120 Lake Grove, NY 300/1200/2400(cps) 224MNP
516/932-2088 Long Island, NY 300/1200/2400(cps) 224MNP
516/937-1719 Long Island, NY 9600(cps) v.32/v.42
516/294-4190 Williston Park, NY 300/1200/2400(cps) 224MNP
517/332-6808 Lansing MI 300/1200/2400(cps) 224MNP
517/332-7141 Lansing, MI 9600(cps) v.32/v.42
517/754-9177 Saginaw MI 300/1200/2400(cps) 224MNP
517/753-5100 Saginaw, MI 9600(cps) v.32/v.42
518/439-8104, Albany, NY 300/1200/2400(cps) 224MNP
601/948-6411 Jackson MS 300/1200/2400(cps) 224MNP
601/352-5182 Jackson, MS 9600(cps) v.32/v.42
602/955-1464 Phoenix AZ 300/1200/2400(cps) 224MNP
602/468-0285 Phoenix, AZ 9600(cps) v.32/v.42
602/459-6390 Sierra Vista AZ 300/1200/2400(cps) 224MNP
602/745-8745 Tucson AZ 300/1200/2400(cps) 224MNP
602/750-9575 Tucson, AZ 1200 CPS VADIC
602/571-0207 Tucson, AZ 9600(cps) v.32/v.42
602/782-7191 Yuma AZ 300/1200/2400(cps) 224MNP
603/225-7322 Concord, NH 9600(cps) v.32/v.42
603/225-4277 Concord NH 300/1200/2400(cps) 224MNP
603/625-2940 Manchester NH 300/1200/2400(cps) 224MNP
603/886-3544 Nashua NH 300/1200/2400(cps) 224MNP
604/737-2452 Vancouver BC 300/1200/2400(cps) 224MNP
604/739-8194 Vancouver, BC 9600(cps) v.32/v.42
605/341-3733 Rapid City SD 300/1200/2400(cps) 224MNP
606/254-0585 Lexington KY 300/1200/2400(cps) 224MNP
606/254-6557 Lexington, KY 9600(cps) v.32/v.42

607/724-1171 Binghamton, NY 300/1200/2400(cps) 224MNP
607/257-0155 Ithaca, NY 300/1200/2400(cps) 224MNP
607/257-4264 Ithaca, NY 9600(cps) v.32/v.42
608/785-7530 La Crosse WI 300/1200/2400(cps) 224MNP
608/256-5346 Madison WI 300/1200/2400(cps) 224MNP
608/256-6716 Madison, WI 9600(cps) v.32/v.42
609/645-8778 Atlantic City NJ 300/1200/2400(cps) 224MNP
609/482-8770 Cherry Hill NJ 300/1200/2400(cps) 224MNP
609/667-8865 Cherry Hill, NJ 9600(cps) v.32/v.42
609/921-2207 Princeton NJ 1200 CPS VADIC
609/921-2855 Princeton NJ 300/1200/2400(cps) 224MNP
609/497-2384 Princeton, NJ 9600(cps) v.32/v.42
609/530-9521 Trenton NJ 300/1200/2400(cps) 224MNP
609/530-1517 Trenton, NJ 9600(cps) v.32/v.42
612/375-0328 Minneapolis MN 1200 CPS VADIC
612/339-2507 Minneapolis MN 300/1200/2400(cps) 224MNP
612/339-1805 Minneapolis, MN 9600(cps) v.32/v.42
613/830-7385 Ottawa ON 300/1200/2400(cps) 224MNP
614/592-2109 Athens, OH 300/1200/2400(cps) 224MNP
614/439-7360 Cambridge, OH 300/1200/2400(cps) 224MNP
614/442-2082 Columbus, OH 1200 CPS VADIC
614/457-2105 Columbus, OH 300/1200/2400(cps) 224MNP
614/761-1133 Columbus, OH 300/1200/2400(cps) 224MNP
614/876-2116 Columbus, OH 300/1200/2400(cps) 224MNP
614/792-0669 Columbus, OH 9600(cps) v.32/v.42
614/587-0932 Granville, OH 300/1200/2400(cps) 224MNP
615/892-4311 Chattanooga TN 300/1200/2400(cps) 224MNP
615/928-2644 Johnson City TN 300/1200/2400(cps) 224MNP
615/522-2152 Knoxville TN 300/1200/2400(cps) 224MNP
615/971-3774 Knoxville, TN 9600(cps) v.32/v.42
615/360-7923 Nashville TN 300/1200/2400(cps) 224MNP
615/367-0014 Nashville, TN 9600(cps) v.32/v.42
616/957-9733 Grand Rapids MI 300/1200/2400(cps) 224MNP
616/956-0075 Grand Rapids, MI 9600(cps) v.32/v.42
616/383-3516 Kalamazoo MI 300/1200/2400(cps) 224MNP
617/542-1779 Boston, MA 1200 CPS VADIC
617/482-7061 Boston, MA 300/1200/2400(cps) 224MNP
617/426-9295 Boston, MA 9600(cps) v.32/v.42
617/661-7071 Cambridge, MA 9600(cps) v.32/v.42
617/868-0524 Cambridge, MA 300/1200/2400(cps) 224MNP
619/498-0099 Chula Vista, CA 300/1200/2400(cps) 224MNP
619/753-2728 Encinitas, CA 300/1200/2400(cps) 224MNP
619/753-0235 Encinitas, CA 9600(cps) v.32/v.42
619/325-4584 Palm Springs, CA 300/1200/2400(cps) 224MNP
619/569-4282 San Diego, CA 300/1200/2400(cps) 224MNP
619/467-9508 San Diego, CA 9600(cps) v.32/v.42
619/471-0960 San Marcos, CA 300/1200/2400(cps) 224MNP
701/232-0904 Fargo, ND 300/1200/2400(cps) 224MNP
702/737-1292 Las Vegas, NV 300/1200/2400(cps) 224MNP
702/796-4877 Las Vegas, NV 9600(cps) v.32/v.42
702/323-6608 Reno, NV 300/1200/2400(cps) 224MNP
702/322-8968 Reno, NV 9600(cps) v.32/v.42
703/352-8750 Fairfax, VA 1200 CPS VADIC
703/591-0506 Fairfax, VA 300/1200/2400(cps) 224MNP
703/591-0461 Fairfax, VA 9600(cps) v.32/v.42
703/368-5707 Manassas, VA 300/1200/2400(cps) 224MNP
703/934-2200 Reston, VA 300/1200/2400(cps) 224MNP
703/934-2267 Reston, VA 9600(cps) v.32/v.42
703/265-1013 Roanoke, VA 300/1200/2400(cps) 224MNP
703/885-0253 Staunton, VA 300/1200/2400(cps) 224MNP
704/274-9491 Asheville, NC 300/1200/2400(cps) 224MNP
704/331-0905 Charlotte, NC 300/1200/2400(cps) 224MNP
704/358-8991 Charlotte, NC 9600(cps) v.32/v.42
706/353-6133 Athens, GA 300/1200/2400(cps) 224MNP
706/353-6120 Athens, GA 9600(cps) v.32/v.42
706/738-3018 Augusta, GA 300/1200/2400(cps) 224MNP
706/596-2700 Columbus, GA 300/1200/2400(cps) 224MNP
707/257-7710 Napa, CA 300/1200/2400(cps) 224MNP
707/579-4611 Santa Rosa, CA 300/1200/2400(cps) 224MNP
707/579-1588 Santa Rosa, CA 9600(cps) v.32/v.42
707/645-8880 Vallejo, CA 300/1200/2400(cps) 224MNP
708/801-9488 Aurora, IL 300/1200/2400(cps) 224MNP
708/801-9468 Aurora, IL 9600(cps) v.32/v.42
708/261-1400 Lombard, IL 300/1200/2400(cps) 224MNP
708/261-0040 Lombard, IL 9600(cps) v.32/v.42
713/650-5000 Houston, TX 300/1200/2400(cps) 224MNP
713/650-5143 Houston, TX 9600(cps) v.32/v.42
714/520-5231 Anaheim, CA 300/1200/2400(cps) 224MNP
714/563-9431 Anaheim, CA 9600(cps) v.32/v.42
714/833-9915 Newport Beach, CA 300/1200/2400(cps) 224MNP
714/252-1131 Newport Beach, CA 9600(cps) v.32/v.42
716/875-3711 Buffalo, NY 300/1200/2400(cps) 224MNP
716/876-7680 Buffalo, NY 9600(cps) v.32/v.42
716/925-7042 Limestone, NY 300/1200/2400(cps) 224MNP
716/284-3570 Niagara Falls, NY 300/1200/2400(cps) 224MNP
716/647-1567 Rochester, NY 300/1200/2400(cps) 224MNP
716/254-1390 Rochester, NY 9600(cps) v.32/v.42
716/694-6263 Tonawanda, NY 300/1200/2400(cps) 224MNP
717/245-2066 Carlisle, PA 300/1200/2400(cps) 224MNP
717/243-6477 Carlisle, PA 9600(cps) v.32/v.42
717/545-7116 Harrisburg, PA 300/1200/2400(cps) 224MNP
717/941-3239 Scranton, PA 300/1200/2400(cps) 224MNP
717/822-2964 Wilkes Barre, PA 300/1200/2400(cps) 224MNP
717/845-7631 York, PA 300/1200/2400(cps) 224MNP
719/596-0910 Colorado Sprngs, CO 300/1200/2400(cps) 224MNP
719/546-1891 Pueblo, CO 300/1200/2400(cps) 224MNP
800/848-4480 CompuServe 800, OH 300/1200/2400(cps) 224MNP
800/331-7166 CompuServe 800, OH 9600(cps) v.32/v.42
801/544-0398 Kaysville, UT 300/1200/2400(cps) 224MNP
801/544-3791 Kaysville, UT 9600(cps) v.32/v.42
801/649-0121 Park City, UT 300/1200/2400(cps) 224MNP
801/377-1120 Provo, UT 300/1200/2400(cps) 224MNP
801/375-1748 Provo, UT 9600(cps) v.32/v.42
801/521-6326 Salt Lake City, UT 300/1200/2400(cps) 224MNP
801/521-9777 Salt Lake City, UT 9600(cps) v.32/v.42
802/862-1575 Burlington, VT 300/1200/2400(cps) 224MNP
802/362-5580 Manchester Ctr, VT 300/1200/2400(cps) 224MNP
803/556-0422 Charleston, SC 1200 CPS VADIC
803/766-8099 Charleston, SC 300/1200/2400(cps) 224MNP
803/763-3423 Charleston, SC 9600(cps) v.32/v.42

803/776-5355 Columbia, SC 300/1200/2400(cps) 224MNP
803/776-2229 Columbia, SC 9600(cps) v.32/v.42
803/676-9777 Greenville, SC 300/1200/2400(cps) 224MNP
803/676-9228 Greenville, SC 9600(cps) v.32/v.42
803/842-6314 Hilton Head, SC 300/1200/2400(cps) 224MNP
803/238-8625 Myrtle Beach, SC 300/1200/2400(cps) 224MNP
803/585-9611 Spartanburg, SC 300/1200/2400(cps) 224MNP
804/979-5159 Charlottesville, VA 300/1200/2400(cps) 224MNP
804/295-2846 Charlottesville VA 9600(cps) v.32/v.42
804/855-0241 Norfolk, VA 300/1200/2400(cps) 224MNP
804/855-6499 Norfolk, VA 9600(cps) v.32/v.42
804/287-8500 Richmond, VA 300/1200/2400(cps) 224MNP
804/287-8566 Richmond, VA 9600(cps) v.32/v.42
804/888-2556 Williamsburg, VA 300/1200/2400(cps) 224MNP
804/887-5377 Williamsburg, VA 9600(cps) v.32/v.42
805/324-0971 Bakersfield, CA 300/1200/2400(cps) 224MNP
805/942-3888 Lancaster, CA 300/1200/2400(cps) 224MNP
805/486-3386 Oxnard, CA 300/1200/2400(cps) 224MNP
805/549-8605 San Luis Obispo, CA 300/1200/2400(cps) 224MNP
805/682-7750 Santa Barbara, CA 300/1200/2400(cps) 224MNP
805/934-5322 Santa Maria, CA 300/1200/2400(cps) 224MNP
805/937-5490 Santa Maria, CA 9600(cps) v.32/v.42
805/498-3453 Thousand Oaks, CA 300/1200/2400(cps) 224MNP
805/499-6110 Thousand Oaks, CA 9600(cps) v.32/v.42
805/648-1906 Ventura, CA 300/1200/2400(cps) 224MNP
806/379-8411 Amarillo, TX 300/1200/2400(cps) 224MNP
806/797-0018 Lubbock, TX 300/1200/2400(cps) 224MNP
806/797-0479 Lubbock, TX 9600(cps) v.32/v.42
808/521-6292 Honolulu HI 300/1200/2400(cps) 224MNP
808/528-0430 Honolulu HI 9600(cps) v.32/v.42
808/871-8328 Maui HI 300/1200/2400(cps) 224MNP
809/722-2999 San Juan PR 300/1200/2400(cps) 224MNP
809/722-0995 San Juan PR 9600(cps) v.32/v.42
812/330-1327 Bloomington, IN 300/1200/2400(cps) 224MNP
812/330-1424 Bloomington, IN 9600(cps) v.32/v.42
812/479-0165 Evansville, IN 300/1200/2400(cps) 224MNP
813/337-0136 Ft. Myers, FL 300/1200/2400(cps) 224MNP
813/566-9562 Naples, FL 300/1200/2400(cps) 224MNP
813/566-7015 Naples, FL 9600(cps) v.32/v.42
813/355-0832 Sarasota, FL 300/1200/2400(cps) 224MNP
813/527-0338 St. Petersburg, FL 300/1200/2400(cps) 224MNP
813/229-7406 Tampa, FL 300/1200/2400(cps) 224MNP
813/229-3200 Tampa, FL 9600(cps) v.32/v.42
813/293-3911 Winter Haven, FL 300/1200/2400(cps) 224MNP
814/864-4018 Erie, PA 300/1200/2400(cps) 224MNP
814/443-6402 Somerset, PA 300/1200/2400(cps) 224MNP
814/238-7910 State College, PA 300/1200/2400(cps) 224MNP
815/748-5288 Dekalb, IL 300/1200/2400(cps) 224MNP
815/933-3782 Kankakee, IL 300/1200/2400(cps) 224MNP
815/226-8211 Rockford, IL 300/1200/2400(cps) 224MNP
816/472-1283 Kansas City, MO 300/1200/2400(cps) 224MNP
816/221-3817 Kansas City, MO 9600(cps) v.32/v.42
817/387-8900 Denton, TX 300/1200/2400(cps) 224MNP
817/685-2700 Ft. Worth, TX 300/1200/2400(cps) 224MNP
817/685-2737 Ft. Worth, TX 9600(cps) v.32/v.42
817/776-7090 Waco, TX 300/1200/2400(cps) 224MNP
817/751-9590 Waco, TX 9600(cps) v.32/v.42
818/506-8734 N. Hollywood, CA 300/1200/2400(cps) 224MNP
818/752-8045 N. Hollywood, CA 9600(cps) v.32/v.42
818/303-5780 Sierra Madre, CA 300/1200/2400(cps) 224MNP
818/303-3869 Sierra Madre, CA 9600(cps) v.32/v.42
818/786-6382 Van Nuys, CA 300/1200/2400(cps) 224MNP
818/988-9791 Van Nuys, CA 9600(cps) v.32/v.42
901/323-0220 Memphis, TN 300/1200/2400(cps) 224MNP
901/452-2470 Memphis, TN 1200(cps)VADIC
901/454-6851 Memphis, TN 9600(cps) v.32/v.42
903/753-1479 Longview, TX 300/1200/2400(cps) 224MNP
903/753-0596 Longview, TX 9600(cps) v.32/v.42
903/561-5565 Tyler, TX 300/1200/2400(cps) 224MNP
904/258-8433 Daytona Beach, FL 300/1200/2400(cps) 224MNP
904/377-5227 Gainesville, FL 300/1200/2400(cps) 224MNP
904/371-0661 Gainesville, FL 9600(cps) v.32/v.42
904/448-5624 Jacksonville, FL 300/1200/2400(cps) 224MNP
904/730-0046 Jacksonville, FL 9600(cps) v.32/v.42
904/871-0660 Panama City, FL 300/1200/2400(cps) 224MNP
904/432-1007 Pensacola, FL 300/1200/2400(cps) 224MNP
904/385-8699 Tallahassee, FL 300/1200/2400(cps) 224MNP
904/422-9604 Tallahassee, FL 9600(cps) v.32/v.42
907/563-8425 Anchorage, AK 300/1200/2400(cps) 224MNP
907/479-4102 Fairbanks, AK 300/1200/2400(cps) 224MNP
908/356-4747 Boundbrook, NJ 300/1200/2400(cps) 224MNP
908/935-0065 Eatontown, NJ 300/1200/2400(cps) 224MNP
908/935-0137 Eatontown, NJ 9600(cps) v.32/v.42
908/852-8502 Hackettstown, NJ 300/1200/2400(cps) 224MNP
908/914-0405 Toms River, NJ 300/1200/2400(cps) 224MNP
908/914-1954 Toms River, NJ 9600(cps) v.32/v.42
908/632-8755 Woodbridge, NJ 300/1200/2400(cps) 224MNP
908/632-9384 Woodbridge, NJ 9600(cps) v.32/v.42
909/622-5454 Pomona, CA, 300/1200/2400(cps) 224MNP
909/865-0553 Pomona, CA 9600(cps) v.32/v.42
909/354-5022 Riverside, CA 300/1200/2400(cps) 224MNP
909/358-0383 Riverside, CA 9600(cps) v.32/v.42
909/882-9626 San Bernardino, CA 300/1200/2400(cps) 224MNP
909/882-6646 San Bernardino, CA 9600(cps) v.32/v.42
912/435-9420 Albany, GA 300/1200/2400(cps) 224MNP
912/264-0351 Brunswick, GA 300/1200/2400(cps) 224MNP
912/929-0804 Macon, GA 300/1200/2400(cps) 224MNP
912/922-2179 Macon, GA 9600(cps) v.32/v.42
912/355-0222 Savannah, GA 300/1200/2400(cps) 224MNP
912/353-8559 Savannah, GA 9600(cps) v.32/v.42
913/843-0140 Lawrence, KS 300/1200/2400(cps) 224MNP
913/749-2900 Lawrence, KS 9600(cps) v.32/v.42
913/776-7111 Manhattan, KS 300/1200/2400(cps) 224MNP
913/232-9520 Topeka, KS 300/1200/2400(cps) 224MNP
913/232-1317 Topeka, KS 9600(cps) v.32/v.42
914/344-3800 Middletown, NY 300/1200/2400(cps) 224MNP
914/473-5991 Poughkeepsie, NY 300/1200/2400(cps) 224MNP
914/761-3163 White Plains, NY 300/1200/2400(cps) 224MNP
914/761-3203 White Plains, NY 1200 CPS VADIC
915/698-1111 Abilene, TX 300/1200/2400(cps) 224MNP

915/565-0970 El Paso, TX 300/1200/2400(cps) 224MNP
915/564-0380 El Paso, TX 9600(cps) v.32/v.42
915/561-5811 Midland, TX 300/1200/2400(cps) 224MNP
915/942-8787 San Angelo, TX 300/1200/2400(cps) 224MNP
916/661-7250 Davis, CA 300/1200/2400(cps) 224MNP
916/661-9296 Davis, CA 9600(cps) v.32/v.42
916/223-1144 Redding, CA 300/1200/2400(cps) 224MNP
916/568-0636 Sacramento, CA 300/1200/2400(cps) 224MNP
916/568-0241 Sacramento, CA 9600(cps) v.32/v.42
916/541-5940 So. Lake Tahoe, CA 300/1200/2400(cps) 224MNP
918/621-1000 Tulsa, OK 1200 CPS VADIC
918/621-1002 Tulsa, OK 300/1200/2400(cps) 224MNP
918/621-1036 Tulsa, OK 9600(cps) v.32/v.42
919/584-8808 Burlington, NC 300/1200/2400(cps) 224MNP
919/687-4300 Durham, NC 300/1200/2400(cps) 224MNP
919/687-4049 Durham, NC 9600(cps) v.32/v.42
919/272-4994 Greensboro, NC 300/1200/2400(cps) 224MNP
919/664-5800 Raleigh, NC 300/1200/2400(cps) 224MNP
919/664-5848 Raleigh, NC 9600(cps) v.32/v.42
919/392-4700 Wilmington, NC 300/1200/2400(cps) 224MNP
919/723-9471 Winston-Salem, NC 300/1200/2400(cps) 224MNP
919/724-9748 Winston-Salem, NC 9600(cps) v.32/v.42

Accessing Library Catalogs

[United States](#)

[Canada](#)

[Europe](#)

[Australia](#)

[Other](#)

Hong Kong

Hong Kong Polytechnic

telnet LIBRARY.HKP.HK
or
telnet 158.132.6.15

Username: LIBRARY
Select option 1

Quit? Option 5 on menu

Hong Kong University of Science & Technology

telnet USTLIB.UST.HK
login: library

Israel

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	Telnet WISLIB.WEIZMANN.AC.IL or 132.76.64.14

Username: **ALEPH**
No password is required

Taiwan

Academy Sinica Taiwan

telnet LAS.AS.EDU.TW
Login? **Library**
select v for VT100

Exit? Hit Q on the main menu

Library Catalogs (Australia)

AUSTRALIA BIBLIOGRAPHIC NETWORK

telnet ABN.NLA.GOV.AU

- 1 At the login prompt, type nla
- 2 Enter 19 as terminal type for VT100
- 3 At the On-line Services screen, type 1
- 4 Type ALL for daily news or just hit RETURN otherwise
- 5 Enter a valid ABN account name (requires account)

Exit? telnet escape key

AUSTRALIAN DEFENCE FORCE ACADEMY

Location: Campbell, ACT Australia

telnet LIBRARYADFA.OZ.AU

1. When prompted for a destination, enter **LIBRARY**
2. When asked to login, type E

Exit? Pick X option from the main menu

AUSTRALIAN NATIONAL UNIVERSITY

Location: Canberra Australia

telnet LIBRARYANU.EDU.AU

Exit? telnet escape key

CURTIN UNIVERSITY OF TECHNOLOGY

Location: Bentley, WA Australia

telnet CC.CURTIN.EDU.AU

Username: **GUEST**
Enter A for VT100 emulation

Exit? Enter E

DEAKIN UNIVERSITY

Location: Geelong, Victoria Australia

telnet LIBRARYDEAKIN.OZ.AU

Login:

Exit? return ~. return

EDITH COWAN UNIVERSITY

Location: Western Australia

telnet LIBRARYUWA.OZ.AU

Username: **COWANLIB**
Vt100?: **Yes**
At Welcome screen, press return
At next screen, enter # of search to perform

Exit? telnet escape key

GRIFFITH UNIVERSITY

Location: Nathan, QLD Australia

telnet LIBRARYGU.EDU.AU

Exit? telnet escape key

NORTHERN TERRITORY UNIVERSITY

Location: Casuarina, NT Australia

telnet LIB2.NTU.EDU.AU

Login:

Exit? Option 15 on main menu

ROYAL MELBOURNE INSTITUTE OF TECHNOLOGY

Location: Melbourne, VIC Australia

telnet CCANEX02.XX.RMIT.OZ.AU

Press RETURN

When menu appears, select either VICNET96 or VICNET24

At "Which System?" prompt, enter **MATLAS**

Exit? Type END

UNIVERSITY OF WOLLONGONG LIBRARY

telnet wolfen.cc.uow.edu.au

or

telnet 130.130.68.4

login:

Exit? telnet escape key

U.K.
Denmark
Germany

Universitaet des Saarlandes (German only catalog)

telnet UNISB.RZ.UNI-SB.DE

At / prompt, type .a logon ub,ub

Exit? type 0 (zero)

Universitaet Heidelberg (German only catalog. No english comands)

telnet VM.URZ.UNI-HEIDELBERG.DE

At the VM/SP screen hit TAB twice

Type **D VTAM** (return) on the command line

On the Bitte Waehlen Sie screen, type cicsub (return)

University of Konstanz

telnet POLYDOS.UNI-KONSTANZ.DE

Library Catalogs (England)

telnet sun.nsf.ac.uk
or
telnet 128.86.8.7

At the login prompt, enter

Select desired catalog and enter line beginning UK.AC.

Aberdeen University	UK.AC.ABERDEEN.LIBRARY
Aston University	UK.AC.ASTON.GEAC
Bangor University	UK.AC.BANGOR.LIBRARY
Bath University	UK.AC.BATH.LIBRARY
Birmingham University	UK.AC.BIRMINGHAM.LIBRARY
Bristol University	UK.AC.BRISTOL.LIB
British Library	UK.BL.BLAISE (subscription only)
Brunel University	UK.AC.BRUNEL.LIBRARY
Cambridge	UK.AC.CAMBRIDGE.UNIVERSITY-LIBRARY
City of London PolyTech	UK.AC.CITY-POLYTOWER-VAX
Cranfield Institute	UK.AC.CRANFIELD.LIBRARY
Dundee College of Tech	UK.AC.DUNDEE-TECH.LIBRARY
Dundee University	UK.AC.DUND.LIBB
Durham University	UK.AC.DURHAM.LIBRARY
East Anglia	UK.AC.EAST-ANGLIA.COMPUTING-CENTRE.INFO
Edinburgh University	UK.AC.EDINBURGH.GEAC
Glasgow University	UK.AC.GLASGOW.LIBRARY
Heriot-Watt Univ	UK.AC.HERIOT-WATT.LIBRARY
Hull University	UK.AC.HULL.LI.GEAC
Kent University	UK.AC.UKC.IRIS
Lancaster University	UK.AC.LANCASTER.LIBRARY
Leeds University	UK.AC.LEEDS.LIB
Leeds (Medical)	UK.AC.LEEDS.LIBCAT
Leicester Poly	UK.AC.LEICESTER.LIBRARY
Liverpool University	UK.AC.LIVERPOOL.LIBRARY
London Univ (Imperial)	UK.AC.IMPERIAL.LIB
London Univ (Kings)	UK.AC.KCL.LIB
London Univ (Q Mary)	UK.AC.QMC.LIB
Loughborough Univ	UK.AC.LOUGHBOROUGH.LIBRARY
Nottingham University	UK.AC.NOTTINGHAM.LIBRARY
Queens Univ - Belfast	UK.AC.QUEENS-BELFAST.LIBRARY
Rutherford Appleton Lab	UK.AC.RUTHERFORD.IBM-B
St Andrews Univ	UK.AC.ST-ANDREWS.LIB
Salford Univ	UK.AC.SALFORD.SAISO
Sheffield Univ	UK.AC.SHEFFIELD.LIBRARY
Stirling	UK.AC.STIRLING.LIBRARY
Strathclyde Univ	UK.AC.STRATHCLYDE.LIBRARY
Surrey	UK.AC.SURREY.SYSI
Sussex Univ	UK.AC.SUSSEX.LIBRARY
Swansea Univ	UK.AC.SWANSEA.LIBRARY
Thames Polytechnic	UK.AC.THAMES.LIB
Univ Wales-Cardiff	UK.AC.CARDIFF.LIBRARY
Univ of York	UK.AC.YORK.LIBRARY
Warwick Univ	UK.AC.WARWICK.OPAC

Username: **LIBRARY**
Enter 1 for VT100

Exit? type EXIT

Aalborg University

telnet auboline.bib.dk
or
telnet fishline.bib.dk

Press return.

At the > prompt, type

Exit? Use the telnet escape key

Aarhus University

telnet helios.aau.dk

login:

press escape at the att prompt, type
at the next prompt, type sol

Exit? Use the telnet escape key

[U.S. Library Catalogs \(A-M\)](#)

[U.S. Library Catalogs \(N-Z\)](#)

Abilene Library Consortium
Air Force Institute of Technology
Arizona State University
Auburn

Bates College
Boise State University
Boston University
Bowdoin College
Brigham Young University
Brown University

Cal Institute of Technology
Cal Poly State University
Cal State Univ, Fresno
Cal State Univ, Long Beach
Carnegie Mellon Univ
Case Western Reserve Univ
CUNY -City Univ of New York
Clemson University
Cleveland Public Library
Colby College
CARL

Dartmouth
Duke University

Eastern Michigan University
Emory

Florida State University System

Georgetown University Medical Center
George Mason University

Harvard University

Indiana State University
Iowa State University

Johns Hopkins

Kalamazoo
Kansas State
Kent State

Lehigh

Maricopa Community College
Marquette
MIT
Michigan Tech
Minnesota State

New Mexico State
New York Public
New York University
Northeastrn Ohio Universities College of Medicine
Northwestern University
Notre Dame

Oberlin College
Occidental
Old Dominion
Ohio State
Oregon State

Penn State
Portland State
Princeton Manuscript Collection
Princeton
Purdue

Rensselaer
Rice
RIT
Rockefeller
Rutgers University

SUNY Binghamton

Texas A&M
Texas Christian University
Tufts

University of Akron
University of Arizona

University of Buffalo

University of California
University of California-Berkeley
University of Chicago
University of Central Oklahoma
University of Cincinnati
University of Colorado at Colorado Springs

University of Dayton
University of Delaware

University of Hawaii

University of Illinois at Urbana/Champaign
University of Illinois at Chicago
University of Iowa

University of Kansas

University of Maine
University of Maryland
University of Massachusetts (Boston)
University of Michigan
University of Minnesota
University of Missouri-Columbia
University of Missouri at Rolla
University of Missouri at St. Louis
University of Nebraska
University of Nevada-Las Vegas
University of New Mexico

University of Oregon

University of Pennsylvania
University of Pittsburgh

University of Tennessee-Knoxville
University of Tennessee-Memphis
University of Texas-Arlington
University of Texas-Austin
University of Texas-Dallas
University of Toledo

University of Utah

University of Vermont
University of Virginia

University of Wisconsin

Vanderbilt
Virginia Commonwealth
Virginia Tech

Washington University-St.Louis
Wayne State University
Western Michigan
Wright State
Yale University

University of Virginia

telnet ublan.acc.virginia.edu

press return until a >> prompt appears
>> c virgo

use vt100 emulation

Western Michigan University

telnet ccb9.merit.edu

or

telnet 35.1.48.150

Host? **WMU-FINDER**

Enter **VT100**

Select **1**

Exit? type X from Finder menu, then x again

Virginia Commonwealth

tn3270 VCUVM1.VCU.EDU

or

tn3270 128.172.1.25

On the VM screen, TAB down to Command prompt

Type **DIAL VTAM**

Enter L on the VTAM screen

Press ENTER when prompted to

Exit? Hit CTRL-Z, at blank screen type **LOGOFF**

at VTAM screen, type **UNDIAL**

Virginia Tech

telnet VTNET1.CNS.VT.EDU
or
telnet 128.173.5.4

At the CALL, DISPLAY, OR MODIFY prompt, type **CALL VTLS**
Hit RETURN once or twice

Exit? use telnet escape key

Washington University - St. Louis

telnet WUGATE.WUSTL.EDU

or

telnet 128.252.120.1

At the login: prompt, type **LUIS**

Choose VT100 as the terminal type

On the menu, choose option 1

Exit? use telnet escape key

Wayne State University

tn3270 CMS.CC.WAYNE.EDU

TAB to move down to COMMAND line

At the COMMAND line, type **DIAL VTAM**

At the WSUNET menu, type **LUIS**

(alternate method)

telnet CCB9.MERIT.EDU

or

telnet 35.1.48.150

At the Which Host prompt, enter **WSUNET**

At the WSUNET, type **LUIS**

Exit? tn3270: type **LOGOFF**

telnet: telnet escape key

Western Michigan University

telnet CCB9.MERIT.EDU

or

telnet 35.1.48.150

At the which host prompt, enter **WMU-FINDER**

Enter VT100 as terminal type

Select 1

Exit? Type X from the Finder menu, type X again

Wright State University

telnet DESIRE.WRIGHT.EDU

or

telnet 130.108.128.200

At the Username prompt, type **LIBNET**

At the Password prompt, type **LIBRARY**

Select 1 on the menu

Exit? telnet escape key

Yale University

tn3270 ORBIS.YALE.EDU
Press RETURN

Exit? use telnet escape key

University of Central Oklahoma

telnet AIX0.UCOK.EDU

or

telnet 192.206.65.2

type

when screen clears, press return

Quit? Escape XX

Vanderbilt University

telnet ctrvax.vanderbilt.edu
or
telnet 129.59.1.21

Username: **ACORN**
At SysAval Appl prompt, press return

Exit? Ctrl-Z

University of Wisconsin

telnet nls.adp.wisc.edu
or
telnet 128.104.198.20

Hit RETURN when prompted for terminal type
At the menu, TAB to the left of the NLS1 selection
Press RETURN

For Madison Catlog press RETURN
For Milwaukee Catalog enter **MIL**

Exit? Type **EXIT**

At the menu, TAB to the left of the QUIT selection, press return

University of Vermont

telnet LUIS.UVM.EDU

or

telnet 132.198.101.120

Hit RETURN

Enter VT100 as terminal type

Hit RETURN

Exit? type **QUIT**

University of Tennessee--Knoxville

telnet DCA.UTK.EDU

or

telnet 128.169.200.68

HOST NAME:

Exit? Use telnet escape key

University of Tennessee--Memphis

telnet UTMEM1.UTMEM.EDU

or

telnet 132.192.1.1

Username: **HARVEY**

Exit? press RETURN on main screen

University of Texas - Arlington

telnet ADMIN.UTA.EDU

or

telnet 129.107.1.103

As soon as you are connected, hit RETURN

TERMINAL TYPE: **VT100**

At the VTAM selection menu, type **NOTIS**

At the CICS Logo Screen, press RETURN

On the next screen, type **LUUT**

Exit? use telnet escape key

University of Texas - Austin

telnet UTCAT.UTEXAS.EDU

or

telnet 128.83.186.104

You will see a blank screen

Press RETURN once (more more if needed)

At the GO prompt press RETURN

ENTER TERMINAL TYPE:

Follow onscreen instructions

tn3270 VM.UTDALLAS.EDU

Hit ENTER to clear login screen
Type

(alternate method)

telnet IBM.UTDALLAS.EDU
or
telnet 129.110.102.1

TERMINAL TYPE: **VT10X**
Hit ENTER to clear login screen
Type

Exit? tn3270 session: type **QUIT**
telnet session: use telnet escape key

University of Toledo

tn3270 UOFT01.UTOLEDO.EDU

Press RETURN on UT logo screen

At "enter one of the following commands...", enter **DIAL MVS**

When "dialed to mvs ####" appears, enter **UTMOST**

Exit? type **DISC**

University of Utah

tn3270 LIB.UTAH.EDU

or

tn3270 128.110.124.1

Hit TAB to get to COMMAND line

At the COMMAND line, type **DIAL UNIS**

Exit? use telnet escape key

University of Pittsburgh

telnet gate.cis.pitt.edu
or
telnet 130.49.1.252

Service:
Select:

Exit? hit CTRL-\

University of Pennsylvania

telnet pennlib.upenn.edu

or

telnet 128.91.200.32

enter **VT100** as terminal type

Exit? Use telnet escape key

University of Oregon

telnet JANUS.UOREGON.EDU
or
telnet 128.223.24.86

Press RETURN several times

Login:

Terminal type: enter

Enter to confirm

Exit? Type

Notre Dame

telnet IRISHMVS.CC.ND.EDU

or

telnet 129.74.4.5

ENTER COMMAND OR 'HELP':

Exit? Type x. Type bye

University of New Mexico

telnet BOOTES.UNM.EDU

or

telnet 129.24.8.2

Username: **STUDENT1**

Terminal type: **VT100**

On the Main menu, choose option 3

On the Library menu, choose option 1

Exit? Press CTRL-right bracket C
on Library menu
on Main menu

University of Nevada-Las Vegas

telnet LIBRARY.LV-LIB.NEVADA.EDU

or

telnet 131.216.2.133

Login: **LIBRARY**

Select V for type of terminal

Enter Y to confirm

Exit? Enter D

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**

Exit? Type #LOGOFF. At VTAM LOGON, enter **UNDIAL**

University of Nebraska

telnet UNLLIB.UNL.EDU

or

telnet 129.93.16.1

Login: **LIBRARY**

Select V for type of terminal

Enter Y to confirm

Exit? Enter **D**

University of Missouri at Rolla

tn3270 umrvmb.umr.edu

or

tn3270 131.151.1.1

press return

at the CP READ prompt, enter **DIAL VTAM**

Enter **LUMIN**

press return

Exit? Type #LOGOFF. /NET at the App Name prompt, then **UNDIAL**

University of Missouri-Columbia

tn3270 UMCVMB.MISSOURI.EDU

TAB down to command prompt

Enter **DIAL VTAM**

At the VTAM LOGON prompt, enter **LIBCICS**

Exit? Type #LOGOFF At VTAM LOGON or UNDIAL, type UNDIAL

University of Minnesota

telnet LUMINA.LIB.UMN.EDU
or
telnet 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 ===>

Exit?use telnet escape key.

University of Michigan

telnet HERMES.MERIT.EDU
or
telnet 35.1.1.6

HOST? enter **MIRLYN**
Terminal type: **VT100**
On the UofM screen, press RETURN

Exit? use telnet escape key

University of Massachusetts (Boston)

telnet LIBRA.CC.UMB.EDU

or

telnet 192.12.26.143

Username: **CATALOG**

Terminal type: enter 1 for VT100

Exit? type EXIT, END, or QUIT

University of Maryland

telnet VICTOR.UMD.EDU
or
telnet 129.2.16.2

Select **PAC** from the Available Services Menu.
Select 5 for VT100.
Press RETURN twice.

This system's coverage includes the University of Maryland System, University of Maryland Law Library, University of Maryland Baltimore County, University of Maryland College Park, University of Maryland Eastern Shore, and University of Maryland University College.

Exit? type //EXIT

University of Maine

telnet ursus.maine.edu
or
telnet 130.111.64.1

Login as
Enter v for VT100
Enter y to confirm

Exit? Type B

University of Kansas

telnet KUHUB.CC.UKANS.EDU
or
telnet 129.237.1.10

At the username prompt, type **RELAY**
At the SYSTEM? prompt, type **OCAT**
TERMINAL TYPE: **VT100**
On the CICS screen, type **OCAT**

Exit? type LOGOFF. Type **Q**

University of Iowa

telnet OASIS.UIOWA.EDU

or

telnet 128.255.254.2

Terminal type: **VT100**

Choose option 1 on the menu, OASIS

Exit? Type X on the main menu

University of Illinois at Chicago

tn3270 UICVM.UIC.EDU

or

tn3270 128.248.2.50

When signon screen appears, hit RETURN

Type **DIAL PVM**

Move cursor to first S of "S NOTIS" using TAB or arrow keys and press return

Exit? Type ##### Press CTRL-P 1

University of Illinois at Urbana/Champaign

telnet GARCON.CSO.UIUC.EDU

or

telnet 128.174.5.58

Login: **LCS**

Exit? Type EXIT

University of Hawaii

telnet STARMASTER.UHCC.HAWAII.EDU
or
telnet 128.171.7.8

At the Enter Class prompt, type **LIB**
At the terminal type menu, select 5 for VT100

Exit? type //EXIT

University of Delaware

telnet delcat.udel.edu
or
telnet 128.175.13.6

Press return
Terminal type: **VT100**
Press return
Type **NOTIS**

Exit? Use telnet escape key

University of Dayton

telnet UDAPRL.OCA.UDAYTON.EDU

or

telnet 131.238.1.14

At blank screen or the ! prompt , type **LOGIN PUB Password? type PUBLIC, press return**
Terminal type: **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

Exit? Choose LOGOFF from the Main menu or enter Q

University of Colorado at Colorado Springs

telnet ARLO.COLORADO.EDU

or

telnet 128.198.26.129

When prompted for login code, enter **ARLO**

At the logo screen, hit RETURN

Exit? Pick option 12 on the menu, then use TELNET escape key

University of Arizona

telnet IDX.TELCOM.ARIZONA.EDU

or

telnet 129.196.252.3

Press RETURN repeatedly until something happens

Type GEAC for the main circulation system or LIBPAC for the Exit? use telnet escape key

University of Buffalo

telnet BISON.CC.BUFFALO.EDU

or

telnet 128.205.2.22

At the terminal type prompt, enter **VT100**

Press return

Exit? type **BYE**

University of California

telnet MELVYL.UCOP.EDU

or

telnet 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

Type START COM for command line library system

The library system is known as MELVYL. MELVYL contains library information for all university in the University of California system and the California State library.

Exit? Type END or STOP. Type **LOGOFF**

University of California-Berkeley

telnet GOPAC.BERKELEY.EDU

or

telnet 128.32.159.19

Exit? Type LOGOFF

University of Chicago

telnet OLORIN.UCHICAGO.EDU
or
telnet 128.135.12.95

At the ENTER CLASS prompt, type
When CONNECTED appears on the screen, press RETURN

Exit? Type LOGOUT

University of Cincinnati

telnet UC7171.UC.EDU

or

telnet 129.137.32.99

Terminal type: Enter **VT100**

Enter **UCLID**

Exit? use telnet escape key

The Florida State University System includes 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. To access these Florida library systems:

tn3270 nervm.nerdc.ufl.edu

or

tn3270 128.227.212.10

press RETURN

type DIAL VTAM

On the NERDC VTAM IS ACTIVE screen, enter NERLUIS FCLSKYA

Exit? Type %OFF. At 'NERDC VTAM IS ACTIVE', enter UNDIAL

telnet gumedlib2.georgetown.edu
or
telnet 141.161.40.4

At login prompt, enter medlib
password: dahlgren
enter netguest
hit RETURN several times...
select option 1

Exit? Press return on the menu, enter Q

George Mason University

telnet 129.174.1.10
select option B

Exit? type STOP at any prompt.

Dartmouth

telnet LIB.DARTMOUTH.EDU
or
telnet 129.170.16.11

When prompted for terminal type, enter VT100

Duke

telnet librot1.lib.unc.edu
or
telnet 128.109.181.2

Emory

tn3270 EMUVM1.CC.EMORY.EDU

or

tn3270 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

Exit? Use TN3270 escape key

E. Michigan

telnet ccb9.merit.edu

or

telnet 35.1.48.150

at the which host prompt, enter EMU-VAX

At the username prompt, enter NOTIS

Note: use keypad enter instead of RETURN

Exit? Hit CTRL-Z

Abilene Library Consortium

telnet ALCON.ACU.EDU
Username: ACUPAC

Exit? Type STOP.

Air Force Institute of Technology

telnet SABRE.AFIT.AF.MIL

or

telnet 129.92.1.10

At the USERNAME prompt, enter **AFITPAC**

At the PASSWORD prompt, enter **LIBRARY**

Exit? Hit CTRL-Z. Type **QUIT**

Auburn University

TN3270 AUDUCACD.DUC.AUBURN.EDU

or

tn3270 131.204.2.13

Push TAB until the cursor is in the APPLICATION field.

Type 01.

Press RETURN

Arizona State University

telnet CARL.LIB.ASU.EDU
or
telnet 129.219.10.8

At the destination prompt, enter CARL.
Enter 5 for VT100.
Press RETURN twice.

Exit? type //EXIT twice.

Bates College

telnet LADD.BATES.EDU
or
telnet 134.181.1.8

Enter v for VT100
Enter y to confirm

Exit? type D

Boise State University

CATALYST is the combined library system for Boise State University and Idaho State University.

telnet CATALYST.IDBSU.EDU

or

telnet 132.178.18.2

At the login prompt, type catalyst.

Press RETURN.

Select 4 for VT100 emulation.

Exit? Type E until main menu appears. Select Log Off

Boston University

telnet LIBRARY.BU.EDU
or
telnet 128.197.130.200

Exit? Type EXIT

Boston University's online Catalog (TOMUS) provides access to over one and a half million volumes and two and a half million microforms.

TOMUS is a Carlyle system and provides online help screens.

Bowdoin College

telnet phebe.bowdoin.edu
or
telnet 139.140.1.2

Login: library

Brigham Young University

tn3270 LIB.BYU.EDU

or

tn3270 128.187.11.1

Type BYLINE at the userid prompt.

Enter e on the next screen.

Exit? TN3270 escape key.

Brown University

TN3270 BROWNV.M.BROWN.EDU

or

tn3270 128.148.128.40

At the BROWN logon screen: TAB to command field.

Enter DIAL JOSIAH.

TAB to the JOSIAH choice on the screen.

Exit? Enter ESC 0.

Select option 4 from menu.

Enter ESC 3.

Enter CTRL-P 1.

Searching Josiah:

The Josiah Search Menu supports searches by author, title, subject, and author/title combinations. Help is available at any point by pressing the PF1 key. PF key alternatives are also supported by typing PF1 (or PF3, PF5, etc.) after any ">>" prompt.

California Institute of Technology

telnet libopac.caltech.edu
login? library

telnet library.calpoly.edu
or
telnet 129.65.20.21

login:? polycat

Exit? Hit CTRL-D

California State University, Fresno

telnet caticsf.csufresno.edu
or
telnet 129.8.100.15

login: public

Exit? type 0

California State University, Long Beach

telnet coast.lib.csulb.edu

or

telnet 134.139.50.1

enter VT100 for terminal type:

press RETURN a few times...

Exit? Use telnet escape key

Carnegie Mellon University

telnet cmulibrary.andrew.cmu.edu
or
telnet 128.2.232.60

enter vt100 as terminal type

press RETURN

Exit? type Q

Case Western University

telnet euclid.cwru.edu
or
telnet 129.22.120.199

City University of New York

tn3270 cunyvms.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

Clemson University

TN3270 clemson.clemson.edu

Choose option B on the menu

Cleveland Public

telnet library.cpl.org
or
telnet 192.58.246.4

Hit Control-Z to start

Quit? Control-Z, then type **EXIT**

Colby University

telnet ladd.bates.edu
or
telnet 134.181.1.8

Enter v for VT100
Enter y to confirm
Select b on the menu
Select 1 on the next menu
Enter v for VT100
Enter y to confirm

Exit? Select X on Menu, then D on BATES menu

CARL

telnet pac.carl.org
or
telnet 192.54.81.128

Enter 5 for VT100 emulation

Harvard University

tn3270 hollis.harvard.edu

or

tn3270 128.103.60.31

Type hollis on the Harvard Univ./Office for Info Tech screen.

Exit? TELNET: hit ESCAPE xx. TN3270: use escape key

Indiana State University

tn3270 IUIS3270.UCS.INDIANA.EDU

or

tn3270 129.79.210.200

Pick 4 on the menu.

(alternate method) telnet IUIS.UCS.INDIANA.EDU

or

telnet 129.79.2.203

Enter VT100 as the terminal type.

Pick 4 on the menu.

Exit? Enter Q. Enter Q again.

Iowa State University

telnet ISN.IASTATE.EDU

or

telnet 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**

Exit? On the SCHOLAR command line, type QUIT.

Johns Hopkins University

telnet JHUVM.HCF.JHU.EDU

or

telnet 128.200.2.2

Enter 04 at the "Please enter one of the following" prompt.

Hit RETURN at the JHU/HAC logo screen.

At the command prompt, type DIAL JANUS.

When the port assignment appears, press RETURN

Exit? type ####.

Kalamazoo College

telnet CCB9.MERIT.EDU

or

telnet 25.1.48.150

At the Which Host prompt, enter KZOO-LIB.

Exit? type H from the main menu.

Kansas State University

tn3270 KSUVM.KSU.EDU

or

tn3270 129.130.1.1

Type LYNX.

(alternate method) telnet TELNET.KSU.EDU

or

telnet 129.130.1.10

Select destination as KSUVM.

Enter VT100 at terminal type prompt.

Type LYNX.

Exit? Type QUIT.

Kent State University

telnet CATALYST.KENT.EDU
or
telnet 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

Exit? use telnet escape key

Lehigh

telnet ASA.LIB.LEHIGH.EDU
or
telnet 128.180.2.13

Exit? Type **END**

Maricopa Community Colleges

telnet LIB.MARICOPA.EDU

or

telnet 140.198.8.18

Username: enter LIB

"Which College?" enter PC, GC, GW, MC, SC, RS, SM, CG, PV, EM, DO, or EXIT

Exit? use CTRL/Z or use telnet escape key

Code Institution

CGCC	CHANDLER GILBERT COMMUNITY COLLEGE CENTER LIBRARY
GCC	GLENDALE COMMUNITY COLLEGE LIBRARY
GWC	GATEWAY COMMUNITY COLLEGE LIBRARY
MCC	MESA COMMUNITY COLLEGE LIBRARY
PCC	PHOENIX COMMUNITY COLLEGE LIBRARY
PVC	PARADISE VALLEY COMMUNITY COLLEGE LIBRARY
RSCC	RIO SALADO COMMUNITY COLLEGE LIBRARY/MEDIA SERVICES
SCC	SCOTTSDALE COMMUNITY COLLEGE LIBRARY
SMCC	SOUTH MOUNTAIN COMMUNITY COLLEGE LIBRARY
MCLI	MARICOPA CENTER FOR LEARNING AND INSTRUCTION

Also provides access to Magazine Index

Marquette University

telnet LIBUS.CSD.MU.EDU
or
telnet 134.48.20.1

At the login prompt, type m.
Select v at the TERMINAL prompt.

Exit? Enter Q

Massachusetts Institute of Technology

telnet LIBRARY.MIT.EDU

or

telnet 18.84.1.12

Press RETURN

Enter /V

Press RETURN

Exit? use telnet escape key

Michigan State University

tn3270 MAGIC.LIB.MSU.EDU

or

tn3270 35.8.2.99

At the VM370 screen, type DIAL MAGIC

At the Terminal Emulator screen, enter VT100

(alternate method) telnet MERIT-telnet-GW.MSU.EDU

or

telnet 35.8.2.56

At the Which Host? prompt, enter MAGIC

At the terminal id, enter VT100

Exit? use telnet or TN3270 escape key

Michigan Tech

telnet CCB9.MERIT.EDU

or

telnet 35.1.48.150

At the Which Host prompt, enter FOCUS

Press RETURN

Enter VT100 as terminal type

Press RETURN again

Exit? use telnet escape key

Minnesota State University

telnet MSUSGW.UMN.EDU

or

telnet 128.101.63.10

At the "enter destination" prompt, enter PALS

Location: Mankato, Minnesota USA

The PALS system contains information on many libraries including Austin Community College, Anoka-Ramsey Community College, Bemidji State University, Bethany Lutheran 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.

Exit? type EN

New Mexico State University

telnet LIBRARY.NMSU.EDU

or

telnet 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

Exit? Enter /QUIT

New York Public Library

telnet nyplgate.nypl.org
or
telnet 192.94.250.2

Login:
password:

The following Databases are available:

NYPL Branch Libraries Catalog
Metropolitan Inter-Library Cooperative System Regional Catalog.
NYPL Dance Collection Catalog

New York University

telnet BOBCAT.NYU.EDU
or
telnet 128.122.138.2

Hit RETURN

Exit? type END

The OPAC lists more than 750,000 records, including many pre-1973 items and all material purchased after 1973. BobCat contains the holdings of NYU's Division of Libraries, as well as the consortium libraries of the New School for Social Research, the Parsons School of Design, the Cooper Union for the Advancement of Science and Art, and the New York Academy of Art.

Northeastern Ohio Universities College of Medicine

telnet SCOTTY.NEOUCOM.EDU

or

telnet 140.220.1.2

The initial prompt will request you to login to the system. Enter and press RETURN

Choose terminal type

Exit? type the word "quit" at any prompt to get back to the NEOCAT main menu. Select item "4" from the NEOCAT main menu

Northwestern University

tn3270 NUACVM.ACNS.NWU.EDU
or
telnet NUACVM.ACNS.NWU.EDU
or
telnet 129.105.16.1

If you used telnet, enter **for VT100 (as terminal type)**

TAB down to the COMMAND prompt
Type DIAL VTAM
Application ID: **LUIS**

Exit? Type STOP at any OPAC prompt. If on the University Center menu, type /bEXIT

Oberlin College

telnet OBIS.LIB.OBERLIN.EDU
or
telnet 132.162.32.20

No special login required

Exit? type at any prompt

Occidental College

telnet KITTY.OXY.EDU

or

telnet 134.69.1.10

Type OASYS at ENTER RESOURCE NAME prompt

login: type

Pick v as terminal type

Enter y to confirm

Exit? type D

Old Dominion University

telnet GEAC.LIB.ODU.EDU

or

telnet 128.82.24.75

Exit? Type END or QUIT

Ohio State

telnet LCS.US.OHIO-STATE.EDU
or
telnet 128.146.15.141

Choose 0 as your terminal type
Type HELP to see options

Exit? Use telnet escape key

Oregon State

telnet OASIS.KERR.ORST.EDU
or
telnet 128.193.162.13

Login: **OASIS**
Enter 1 for VT100 emulation

Exit? use telnet escape key

Pennsylvania State University

telnet LIAS.PSU.EDU
or
telnet 128.118.88.88

Normally, VT100 should be negotiated at this point. If you have terminal emulation problems, try typing `TERMINAL VT100` at the `>>>` prompt

Exit? Type `EXIT` at the `>>>` prompt

Portland State University

telnet PSULIB.CC.PDX.EDU
or
telnet 131.252.129.52

Login: type **DIALIN**
Terminal type: enter **VT100**

Exit? use 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

Exit? type LOGOFF

Princeton University

telnet CATALOG.PRINCETON.EDU
or
telnet 128.112.131.101

Type CALL 500 from # prompt

Exit? type LOGOFF

Purdue

tn3270 LIB.CC.PURDUE.EDU

or

tn3270 128.210.9.8

Exit? use the TN3270 escape key

Rensselaer Polytech Institute

telnet INFOTRAC.RPI.EDU

or

telnet 128.113.1.31

Enter VT100 as terminal type

On the NIM screen, press RETURN

Exit? type STOP

Rice University

tn3270 LIBRARY.RICE.EDU

or

tn3270 128.42.73.2

When signon screen appears, hit TAB twice
On COMMAND ==> line, type DIAL LIBRIS
CTRL-Z to clear the screen

Exit? Use the TN3270 escape key

Rochester Institute of Technology

telnet RITVAX.ISC.RIT.EDU
or
telnet 129.21.200.5

Username: **LIBRARY**
Press RETURN
Type 1

Exit? Type D. After the "connection closed" message, type 9

Rockefeller University

telnet LIBRARY.ROCKEFELLER.EDU
or
telnet 129.85.1.20

Login:
TERM: enter

Exit? choose the menu option for exit

Rutgers University

telnet LIBRARY.RUTGERS.EDU

or

telnet 128.6.241.3

Press RETURN

Exit? type END

Online Public Access Catalog

what libraries call the public interface for their bibliographic information systems (the electronic card catalog if you will)

Southern Methodist University

tn3270 VM.CIS.SMU.EDU

or

tn3270 129.119.64.2

When the sign-on screen appears, enter PONI

On the CICS screen, press CTRL-Z

Enter

Exit? use the TN3270 escape key

SUNY-Binghamton

tn3270 BINGVMC.CC.BINGHAMTON.EDU

or

tn3270 128.226.1.4

Press TAB twice

At the COMMAND prompt, type **DIAL VTAM**

Enter **ELIXIR**

Press RETURN several times

Exit? use the TN3270 escape key

Texas A&M

tn3270 TAMVM1.TAMU.EDU

or

tn3270 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

(alternate method)

telnet VENUS.TAMU.EDU

or

telnet 128.194.4.1

Username: **VTAM**

At the Texas A&M Statewide Network screen, type **NOTIS**

At the CICS screen, hit RETURN

Exit? CTRL-Z

Texas Christian University

telnet GAMMA.IS.TCU.EDU

or

telnet 138.237.1.7

Username: **TCUCAT**

Exit? CTRL-Z, then option 6 on menu

Tufts University

telnet LIBRARY.TUFTS.EDU
or
telnet 130.64.128.1

Username: **TULIPS**

Exit? CTRL-Z, then **QUIT**

University of Akron

telnet LIBRARY.UAKRON.EDU
or
telnet 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), follow on-screen instructions

Exit? use telnet escape key

Athabasca University
Brandon University
McGill University
McMaster University
Nova Scotia
University College of Cape Breton
University of Calgary
University of Kings College
University of New Brunswick
University of Prince Edward Island
University of Saskatchewan
University of Toronto
University of Western Ontario
University of British Columbia
York University

University of Saskatchewan

telnet skdevel2.usask.ca
or
telnet skdevel.usask.ca

Request: BLIB

Exit? type **END**

University of Saskatchewan also has information in the INFOACCESS database. To access:

telnet SKLIB.USASK.CA

USERNAME: **SONIA**

Exit? type **QUIT**

University of Toronto

telnet 128.100.100.32

Branch? type branch in **CAPS**

Exit? Use telnet escape key

University of Western Ontario

telnet GEAC.LIB.UWO.CA

or

telnet 129.100.2.18

Hit ENTER after "Current terminal type =vt100"

Exit? type Control-D

York University

telnet yorkline.yorku.ca
or
telnet 130.63.1.10

terminal type:

Exit? type X

University of British Columbia

telnet LIBRARY.UBC.CA
or
tn3270 LIBRARY.UBC.CA

University of New Brunswick

tn3270 UNBMVS

University of Prince Edward Island

telnet lib.cs.upei.ca

Username:

Exit? CTRL-Z

Kings College (University of)

telnet novanet.dal.ca

or

telnet 129.173.1.22

press RETURN to enter catalog

Exit? hit END or telnet escape key

Athabasca University

telnet AUCTUS.ADMIN.ATHABASCAU.CA
or
telnet 131.235.5.1

At Username: prompt, enter AUCAT

Exit? type QUIT

Brandon University

telnet library.brandonu.ca
or
telnet 142.13.16.4

At the Username: prompt, enter LIBCAT

Exit? type QUIT, EXIT or END

McGill

tn3270 mvs.mcgill.ca

On the menu, choose option 2 (muse)
Hit return on the CICS screen.

Exit? type OFF

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

Exit? use tn3270 escape key

Nova Scotia

telnet NOVANET.DAL.CA
or
telnet 129.173.1.22

To access:

Dalhousie University
Mount Saint Vincent University
Nova Scotia College of Art and Design
Technical University of Nova Scotia
University College of Nova Scotia

Exit? Hit END or the telnet escape key

Cape Breton

telnet novanet.dal.ca

or

telnet 129.173.1.22

Exit? hit END or the telnet escape key

University of Calgary

telnet develnet.ucalgary.ca
or
telnet 136.159.1.70

Request:
Select 0C as terminal
Hit return when screen blanks
Hit return again on U of Calgary screen

Exit? Use telnet escape key

what is Archie?
what is a gopher?
what is Veronica?
what is WAIS?
what is WWW?

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)

Tim Berners-Lee (of the World Wide Web project) describes the Web this way: "The WWW project merges the techniques of information retrieval and hypertext to make an easy but powerful global information system. The WWW world consists of documents, and links. Indexes are special documents which, rather than being read, may be searched. The result of such a search is another (links to the documents found. The Web contains documents in many formats. Those documents which are hypertext, (real or virtual) contain links to other documents, or places within documents. All documents, whether real, virtual or indexes, look similar to the reader and are contained within the same addressing scheme. To follow a link, a reader clicks with a mouse (or types in a number if he or she has no mouse). To search and index, a reader gives keywords (or other search criteria). These are the only operations necessary to access the entire world of data."

Access to various documents, lists, and services.
Login: www

telnet consultant.micro.umn.edu
or
telnet 128.101.95.9

login: gopher
term = (vt100) hit RETURN

Frequently referred to as the 'mother of all gophers

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.

telnet FINFO.TU-GRAZ.AC.AT
or
telnet 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.

telnet NSTN.NS.CA
or
telnet 137.186.128.11

login: fred

Sample opening screen

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

telnet GOPHER.ORA.COM or telnet 140.186.66.1
login: gopher

sample opening menu:

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 (?)

telnet 192.36.125.2
login: gopher
Needs vt100 emulation

sample opening menu:

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

telnet info.umd.edu
or
telnet 128.8.10.29
login: gopher

sample screen:

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.

Hytelnet

A software package much like InfoPop for MS-DOS and Unix machines. You can find the addresses of hundreds of interesting Internet destinations via hytelnet.

To obtain a copy of the MS-DOS version of hytelnet:

ftp access.usask.ca
username: anonymous
password: your Internet address.

at ftp> prompt, enter: cd hytelnet/pc
at next prompt, enter: dir this will list out the files in the directory.
look for one that follows this naming convention:

HYTELNxx.ZIP

Where the 'xx' is a number.

at next prompt, enter: binary
at next prompt, enter: get hytelnxx.zip updates to hytelnet

Peter Scott, author of the hytelnet database, maintains a mailing list for updates (which I highly recommend as a means of keeping track of the internet explosion). Here's an excerpt from an announcement which describes the list:

This list is for announcements of new versions of the popular HYTELNET program, which gives a user access to all known telnet-accessible sites on the Internet. List members will also receive announcements of new/changed/defunct sites, announced between full versions of the program.

HYTEL-L replaces the LIB_HYTELNET mailing list.

The list is co-moderated by Peter Scott, author of HYTELNET, and Diane Kovacs of Kent State University.

To subscribe, send mail to LISTSERV@KENTVM.BITNET or LISTSERV@KENTVM.KENT.EDU.EDU with the body (not the subject!) containing the command: SUB HYTEL-L Your Name

For example: sub hytel-l Bill Clinton

Co-Moderator: Peter Scott aa375@freenet.carleton.ca
Co-Moderator: Diane Kovacs dkovacs@kentvm

telnet gopher.unt.edu
or
telnet 129.120.1.42

login: gopher
Password: gopher



The Internet Gopher (a client/server protocol) provides a distributed delivery system around which a **campus-wide information system** can readily be constructed. While providing a delivery vehicle for local information, Gopher facilitates access to other Gopher and information servers throughout the world.

Hardly an exhaustive list, but logging onto one or two of these systems should help you flesh out your list of favorite sites.

[Hyper-G \(Technical University of Graz, Austria\)](#)

[Nova Scotia Technology Network](#)

[O'Reilly & Associates, Inc](#)

[SUNET Gopher \(Sweden\)](#)

[University of Maryland](#)

[University of Minnesota](#)

[University of North Texas](#)

related topic: [Veronica](#)

a few more gopher servers without descriptions:

telnet panda.uiowa.edu

telnet gdunix.gd.chalmers.se (swedish)

telnet tolten.puc.cl (chile)

telnet wsuaix.csc.wsu.edu (login: wsuinfo)

telnet columbianet.columbia.edu

How do you contact a gopher?

Ideally, You use a gopher "client" program that runs on your local PC or workstation. Lacking that connectivity, you can [telnet](#) to a machine that has a 'public' gopher client running. There are clients for the following systems. The directory following the name is the location of the client on the anonymous ftp site boombox.micro.umn.edu (134.84.132.2) in the directory /pub/gopher.

```
Unix Curses & Emacs: /pub/gopher/Unix/gopher1.12.tar.Z
Xwindows (athena): /pub/gopher/Unix/xgopher1.2.tar.Z
Xwindows (Motif): /pub/gopher/Unix/moog
Macintosh Hypercard: /pub/gopher/Macintosh-TurboGopher/old-versions *
Macintosh Application : /pub/gopher/Macintosh-TurboGopher *
DOS w/ Clarkson Driver: /pub/gopher/PC_client/
NeXTstep: /pub/gopher/NeXT/
VM/CMS: /pub/gopher/Rice_CMS/ or /pub/gopher/VieGOPHER/
VMS: /pub/gopher/VMS/
OS/2 2.x: /pub/gopher/os2/
MVS/XA: /pub/gopher/mvs/
```

Many other clients and servers have been developed by others, the following is an attempt at a comprehensive list.

A Macintosh Application, "MacGopher".
ftp.cc.utah.edu:/pub/gopher/Macintosh *

Another Macintosh application, "GopherApp".
ftp.bio.indiana.edu:/util/gopher/gopherapp *

A port of the UNIX curses client for DOS with PC/TCP
oac.hsc.uth.tmc.edu:/public/dos/misc/dosgopher.exe

A port of the UNIX curses client for PC-NFS
bcm.tmc.edu:/nfs/gopher.exe

A beta version of the PC Gopher client for Novell's LAN Workplace for DOS

lennon.itn.med.umich.edu:/dos/gopher

A VMS DECwindows client for use with Wollongong or UCX
job.acs.ohio-state.edu:XGOPHER_CLIENT.SHARE

* Note: these Macintosh clients require MacTCP.

Most of the above clients can also be fetched via a gopher client itself. Put the following on a gopher server: Type=1
Host=boombox.micro.umn.edu
Port=70
Path=
Name=Gopher Software Distribution.

Or point your gopher client at boombox.micro.umn.edu, port 70 and look in the gopher directory.

There are also a number of public telnet login sites available. The University of Minnesota operates one on the machine "consultant.micro.umn.edu" (134.84.132.4).

It is recommended that you run the client software instead of logging into the public telnet login sites. A client uses the custom features of the local machine (mouse, scroll bars, etc.) A local client is also faster.

Clarkson Drivers

The Clarkson Drivers (originally developed and distributed by Clarkson University) are a set of freeware packet drivers (that's software). These 'drivers' enable a PC running Novell Netware (that is; using the IPX protocol) to also support TCP/IP (enabling [gopher](#), [telnet](#), [ftp](#), and other applications). You can obtain these drivers from several ftp sites, here's one:

```
ftp boombox.micro.umn.edu
cd pub/gopher/PC_Client/drivers
```

VERONICA: Very Easy Rodent-Oriented Net-wide Index to Computerized Archives

Developed by Steve Foster and Fred Barrie at the University of Nevada. Here are comments by Mr. Foster:

"Veronica offers a keyword search of most gopher-server menus in the entire gopher web. As Archie is to FTP archives, Veronica is to gopherspace. Unlike Archie, the search results can connect you directly to the data source. Imagine an Archie search that lets you select the data, not just the host sites, directly from a menu. Because Veronica is accessed through a gopher client, it is easy to use, and gives access to all types of data supported by the gopher protocol."

"Veronica was designed as a response to the problem of resource discovery in the rapidly-expanding gopher web. Frustrated comments in the net news- groups have recently reflected the need for such a service. Additional motivation came from the comments of naive gopher users, several of whom assumed that a simple-touse service would provide a means to find resources

"The result of a Veronica search is an automatically-generated gopher menu, customized according to the user's keyword specification. Items on this menu may be drawn from many gopher servers. These are functional gopher items, immediately accessible via the gopher client just double- click to open directories, read files, or perform other searches -- across hundreds of gopher servers. You need never know which server is actually involved in filling your request for information. Items that are appear particularly interesting can be saved in the user's bookmark list."

"Notice that these are NOT full-text searches of data at gopher-server sites, just as Archie does not index the contents of ftp sites, but only the names of files at those sites. Veronica indexes the TITLES on all levels of the menus, for most gopher sites in the Internet. 258 gophers are indexed by Veronica on Nov. 17, 1992; we have discovered over 500 servers and will index the full set in the near future. We hope that Veronica will encourage gopher administrators to use very descriptive titles on their menus."

"To try Veronica, select it from the gopher server (consultant.micro.umn.edu), or point your gopher at:

```
Name=Veronica (search menu items in most of GopherSpace)
Type=1
Port=70
Path=1/Veronica Host=futique.scs.unr.edu
```

"Veronica is an experimental service...as we expect that the load will soon outgrow our hardware, we will distribute the Veronica service across other sites in the near future."

"Please address comments to: gophadm@futique.scs.unr.edu"

Internet ARCHIVE Listing Service

Archie is a system to allow you to rapidly locate the various public domain programs stored on the hundreds of sites across the Internet. Archie retrieves the recursive directory listings of over 800 sites containing some one million files (over 50 gigabytes!) in round robin fashion over the course of a month. These listings are then processed and now added to the database. Help gets a list of valid commands.

Use any of these addresses (all contain identical data):

```
telnet archie.mcgill.ca
telnet 132.206.2.2
telnet 132.206.51.1
telnet archie.funet.fi (Finland/Europe)
telnet archie.au (austrailia)
telnet archie.doc.ic.ac.uk (UK/Europe)
telnet archie.sura.net
telnet cs.huji.ac.il (Israel)
telnet archie.ans.net
telnet archie.rutgers.edu
telnet 128.6.18.15
```

Login: archie (return)

For example, to see where IPWIN is available, you could enter the following command during a telnet (interactive) session:

```
prog IPWIN (return)          (assume the name is IPWIN.ZIP)
```

You'll receive back a listing of servers and the directory on each where the file is stored.

TCP/IP

Transmission Control Protocol/Internet Program. A set of protocols developed by the Department of Defense to link dissimilar computers across networks. TCP/IP is an important and established internetworking protocol that works at the third and fourth layers of the OSI model. Developed by the Department of Defense, TCP/IP is designed to be rugged and robust, and to guarantee delivery of data in the most demanding circumstances. TCP/IP is more and more popular with networking and computer vendors who want to connect their equipment to a variety of other systems and protocols. TCP/IP has been implemented on everything from PC LANs to minis and mainframes. The File Transfer Protocol (FTP) and Simple Mail Transfer Protocol (SMTP) provide file transfer and e-mail capability. The telnet protocol provides a terminal emulation capability that allows a user to interact with any other type of computer in the network. The TCP protocol controls the transfer of the data, and the IP protocol provides the routing mechanism.

(verb) establishing a connection to a remote computer connected to the Internet network.

(noun) Two types of programs are used to do this. One, usually called Telnet, establishes a VT100-type terminal emulation to the remote computer. The second, TN3270, establishes a full-screen IBM 3270-type terminal connection.

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 communications technology. telnet handles the remote login to another Internet host, so it is useful to know something about the way it works.

Sample Commands

Local vs Remote Commands

Logging On

Logging Off

Telnet escape sequences

open	connect to a site
close	close current connection
escape	set escape character
exit	exit telnet
generic	toggle conversion of control characters to standard NVT codes
localecho	toggle local echo mode
negotiate	negotiate telnet options
options	toggle viewing of options processing
quit	exit telnet
status	print status information
transvt	control functions
usecrnl	toggle sending of CR-NUL and CR-LF for new-line char
xon	toggle local processing of data flow control characters
z	suspend telnet
?	print help information

Local vs Remote telnet 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 and left bracket pressed simultaneously.

Escape Keys (telnet / TN3270)

(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
WIN/TCP telnet	CTRL-] q
WIN/TCP TN3270	CTRL-Y

Unix1

telnet	CTRL-] q
--------	----------

TN3270	CTRL-C q
--------	----------

To log onto a remote system via telnet, at your system's prompt enter:

telnet host address

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 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.

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 the appropriate logoff command, check the menus, help, and welcome screens when you first log on.

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".

A few systems offer no graceful exit for remote users. This leaves 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 remote session. Since this can leave the port on the remote machine busy for an indefinite period, ABORT should be your last resort.

In either case, you can also try escaping back to your local environment and then issuing the termination commands.

Break key?

There is no standard BREAK key across versions of telnet. 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.

Since key sequences can be misunderstood, you should type HELP or > when you begin (at your local telnet prompt) to determine what sequence your version of telnet will send.

Tips:

UNIX: CONTROL-C may work for BREAK.

MAC: BREAK may be a menu option or a character combination.

PC: BREAK is F10 followed by a lower case letter "b".

The procedure of connecting to a remote computer, as an anonymous or guest user, in order to transfer files back to your computer. Basically, you type ftp at your system prompt then login on the remote system, then ask for the file you want to receive. It transfers to your local host machine.

[FTP commands](#)

[FTP how-to-guide](#)

[FTP sites \(selected destinations\)](#)

A few popular FTP sites

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
ftp sunset.cse.nau.edu

offers: Gifs, Sights, & Sounds! ftp sounds.sdsu.edu for the sounds archive.

ftp ftp.uu.net

offers: everything!

ftp archive.umich.edu
or
ftp sumex-aim.stanford.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.) cd /pub/nic

ftp cathouse.aiss.uiuc.edu

offers: All the text/humor files you'd want (tv, sex..) cd misc/fun/humor

Source of above is Scott Yanoff's excellent list of **Special Internet Connections**.
Yanoff's address is @csd4.csd.uwm.edu1. His list is a regular feature on
many gophers.

FTP commands

abort	Terminate current operation
ascii	Set file transfer mode to ascii
bget	Retrieve a file in binary mode
bput	Send a file in binary mode
bell	Ring bell when file transfer completes
binary	Set file transfer mode to binary
bye	Close the connection and exit
case	Toggle mapping of local filenames to lower case
cd	Change current working directory on remote host
chdirup	Change to parent of working directory on remote
commandfile	Execute <u>ftp</u> commands from local file
delete	Delete a file on remote host
directory	Display contents of a directory in long form
disconnect	Close the connection
file	Set file transfer structure to FILE
get	Retrieve a file from remote host
hash	Print # for each packet sent or received
help	Display help messages for all ftp commands
ignore_icc	Ignore implied carriage control for binary transfers
interactive	Prompt with each filename for mget, mput & mdelete
lcd	Change current working directory on local host
login	Log into the remote system
ls	Display contents of a directory in short form
mdelete	Delete a group of files from remote host
mget	Retrieve a group of files from remote host
mkdir	Make a directory on remote host
mput	Transfer a group of local files to remote host
nobell	Don't ring bell when file transfer completes
nohash	Don't print # for each packet sent or received
noignore_icc	Don't ignore implied carriage control for binary transfers
nointeractive	Turn prompting off for mget, mput and mdelete
open	Open a connection to a remote host
put	Transfer a file from local host to remote host
pwd	Print remote host's current working directory
quiet	Do not display transfer statistics
quote	Send the specified string to the remote ftp server
record	Set file transfer structure to RECORD
remotehelp	Display list of FTP commands implemented by server
rename	Rename a file on remote host
rget	Retrieve a file with record structure from remote host
rput	Transfer a file with record structure to remote host
site	Send site parameter
socket_size	Set data socket receive buffer size
stat	Display contents of a directory in short form
show	Show current status
structure	Set file transfer structure
tenex	Set file transfer mode to tenex
unix	Set system type to UNIX
verbose	Display server replies and transfer statistics
vget	Retrieve a file with RMS structure from remote host
vmode	Set file transfer structure to RMS type file
vms	Set system type to VMS
vput	Transfer a file with RMS record structure to remote host

Here's a sample script for 'ftp-ing' the Internet List done by Art St. George and on Larsen:

If you're on a VAX, at the \$ prompt, begin:

```
$ ftp ariel.unm.edu
login: anonymous <- this makes you a 'guest'
cd library <- file's in the 'library' directory
get internet.library
```

The file will (after a short delay) come to your local system where you can view it, print it, depending on your local configuration, download it to your PC.

How to ftp

ftp (File Transfer Protocol) allows you to copy files from a remote host to your computer. Many hosts on the Internet freely allow access to some of the documents stored on their computers. This service is generally referred to as anonymous ftp

Anonymous ftp is very simple. Once logged in, you only have four commands available. These are:

```
cd      change directory
ls      display contents of a directory
get     transfer a file from the remote host
mget   multiple file transfers
```

Logging on to a Remote host:

At the system prompt, type <host address> example: ftp nic.ddn.mil <enter> will connect with the Department of Defense Network Information Center.

Hosts will require you to log in, i.e., give a user ID and password.

```
Username: anonymous <enter>
Password: type <your e-mail address><enter>
```

Changing Directories on a Remote Host:

Once you are logged on you may have to change directories on the host computer to access the file(s) you are interested in. To change directories type:

```
ftp> cd <directory name> <enter>
```

```
example: ftp> cd rfc <enter>
```

The ftp> prompt in front of the examples is not to be typed by the user. The ftp> prompt represents the Unix prompt at most ftp sites.

individual files using ftp

To transfer a file from a host to your own computer type:

```
ftp> get <filename> <enter>
example: ftp> get RFC-INDEX.TXT.1211 <ENTER>
```

multiple files using ftp

To transfer multiple files from a host to your own computer the command is mget.

```
ftp> mget <filename1> <filename2> <filename3> <ENTER>
```

```
> mget <filename1>? yes <ENTER>
> mget <filename2>? yes <ENTER>
> mget <filename3>? yes <ENTER>
```

The host site will ask you if you would like to transfer the file before the file is actually sent. Reply with a yes or no at the prompt as in the example shown.

To transfer RFCs from nic.ddn.mil the standard command is:

```
ftp> get rfcRFCnnnn.txt  for ASCII files or  
ftp> get rfcRFCnnnn.ps  for Postscript files
```

where nnnn represents the RFC number. However, RFC filename extensions vary slightly for different RFCs.

```
example: > RFC1207.TXT.1 <ENTER>  
> RFC1032.TXT.2 <ENTER>
```

It is best, therefore, to check the RFC filename in the directory. The command for this is ls.

```
example: ftp> ls RFCnnnn* <ENTER>
```

It is also possible to view a document without having to transfer it back to your own system. The, get filename |less, command will allow the user to view the document while still connected to the ftp host. However, not all ftp sites are compatible with this command.

Leaving a host.

When you have finished transferring files from a remote host using ftp, exit from the host by typing quit.

[American Mathematical Society's e-MATH](#)
[American Philosophical Association](#)
[ASK \(German Universities Online Information\)](#)
[ASSET \(Asset Source for Software Engineering Technology\)](#)
[Baseball \(Major Leagues\) Schedules](#)
[Big Sky Telegraph](#)
[CHAT \(Conversational Hypertext Access Technology\)](#)
[Cleveland Free Net](#)
[Constitutional Documents \(USA\)](#)
[Cyberspace Station](#)
[Dartmouth Dante Project](#)
[ERIC \(Educational Resources Info Center\) documents](#)
[E.T. Net at the National Library of Medicine](#)
[FEDIX](#)
[GENBANK \(DNA sequences\)](#)
[General Accounting Office Documents](#)
[Geographic Name Server](#)
[Hewlett-Packard Calculator Bulletin Board](#)
[HYtelnet \(unix version\)](#)
[IDS World Network \(formerly IDS DataForum\)](#)
[Knowbot Information Service](#)
[Libsearch \(One stop access to various library catalogs\)](#)
[Library of Congress \(LOCIS\)](#)
[Lunar & Planetary Institute](#)
[Meeman Archive of Environmental Journalism](#)
[NASA Online](#)
[NASA Spacelink](#)
[National Freenet \(Ottawa, Canada\)](#)
[National Science Foundation](#)
[Netfind](#)
[Network Information Center On-Line Aid System \(NICOLAS\)](#)
[NEWTON - Educational Electronic Bulletin Board System](#)
[NPTN/USA Today Headline News](#)
[Project Gutenberg](#)
[Shakespeare's Plays and Sonnets](#)
[Space Shuttle Earth Observations Project's Photographic Database](#)
[SUPERNET International](#)
[U.S. Naval Observatory](#)
[Weather Underground \(Univ of Michigan\)](#)
[Webster's Dictionary](#)
[White House publications](#)
[World Factbook](#)
[ZIB Electronic Library, Germany](#)

LOCIS

telnet locis.loc.gov
or
telnet 140.147.254.3

no login is required.

sample opening menu:

LOCIS:LIBRARY OF CONGRESS INFORMATION SYSTEM

- 1 Library of Congress Catalog
- 2 Federal Legislation
- 3 Copyright Information
- 4 Braille and Audio
- 5 Organizations
- 6 Foreign Law
- 7 Searching Hours and Basics
- 8 Documentation and Classes
- 9 Library of Congress General Information
- 12 Comments and Logoff

FEDIX

telnet 192.111.228.1

Login: **FEDIX**

FEDIX is an online 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 using FEDIX.

FEDIX provides daily information updates on:

Federal education and research programs (including descriptions, eligibility, funding, and deadlines).

Scholarships, fellowships, and grants.

Used government research equipment available.

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 and current events within participating agencies.

General information such as agency history, budget, organizational structure, and mission statement.

For more information, contact the HELPLINE at (301) 975-0103 Monday-Friday, 8:30 am to 4:30 pm EST, except on federal holidays.

Netfind

telnet BRUNO.CS.COLORADO.EDU
or telnet 128.138.243.151

login:

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:

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:

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):

<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 docs are also available in that package.

Big Sky Telegraph

telnet BIGSKY.BIGSKY.DILLON.MT.US

or

telnet 192.231.192.1

login:

TELEGRAPH'S BBS MAIN MENU

(B)eginner's Bulletins

(M)essages...Conferences and Public Postings

(F)iles...Areas for upload and download

(A)ccess to Additional Services

(I)nterest Groups-Subscribers Only

(Z)ipmail...Read ONLY YOUR messages from ALL conferences

(?)...Help Menu and Advanced Commands

(G)oodbye...Exit this system

Baseball Schedules

telnet culine.colorado.edu 862

or

telnet 128.138.129.83 862

type help for help

press RETURN for today's game

Weather Underground

telnet hermes.merit.edu
or
telnet 35.1.48.150

At which host? prompt, enter: um-weather

sample menu:

WEATHER UNDERGROUND MAIN MENU

- 1) Forecast for a U.S. city
- 2) National Weather Summary
- 3) Current weather observations
- 4) Ski conditions
- 5) Long-range forecasts
- 6) Latest earthquake report
- 7) Severe weather
- 8) Hurricane advisories
- 9) Canadian forecasts
- X) Exit program
- C) Change scrolling to screen

Obtaining White House publications

Various sites are archiving the press releases distributed . What follows is an incomplete list of some of the sites containing the documents that have been released to date. Site / Directory

1. SUNSITE.UNC.EDU /HOME3/WAIS/WHITE-HOUSE-PAPERS
2. FTP.CCO.CALTECH.EDU /PUB/BJMCCALL
3. FTP MARISTB.MARIST.EDU
4. CPSR.ORG /CPSR/CLINTON
5. FedWorld BBS 703-321-8020 8-N-1

telnet 130.44.1.100
login: e-math
Password: e-math
Terminal = (vt100) vt100

(sample screen)

e-MATH SERVICES

- (0) EXIT
- (1) DIRECTORY INFORMATION (CML)
- (2) PROFESSIONAL OPPORTUNITIES
- (3) SOFTWARE
- (4) DOCUMENT DELIVERY
- (5) MATH REVIEWS CLASSIFICATION SCHEME
- (6) MATH REVIEWS SUBMISSION
- (7) WELCOME MESSAGE
- (8) SUGGESTION BOX
- (9) MATH REVIEWS AUTHOR LOOKUP
- (10) AMS MEETINGS
- (11) BULLETIN OF THE AMS
- (12) DIRECTORY OF LISTS
- (13) HELP

telnet atl.calstate.edu
or
telnet 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

ASK: German Universities' Online Information
telnet sun.nsf.ac.uk

login: janet
hostname: uk.ac.niss

Menu options:

A :) NISSBB - The NISS Bulletin Board
B :) NISSPAC - The NISS Public Access Collections
E :) Information Services in Europe
H :) Help Information
Y :) Netcomm Information
X,Q :) Logoff the Gateway

Select option E above and you'll receive:

A :) ASK: German Universities' Online Information Services
D :) * DIMDI: German Biosciences Online Services
S :) * STN: Scientific and Technical Information Network
H :) Help Information

Any other key will return you to the main menu

* These services require you to supply a username and password. If you wish to register, select option H for more information.

telnet SOURCE.ASSET.COM

-or-

telnet 192.131.125.10

login: starsbbs

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.

telnet DEBRA.DOC.DA
or
telnet 192.16.212.15

login: chat

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)

telnet freenet-in-a.cwru.edu
or
telnet freenet-in-b.cwru.edu
or
telnet freenet-in-c.cwru.edu

Modem: (216) 368-3888 (9600 v.32)

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
- 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

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

Constitutional Documents (USA)

Available on the [Cleveland Freenet](#)

PRE-CONSTITUTION DOCUMENTS

- 1 - The Magna Carta
- 2 - The Constitution of the Iroquois Nations
- 3 - The Mayflower Compact
- 4 - The Fundamental Orders of 1639
- 5 - First Thanksgiving Proclamation
- 6 - The Charlotte Town Resolves
- 7 - Declaration of the Causes... of Taking up Arms
- 8 - The Declaration of Independence
- 9 - The Virginia Declaration of Rights
- 10 - The Articles of Confederation
- 11 - Declaration and Resolves of the 1st Cont. Congress
- 12 - The Paris Peace Treaty
- 13 - The Annapolis Convention

POST-CONSTITUTION DOCUMENTS

- 1 - The Northwest Ordinance
- 2 - French Declaration of Rights
- 3 - The Proclamation of Neutrality
- 4 - The Treaty of Greenville
- 5 - Washington's Farewell Address
- 6 - Jefferson's First Inaugural Address
- 7 - The Monroe Doctrine
- 8 - The Emancipation Proclamation
- 9 - The Gettysburg Address
- 10 - Lincoln's Second Inaugural Address
- 11 - German Surrender Documents
- 12 - Japanese Surrender Documents
- 13 - M.L. King's: "I have a dream" Speech

THE CONSTITUTION

- 1 - The Constitutional Transmittal Letter
- 2 - The Constitution of the United States
- 3 - The Bill of Rights
- 4 - 1971 All Amendments

telnet 192.153.125.1
login: guest

The Cyberspace Station is a Public Access Unix host with full Internet services. The Cyberspace Station provides full Unix user account access for [ftp](#), [telnet](#) and [Usenet](#) news.

Purpose of The Cyberspace Station

The purpose of The Cyberspace Station is to advance research and education in general by assisting in the interchange of information among research, educational and commercial users, by means of high speed data communications and related telecommunications techniques.

Questions? info@cyberspstn.net.

Dartmouth Dante Project

telnet ELEAZAR.DARTMOUTH.EDU.

At the login prompt, enter ddpdemo for the demo account (individual/institutional accounts are available).

When prompted for terminal type, enter vt100.

Exit? type Q followed by two RETURNS.

Database contains 600+ years of commentary on Dante's Divine Comedy.

telnet acsnet.syr.edu
or
telnet 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 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 license 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.

You must type LOGOFF to EXIT PRISM

telnet etnet.nlm.nih.gov
or
telnet 130.14.1.27

login: etnet

The current list of conferences on E.T.Net is:

- * 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
- * nuicare - 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'

telnet genbank.bio.net
or
telnet 134.172.1.160

login: genbank
Password: 4NIGMS

Press Return to select vt100, or enter the appropriate terminal

TERM = (vt100) vt100

(sample screen)

Welcome to GenBank

IRX: Information Retrieval Experimental Workbench

Version 2.5.5
June 14, 1988

Developed by Lister Hill National Center for Biomedical Communications of the NLM

Quick Guide to Using New IRX (NIRX)
Using IRX is a simple, three-step procedure -

- Enter a question in plain English.
- Receive a list of documents.
- Select documents from the list for reading or printing.

IRX is designed to be a self-prompting system with menu options displayed at each stage of the retrieval process. Users are encouraged to learn the system by using it and relying on the Help information that is associated with each menu.

What Is IRX?

IRX is an information retrieval system that attempts to find the set of documents that best matches a user's question. The matching is done probabilistically and therefore the set of retrieved documents is not guaranteed to answer precisely the user's question, but is likely to contain relevant information. The retrieved documents are ordered according to their expected relevance and so a user typically needs to review only a few documents even when the retrieval set is large.

Entering A Question

IRX allows a question to be entered in plain English. The system will ignore common words (and, the, for, etc.) and attempt to match the remaining words to words within a document. Although effective results can be obtained by entering free-text questions, there are occasions where features of a special search language might be desirable. Information on the use of such features as Boolean operators, truncation, and field restriction is available within the Question menu. In order to find out if a particular term is in the database, the V (Vocabulary) command can be used to display the term and alphabetically-related terms and their frequencies.

Selecting Documents

If IRX finds documents which match one or more terms in the question, a list of the matching documents is presented to the user in order of predicted relevance. The list consists of the title of the document and a calculated relevance weight. To choose a document, an arrow cursor is moved up or down in the left margin to align with a document title. That title is then considered the 'current document' and it may be printed or read online.

Reading Documents

Once a particular document has been selected for reading, the title and first 10-15 lines are displayed on the screen. Commands are available for moving forward and backward in the document, skipping to specific fields, or going directly to the lines containing the terms which match terms in the question. Matched terms are highlighted. At any point during document selection or reading, the user may return to the question menu to formulate another request. The cycle of question - retrieval - document selection continues until a request to Exit is made and confirmed.

General Accounting Office Documents
Available on the [Cleveland Freenet](#)

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.

telnet 141.212.99.9 3000

Direct questions or comments to Tom Libert, libert@eecs.umich.edu,

Hewlett-Packard Calculator Bulletin Board

telnet hpcvbbs.cv.hp.com

or

telnet 15.255.72.16

login: new

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.

telnet herald.usask.ca
or
telnet 128.233.3.1

login: hytelnet

explanation

This is a general hypertext browser, packaged with Peter Scott's database of Internet-accessible telnet sites. Hytelnet lists libraries, Campus-Wide Information Systems, Freenets and more. This version was written for Unix, but should work on any system with a reasonable Curses implementation.

Peter's version uses HYPERREZ (an IBM PC hypertext browser). This program uses the same file format as HYPERREZ, so it should be possible to plug-and-play other databases as well.

The database consists of many more-or-less plain text files, all in a single directory. Any text in angle brackets is a link. Selecting it moves you to the named file. Filenames are mapped to lower case.

IDS Data Forum

telnet 155.212.1.2

(sample screen)

IDSVAX VAX/VMS telnet Service

Welcome to the IDS DataForum!

If you would like an account on the system, and are a new user, enter GUEST as a Username.

If you are experiencing problems with your account and would like assistance, enter GRIPE as a Username.

Welcome to the IDS DataForum, "The Mother Of All Online Information Systems" (C) 1990 IntelCom Data Systems.

7 Dialin Lines (aka Nodes) for your "No Busy Signal" dialing pleasure. 24 Hours a Day, 7 Days a Week. 300-19K bps Supported (V.32, USR/HST, v.42

IDS DataForum, (C) 1990 IntelCom Data Systems (Version 2.17)

IDS DataForum Main Menu

Choose one:

- 1 ... (B) News/Information/Weather
- 2 ... (E) Electronic Mail
- 3 ... (U) User Information/Configuration
- 4 ... (G) Games & Entertainment
- 5 ... (H) Home Information/Utilities
- 6 ... (S) SIGS/Message Bases and File Areas
- 7 ... (DB) Information DataBase
- 8 ... (CM) Communications Menu
- 9 ... (QM) QMail Offline Reader
- (CARD) ... Online Credit Card Registration

80 ... (HELP) Help

90 ... (OFF) Log Off

Knowbot Information Service

telnet 132.151.1.1 185

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, the netaddress prompt.

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

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

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

```
% 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
```

telnet PL122A.EECS.LEHIGH.EDU
or
telnet 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

telnet to pl122a.eecs.lehigh.edu
login as tb06 with password jia.fu
cd to /scratch/china.primitive/expect/test/thesis

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. (e.g., 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"

Lunar & Planetary Institute

telnet LPI.JSC.NASA.GOV

Username: LPI

The Lunar & Planetary Institute has now made available to the Internet community an Index to Planetary Maps and Satellites compiled by J.L. Inge and R.M. Batson of the USGS. This index is complete for both domestic and foreign maps. This is not to be confused with their catalog of maps.

Select Information and Research Services from the main menu, then select Special Indexes from the next menu.

Meeman Archive of Environmental Journalism

telnet hermes.merit.edu

or

telnet 35.1.48.149

Which Host? mirlyn

Hit return for vt100 emulation

At the Database Selection menu type MEEM

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.

telnet nssdca.gsfc.nasa.gov
or
telnet 128.183.10.4

At username type NSSDC

Overview

The NSSDC Online Data and Information Service (NODIS) is a menu driven system which provides a single entry point for accessing many of the services supported by the National Space Science Data Center (NSSDC). Because this utility is menu driven, the services provided by NODIS are available to all users regardless of their knowledge of the VAX/VMS environment. The NODIS utility is invoked by issuing the following commands from a span network node.

\$ SET HOST NSSDC
or
\$ SET HOST NSSDCA

Username: NSSDC (soon to be changed to NODIS)

Password: (none required)

The NODIS welcome banner is then displayed and the user is prompted to enter his/her name, after which the NODIS main menu appears. The menu instructions are self-explanatory.

Please send any comments or suggestions about this utility to

NSSDCA::NSSDCMGR

by DECmail if you are on SPAN, or contact

Nathan James
Code 633
NASA/GSFC
Greenbelt, Md. 20771
(301)286-9789

telnet 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 bps. 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.

telnet freenet.carleton.ca

NEWTON: Educational Electronic BBS

telnet newton.dep.anl.gov

or

telnet 130.202.92.50

login: cocotext

Sponsor: Argonne National Laboratory

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.

ftp mrcnext.cso.uiuc.edu
or
ftp 128.174.201.12

This excerpt from a recent newsletter describes a few files available from this system.

Project Gutenberg Newsletter :: May 10, 1992

Our Goal, To Give Away One Trillion Etexts By December 31, 2001

We should be at about 2.2 billion with release of the following not counting pre-1991 releases: which are still in the process of being dug out of our archives, new headers attached, and new placement in new directories on our fileserver.

The current releases are on mrcnext: cd etext/etext92

May 10, 1992 in honor of Mothers' Day, we will post "Herland." This book is a "must read" for fans of Dances With Wolves, and feminist literature. . .none of backlash of modern feminism or other -isms. We would certainly appreciate it if someone got a copy to Gloria Steinem, Germaine Greer, and Betty Friedan.

May 6, 1992, in honor of Freud's Birthday, the Oedipus Trilogy.

April 19, 1992 in honor of Easter, biblea10.txt or biblea10.zip (This is a new etext of the King James Version, much proofread)

April 8, 1992, Far From The Madding Crowd, crowd13.txt or .zip.

Nebraska has been included in the US Census (uscen901.xxx).

Also!! Please note new directory structures. . .you may have to look around a little at mrcnext and quake.think.com. We are working on finding all the old readme type files and updating Current instructions for mrcnext are below.

You may subscribe to the paper edition of this newsletter: mail stamps and mailing labels, and/or donations to:

David Turner, O.S.B.
Illinois Benedictine
5700 College Road
Lisle, IL 60532-0900

(Books from earlier years will available in 1992) (but not yet: to be announced, don't ask yet!!!)

1971 Declaration-Independence (whenxxxx.xxx)
1972 Bill of Rights (billxxxx.xxx)
1973 U.S. Constitution (constxxx.xxx)
1974-1982 The Bible (biblexxx.xxx)
1983-1990 Complete Shakespeare (shakesxx.xxx)

** The newest Project Gutenberg FTP site is the Cleveland Freenet **

We need some Freenet users log in and test the system, hopefully the sessions can be saved as a file and forwarded to us so they can be a great assistance in the creation of help and readme files.

You can ftp and get at least some files at ftp.cwru.edu (anonymous). You can also call via modem at 1-216-368-3888 (I have not tried it).

Here are the latest updates for FTP downloading of Project Gutenberg etexts and others. These updates will be posted on several listserv locations once a month. We hope we have answered most questions, as new files, new locations, and new users arrive each month. We can't answer queries about nameservers or how your local system runs FTP!!

Please try to help people get text files as we are not well prepared to deal with sending items through the mail.

Please do not access the mrcnext machine from 10:00 AM to 6:00 PM Central Standard Time (Daylight in summer) as this is peak usage, & mrcnext is always the first machine to get the newest editions. Please GET the INDEX, README GUT*.* and NEW.GUT files first.

Current releases are now listed in each newsletter.
Others texts are also available at the various sites.

(if you are not an internet site, you will either have to find one to use or find an FTP emulator program to use at your sites and/or I will have a packet of information sent to you directly as email. (I leave this choice for last because all email is backed up to my disk, so sending out copies to many people creates many backups, but don't hesitate to ask and remind us that you need email sent rather than instructions for FTP))

For further information or to retrieve electronic books:

FTP directly to the Project Gutenberg archives:

ftp mrcnext.cso.uiuc.edu
or
ftp 128.174.201.12

login: anonymous

password: name@login (your email address)

cd etext92 (for 1992 releases) or cd /etext/etext92
cd etext/etext91 (for 1991 releases)
cd etext/articles (for Project Gutenberg articles and newsletters)

dir (to see files)

get or mget (to get files. . .set bin for zip files)

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

MORE DETAILS

ls -a or dir (This will give you a directory listing, case sensitive) get filename.filetype
(examples . . .)
dir (to see current editions available) (RETURN to see next page)
get alice29.txt
get lglass16.txt
get snark12.txt
quit

You may have to get local instructions for linking to FTP, and/or setting memory for FTP. These files also available via disk on request in several formats. Some Bitnet sites have FTP emulators, check with your local guru.

The current FTP sites are: mrcnext.cso.uiuc.edu or (128.174.201.12) cd /etext (details above)
(Please do NOT use the mrcnext between 10AM and 6PM weekdays)

Our newest FTP site is: (and therefore we are in need of testing
of advice for our instruction set)

The Oregon State server. Please send us records of your sessions with them, along with questions you need answered. We will compile sets of instructions similar to those you see below for the other sites.

Named the Almanac information server, located at the Extension Service at Oregon State University, allows text retrieval both through ftp and email (for Bitnet users). Works from To retrieve a file via ftp:

```
ftp oes.orst.edu      (128.193.124.2)
Log in as
cd /pub/almanac/guten
ls
bin
get filename
bye                  (when done)
```

To retrieve a file via e-mail, first send the following line by itself to almanac@oes.orst.edu

```
send gutenberg catalog
```

This will instruct you how to send further requests, and will list the available files.

This information provided by Chris Hansen
Internet: hansenc@OES.ORST.EDU
UUCP: uunet!orstext!gouda!hansenc

Space Shuttle Earth Observations Project's Photographic Data Base

telnet SSEOP.JSC.NASA.GOV

or

telnet 146.154.11.34

Username: photos

Password: photos

(opening menu)

MAIN MENU

GENERAL

? - Help for ALL options

BUL - Bulletin Board

EX - EXIT

QUERY

LL - Latitude/Longitude Range

LLM - Latitude/Longitude Range + Mission

GEO - Geographical Location

GLL - Geographical Location + Latitude/Longitude Range

GMS - Geographical Location + Mission

MRF - Mission/Roll/Frame

DOWNLOAD

ALL - Entire Database

MSN - Selected Mission

IMG - Images

SPECIAL REPORTS

GS - Geographical Location Sort (Entire Database)

SUPERNET
telnet supernet.ans.net
or
telnet 147.225.1.51

telnet tycho.usno.navy.mil
or
telnet 192.5.41.239

login: ads

Advanced Technology Information Network
AfterFive BBS
Bulletin Board for Libraries (BUBL) (Glasgow University)
M-Net. Public Access UNIX System
National Education BBS
NYX (Spirit of the Night)
Skynet BBS
United States Military Academy BBS
University of North Carolina BBS
University of Oulu, Finland

US Military Academy BBS

telnet ranger.usma.edu
or
telnet 129.29.64.24

login:

Advanced Technology Information Network

telnet CATICSUF.CATI.CSUFRESNO.EDU
or
telnet 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 agri- cultural 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:

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 List 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 previous menu

After Five 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

Fortune Your Fortune
L/P Read last five/ten
N Read new
O Read old, backwards
R Read reverse
Read last X messages
news Read the news
help This screen
info Fetch information files

MISC COMMANDS

F Read forward
C Chat with other users (Bourbon St.)
W See who is logged on
QUIT Terminate (Must be in all CAPS)
TIME See the time and date
 @password old = new Change your password
@lastlog name When was name last logged on
Toggle message scrolling
@whereis Locate a user in the DataBase

BUBL (Bulletin Board For Libraries)

Glasgow Univ.

telnet SUN.NSF.AC.UK

or

telnet 128.86.8.7

login: janet

Hostname: uk.ac.glasgow.bubl

Terminal type: vt100

A--All about BUBL

C--New titles in LIS

D--Directories

E--Current Contents

F--Mailing lists

G--NISS

H--Users' board

J--Glossary

L--British Library R &D News

N--Latest changes to BUBL

O--CONCISE(Pan-European Inf.Serv.)

S--Electronic Journals & Texts

V--Library Systems & Software

Z--CTILIS

National Education BBS

telnet NEBBS.NERSC.GOV
or
telnet 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

UNC-OIT BBS

telnet BBS.OIT.UNC.EDU

or

telnet 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 Oslo

telnet TOLSUN.OULU.FI
or
telnet 128.214.5.6

login: box

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

SkynetBBS

telnet HPX5.AID.NO

or

telnet 128.39.145.225

login: skynet

This system is run out of Grimstad, Norway. As of this writing, it has little more than a message system (1/26/93).

telnet HERMES.MERIT.EDU
or
telnet 35.1.48.150

At Which Host?: enter um-m-net
MichNet login: newuser

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).

telnet NYX.CS.DU.EDU
or
telnet 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

WAIS (Wide-Area Information Services)

WAIS (pronounced 'ways') is a networked information retrieval system. WAIS currently uses TCP/IP to connect client applications to information servers. Client applications are able to retrieve text or multimedia documents stored on the servers. Client applications request documents using keywords. Servers search a full text index for the documents and return a list of documents containing the keyword. The client may then request the server to send a copy of any of the documents found.

Although the name "Wide Area" implies the use of the large networks such as the Internet to connect clients to servers distributed around the network, WAIS can be used between a client and server on the same machine or a client and server on the same LAN.

WAIS uses the Z39.50 query protocol to communicate between clients and servers. WAIS does not, at this time, implement the full Z39.50-1992 specification. In particular, WAIS does not permit boolean searches but instead is restricted to relevance feedback.

There are a large number of servers running currently (over 400 databases). Topics range from recipes and movies to bibliographies, technical documents, and newsgroup archives.

WAIS was developed as a project of Thinking Machines, Apple Computer and Dow Jones. WAIS is a free product available with full source to the server, indexing software, and many clients.

Thinking Machines has announced that they will stop support for the publicly distributed WAIS as of WAIS-8-b5.1. Future support and development of WAIS has been taken over by CNIDR (Clearinghouse for Networked Information Discovery and Retrieval). Future CNIDR releases will be called FreeWAIS, to help reduce confusion. To obtain freeWAIS (unix) server software:

ftp to: ftp.cnidr.org
path to file(s): pub/NIDR.tools/freeWAIS-0.1.tar

To obtain an MS-DOS WAIS client:

ftp to: sunsite.unc.edu
path to file(s): pub/wais/DOS/pcdist.zip

WAIS sites:

NNSC.NSF.NET
Think.com

Clearinghouse for Networked Information Discovery and Retrieval

telnet hub.nnsc.nsf.net
Username: wais

telnet quake.think.com
or
telnet 192.31.181.1
login: wais
terminal: vt100

Z39.50

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.

A version of telnet providing IBM full-screen support

National Science Foundation
telnet master.stis.nsf.gov
or
telnet 128.150.195.40
login: public

STIS supports the following terminal types:

vt100
vt100nkp
vt100nes
sunkbd3
sunkbd4

Enter your terminal type, or ? for help (blank=vt100):

Science and Technology Information System
Type up to eight letters as your personal ID, and then Enter.

Network Information Center On-Line Aid System (NICOLAS)
telnet dftnic.gsfc.nasa.gov
or
telnet 128.183.10.3

Username: DFTNIC

This is the ADFTO's Network Information Center On-Line Aid System

THIS SYSTEM IS FOR NASA EMPLOYEES, CONTRACTORS AND AFFILIATED RESEARCHERS ONLY

Available on the Cleveland Freenet

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.)

This feature is produced five days a week (Mon-Fri) by the USA TODAY: Gannett National Information Network. Each day the information is placed on a USA TODAY computer in Greensboro, North Carolina, downloaded, processed, and uploaded to the Cleveland Free-Net by NPTN.

You will find this service to be a little different than other online news services you may have experienced. It does NOT consist of full text articles. Rather it consists of headlines followed by one paragraph summaries. This design is quite intentional.

One of the things we have found over the years is that computer screens are a pretty bad way of reading high-volume full-text of ANYTHING. They simply do not allow you the flexibility of eye-scanning and cognitive movement that the print medium does. As a result, few people are willing to "Press Return to Continue" their way through a large file for very long.

What these files do is allow you to get a quick four or five screen summary of the news in over 18 different areas. Items of special interest--items that you WANT more information on--can be noted so that you can later obtain a newspaper (hopefully USA TODAY) or go to some other source for more details. We think you will find that, after reading this service, you come away with a pretty good feel for what's going on in the world. And THAT is our intent.

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.

Shakespeare's Plays and Sonnets

telnet lib.dartmouth.edu

or

telnet 129.170.16.11

terminal type:

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)

Webster's Dictionary

telnet decoy.uoregon.edu 2627

or

telnet 128.223.32.19 2627

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.

Comments and suggestions to sahayman@iuvax.cs.indiana.edu .

Available at the [Cleveland Freenet](#)

Type go nations at the Your Choice prompt

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

ZIB Electronic Library, GERMANY

telnet ELIB.ZIB-BERLIN.DE

or

telnet 130.73.108.11

login: elib

Hello and Welcome at the ZIB Electronic Library

This is the Version 1.1 of eLib, making available to the public:

1. a set of libraries with routines classified by GAMS-index
2. a "hot link" to the famous "netlib" of AT&T containing ca. 5000 routines - you must be registered at eLib, to access them by "e-Mail out" service
3. some abstracts of scientific papers and software distribution documents and a set of introductory documents on eLib itself and the ways to reach it.

A few definitions

Archie

Clarkson drivers

client/server

ethernet

file server

ftp

gateways

gopher

internet

ip address

listserver

nren

OPAC

packet switching

tcp/ip

telnet

Veronica

vt100

usenet

wais

(USEr NETwork) Public access network on the Internet that provides user news and e-mail. It is a giant, dispersed bulletin board that is maintained by volunteers willing to provide news and mail feeds to other nodes. It began in 1979 as a bulletin board between two universities in North Carolina

Ethernet - from Newton's Telecom Dictionary

A local area network used for connecting computers, printers, workstations, terminals, etc., within the same building. Ethernet operates over twisted wire and over coaxial cable at speeds up to 10 Mbps. Ethernet LANs are being promoted by DEC, Intel and Xerox. For LAN interconnection, Ethernet is a physical link and data link protocol reflecting the two lowest layers of the DNA/OSI model. The theoretical limit of Ethernet, measured in 64 byte packets, is 14,800 packets per second (PPS). By comparison, Token Ring is 30,000 and FDDI is 170,000.

(InfoPop note: the PPS figure translates to 10 Megabits per second. For Token Ring, the figures are 4 Mbps and 16Mbps. 100 Mbps Ethernet, called 'fast ethernet' is currently under development by several firms and is predicted to be a 'standard' in late '93 or early '94).

Ethernet specifies a CSMA/CD (Carrier Sense Multiple Access with Collision Detection). CSMA/CD is a technique of sharing a common medium (wire, coaxial cable) among several devices. As Byte Magazine explained in its January, 1991 issue, Ethernet is based on the same etiquette that makes for a polite conversation: "Listen before talking." Of course, even when people are trying not to interrupt each other, there are those embarrassing moment when two people accidentally start talking at the same time. This is essentially what happens in Ethernet networks, where such a situation is called a collision. If a node on the network detects a collision, it alerts the other nodes by jamming the network. Then, after a random pause, the sending nodes try again. The messages are called frames.

The first personal computer Ethernet LAN adapter was shipped by 3Com on September 29, 1982 using the first Ethernet silicon from SEEQ Technology. Bob Metcalfe who created the original Ethernet specification at Xerox PARC and later went on to found 3Com. Thin Ethernet cable and silicon dropped from about \$5,000 to \$750 and 3Com went off like a rocket ship.

Client/Server

In a communications network, the client is the requesting machine and the server is the supplying machine. It implies that software is specialized at each end. For example, in a network-ready database system, the user interface would reside in the workstation, and the storage and retrieval functions would reside in the server.

The [gopher](#) protocol is one implementation of a client/server architecture.

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 facility, 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.

Note that once you subscribe to a list, you receive all the 'mail' anyone sends to the list.

NREN

The National Research and Education Network is a proposed 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.

Packet Switching

Sending data in packets through a network to some remote location. The data to be sent is subdivided into individual packets of data, each having a unique identification and carrying its destination address. This way each packet can go by a different route. It may also arrive in a different order than it was shipped. The packet ID lets the data be reassembled in proper sequence. Packet switching is a very efficient method of moving digital data around. It is not useful for voice, yet, though experiments are underway.

File Server

A file server is a device which "serves" files to everyone on a network. It allows everyone the network to get to files in a single place, one one computer. It typically is a combination computer, data management software, and large capacity hard disk drive. A file server directs all movement of files and data on a multi-user communications network. It allows the user to store information, leave electronic mail messages for other users on the system and access application software on the file server -- e.g. word processing, spreadsheet. A file server should also stop more than one user accessing (and potentially changing) a file at the same time -- a capability called file locking. This means that certain files are "locked" to certain users, i.e. those users cannot access those files.

Internet

The Internet is a worldwide collection of thousands of interconnected computer networks, which is used by approximately one million people daily. The networks in the Internet use either the TCP/IP protocol suite or the OSI protocol suite. Gateways exist that translate between the two protocols.

[more detailed information](#)

Here is RFC 1462, basically a reprint of Chapter 2 of E. Krol's *Whole Internet User's Guide & Catalog*

Network Working Group
Request for Comments: 1462
FYI: 20

E. Krol
University of Illinois

E. Hoffman
Merit Network, Inc.
May 1993

FYI on "What is the Internet?"

Status of this Memo

This memo provides information for the Internet community. It does not specify an Internet standard. Distribution of this memo is unlimited.

For this 'InfoPop' edition, we've added a small bit of hypertextualization...'

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[What Does the Future Hold?](#)

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Abstract

This FYI RFC answers the question, "What is the Internet?" and is produced by the User Services Working Group of the Internet Engineering Task Force (IETF). Containing a modified chapter from Ed Krol's 1992 book, "The Whole Internet User's Guide and Catalog," the paper covers the Internet's definition, history, administration, protocols, financing, and current issues such as growth, commercialization, and privatization.

Introduction

A commonly asked question is "What is the Internet?" The reason such a question gets asked so often is because there's no agreed upon answer that neatly sums up the Internet. The Internet can be thought about in relation to its common protocols, as a physical collection of routers and circuits, as a set of shared resources, or even as an attitude about interconnecting and intercommunication. Some common definitions given in the past include:

- * a network of networks based on the TCP/IP protocols,
- * a community of people who use and develop those networks,
- * a collection of resources that can be reached from those networks.

Today's Internet is a global resource connecting millions of users that began as an experiment over 20 years ago by the U.S. Department of Defense. While the networks that make up the Internet are based on a standard set of protocols (a mutually agreed upon method of communication between parties), the Internet also has gateways to networks and services that are based on other protocols.

To help answer the question more completely, the rest of this paper contains an updated second chapter from "The Whole Internet User's Guide and Catalog" by Ed Krol (1992) that gives a more thorough explanation. (The excerpt is published through the gracious permission of the publisher, O'Reilly & Associates, Inc.)

The Internet (excerpt from "The Whole Internet User's Guide and Catalog")

The Internet was born about 20 years ago, trying to connect together a U.S. Defense Department network called the ARPAnet and various other radio and satellite networks. The ARPAnet was an experimental network designed to support military research--in particular, research about how to build networks that could withstand partial outages (like bomb attacks) and still function. (Think about this when I describe how the network works; it may give you some insight into the design of the Internet.) In the ARPAnet model, communication always occurs between a source and a destination computer. The network itself is assumed to be unreliable; any portion of the network could disappear at any moment (pick your favorite catastrophe--these days backhoes cutting cables are more of a threat than bombs). It was designed to require the minimum of information from the computer clients. To send a message on the network, a computer only had to put its data in an envelope, called an Internet Protocol (IP) packet, and "address" the packets correctly. The communicating computers--not the network itself--were also given the responsibility to ensure that the communication was accomplished. The philosophy was that every computer on the network could talk, as a peer, with any other computer.

These decisions may sound odd, like the assumption of an "unreliable" network, but history has proven that most of them were reasonably correct. Although the Organization for International Standardization (ISO) was spending years designing the ultimate standard for computer networking, people could not wait. Internet developers in the US, UK and Scandinavia, responding to market pressures, began to put their IP software on every conceivable type of computer. It became the only practical method for computers from different manufacturers to communicate. This was attractive to the government and universities, which didn't have policies saying that all computers must be bought from the same vendor. Everyone bought whichever computer they liked, and expected the computers to work together over the network.

At about the same time as the Internet was coming into being, Ethernet local area networks ("LANs") were developed. This technology matured quietly, until desktop workstations became available around 1983. Most of these workstations came with Berkeley UNIX, which included IP networking software. This created a new demand: rather than connecting to a single large timesharing computer per site, organizations wanted to connect the ARPAnet to their entire local network. This would allow all the computers on that LAN to access ARPAnet facilities. About the same time, other organizations started building their own networks using the same communications protocols as the ARPAnet: namely, IP and its relatives. It became obvious that if these networks could talk together, users on one network could communicate with those on another; everyone would benefit.

One of the most important of these newer networks was the NSFNET, commissioned by the National Science Foundation (NSF), an agency of the U.S. government. In the late 80's the NSF created five supercomputer centers. Up to this point, the world's fastest computers had only been available to weapons developers and a few researchers from very large corporations. By creating supercomputer centers, the NSF was making these resources available for any scholarly research. Only five centers were created because they were so expensive--so they had to be shared. This created a communications problem: they needed a way to connect their centers together and to allow the clients of these centers to access them. At first, the NSF tried to use the ARPAnet for communications, but this strategy failed because of bureaucracy and staffing problems.

In response, NSF decided to build its own network, based on the ARPAnet's IP technology. It connected the centers with 56,000 bit per second (56k bps) telephone lines. (This is roughly the ability to transfer two full typewritten pages per second. That's slow by modern standards, but was reasonably fast in the mid 80's.) It was obvious, however, that if they tried to connect every university directly to a supercomputing center, they would go broke. You pay for these telephone lines by the mile. One line per campus with a supercomputing center at the hub, like spokes on a bike wheel, adds up to lots of miles of phone lines. Therefore, they decided to create regional networks. In each area of the country, schools would be connected to their nearest neighbor. Each chain was connected to a supercomputer center at one point and the centers were connected together. With this configuration, any computer could eventually communicate with any other by forwarding the conversation through its neighbors.

This solution was successful--and, like any successful solution, a time came when it no longer worked. Sharing supercomputers also allowed the connected sites to share a lot of other things not related to the centers. Suddenly these schools had a world of data and collaborators at their fingertips. The network's traffic increased until, eventually, the computers controlling the network and the telephone lines connecting them were overloaded. In 1987, a contract to manage and upgrade the network was awarded to Merit Network Inc., which ran Michigan's educational network, in partnership with IBM and MCI. The old network was replaced with faster telephone lines (by a factor of 20), with faster computers to control it.

The process of running out of horsepower and getting bigger engines and better roads continues to this day. Unlike changes to the highway system, however, most of these changes aren't noticed by the people trying to use the Internet to do real work. You won't go to your office, log in to your computer, and find a message saying that the Internet will be inaccessible for the next six months because of improvements. Perhaps even more important: the process of running out of capacity and improving the network has created a technology that's extremely mature and practical. The ideas have been tested; problems have appeared, and problems have been solved.

For our purposes, the most important aspect of the NSF's networking effort is that it allowed everyone to access the network. Up to that point, Internet access had been available only to researchers in computer science, government employees, and government contractors. The NSF promoted universal educational access by funding campus connections only if the campus had a plan to spread the access around. So everyone attending a four year college could become an Internet user.

The demand keeps growing. Now that most four-year colleges are connected, people are trying to get secondary and primary schools connected. People who have graduated from college know what the Internet is good for, and talk their employers into connecting corporations. All this activity points to continued growth, networking problems to solve, evolving technologies, and job security for networkers.

What Makes Up the Internet?

What comprises the Internet is a difficult question; the answer changes over time. Five years ago the answer would have been easy: "All the networks, using the IP protocol, which cooperate to form a seamless network for their collective users." This would include various federal networks, a set of regional networks, campus networks, and some foreign networks.

More recently, some non-IP-based networks saw that the Internet was good. They wanted to provide its services to their clientele. So they developed methods of connecting these "strange" networks (e.g., Bitnet, DECnets, etc.) to the Internet. At first these connections, called "gateways", merely served to transfer electronic mail between the two networks. Some, however, have grown to translate other services between the networks as well. Are they part of the Internet? Maybe yes and maybe no. It depends on whether, in their hearts, they want to be. If this sounds strange, read on--it gets stranger.

Who Governs the Internet?

In many ways the Internet is like a church: it has its council of elders, every member has an opinion about how things should work, and you can either take part or not. It's your choice. The Internet has no president, chief operating officer, or Pope. The constituent networks may have presidents and CEO's, but that's a different issue; there's no single authority figure for the Internet as a whole. The ultimate authority for where the Internet is going rests with the Internet Society, or ISOC. ISOC is a voluntary membership organization whose purpose is to promote global information exchange through Internet technology. (If you'd like more information, or if you would like to join, contact information is provided in the "For More Information" section, near the end of this document.) It appoints a council of elders, which has responsibility for the technical management and direction of the Internet.

The council of elders is a group of invited volunteers called the Internet Architecture Board, or the IAB. The IAB meets regularly to "bless" standards and allocate resources, like addresses. The Internet works because there are standard ways for computers and software applications to talk to each other. This allows computers from different vendors to communicate without problems. It's not an IBM-only or Sun-only or Macintosh-only network. The IAB is responsible for these standards; it decides when a standard is necessary, and what the standard should be. When a standard is required, it considers the problem, adopts a standard, and announces it via the network. (You were expecting stone tablets?) The IAB also keeps track of various numbers (and other things) that must remain unique. For example, each computer on the Internet has a unique 32-bit address; no other computer has the same address. How does this address get assigned? The IAB worries about these kinds of problems. It doesn't actually assign the addresses, but it makes the rules about how to assign addresses.

As in a church, everyone has opinions about how things ought to run. Internet users express their opinions through meetings of the Internet Engineering Task Force (IETF). The IETF is another volunteer organization; it meets regularly to discuss operational and near-term technical problems of the Internet. When it considers a problem important enough to merit concern, the IETF sets up a "working group" for further investigation. (In practice, "important enough" usually means that there are enough people to volunteer for the working group.) Anyone can attend IETF meetings and be on working groups; the important thing is that they work. Working groups have many different functions, ranging from producing documentation, to deciding how networks should cooperate when problems occur, to changing the meaning of the bits in some kind of packet. A working group usually produces a report. Depending on the kind of recommendation, it could just be documentation and made available to anyone wanting it, it could be accepted voluntarily as a good idea which people follow, or it could be sent to the IAB to be declared a standard.

If you go to a church and accept its teachings and philosophy, you are accepted by it, and receive the benefits. If you don't like it, you can leave. The church is still there, and you get none of the benefits. Such is the Internet. If a network accepts the teachings of the Internet, is connected to it, and considers itself part of it, then it is part of the Internet. It will find things it doesn't like and can address those concerns through the IETF. Some concerns may be considered valid and the Internet may change accordingly. Some of the changes may run counter to the religion, and be rejected. If the network does something that causes damage to the Internet, it could be excommunicated until it mends its evil ways.

Who pays for the Internet?

The old rule for when things are confusing is "follow the money." Well, this won't help you to understand the Internet. No one pays for "it"; there is no Internet, Inc. that collects fees from all Internet networks or users. Instead, everyone pays for their part. The NSF pays for NSFNET. NASA pays for the NASA Science Internet. Networks get together and decide how to connect themselves together and fund these interconnections. A college or corporation pays for their connection to some regional network, which in turn pays a national provider for its access.

What Does This Mean for Me?

The concept that the Internet is not a network, but a collection of networks, means little to the end user. You want to do something useful: run a program, or access some unique data. You shouldn't have to worry about how it's all stuck together. Consider the telephone system--it's an internet, too. Pacific Bell, AT&T, MCI, British Telephony, Telefonos de Mexico, and so on, are all separate corporations that run pieces of the telephone system. They worry about how to make it all work together; all you have to do is dial. If you ignore cost and commercials, you shouldn't care if you are dealing with MCI, AT&T, or Sprint. Dial the number and it works. You only care who carries your calls when a problem occurs. If something goes out of service, only one of those companies can fix it. They talk to each other about problems, but each phone carrier is responsible for fixing problems on its own part of the system. The same is true on the Internet. Each network has its own network operations center (NOC). The operation centers talk to each other and know how to resolve problems. Your site has a contract with one of the Internet's constituent networks, and its job is to keep your site happy. So if something goes wrong, they are the ones to gripe at. If it's not their problem, they'll pass it along.

What Does the Future Hold?

Finally, a question I can answer. It's not that I have a crystal ball (if I did I'd spend my time on Wall Street instead of writing a book). Rather, these are the things that the IAB and the IETF discuss at their meetings. Most people don't care about the long discussions; they only want to know how they'll be affected. So, here are highlights of the networking future.

New Standard Protocols

When I was talking about how the Internet started, I mentioned the International Standards Organization (ISO) and their set of protocol standards. Well, they finally finished designing it. Now it is an international standard, typically referred to as the ISO/OSI (Open Systems Interconnect) protocol suite. Many of the Internet's component networks allow use of OSI today. There isn't much demand, yet. The U.S. government has taken a position that government computers should be able to speak these protocols. Many have the software, but few are using it now.

It's really unclear how much demand there will be for OSI, notwithstanding the government backing. Many people feel that the current approach isn't broke, so why fix it? They are just becoming comfortable with what they have, why should they have to learn a new set of commands and terminology just because it is the standard? Currently there are no real advantages to moving to OSI. It is more complex and less mature than IP, and hence doesn't work as efficiently. OSI does offer hope of some additional features, but it also suffers from some of the same problems which will plague IP as the network gets much bigger and faster. It's clear that some sites will convert to the OSI protocols over the next few years. The question is: how many?

International connections

The Internet has been an international network for a long time, but it only extended to the United States' allies and overseas military bases. Now, with the less paranoid world environment, the Internet is spreading everywhere. It's currently in over 50 countries, and the number is rapidly increasing. Eastern European countries longing for western scientific ties have wanted to participate for a long time, but were excluded by government regulation. This ban has been relaxed. Third world countries that formerly didn't have the means to participate now view the Internet as a way to raise their education and technology levels.

In Europe, the development of the Internet used to be hampered by national policies mandating OSI protocols, regarding IP as a cultural threat akin to EuroDisney. These policies prevented development of large scale Internet infrastructures except for the Scandinavian countries which embraced the Internet protocols long ago and are already well-connected. In 1989, RIPE (Reseaux IP Europeens) began coordinating the operation of the Internet in Europe and presently about 25% of all hosts connected to the Internet are located in Europe.

At present, the Internet's international expansion is hampered by the lack of a good supporting infrastructure, namely a decent telephone system. In both Eastern Europe and the third world, a state-of-the-art phone system is nonexistent. Even in major cities, connections are limited to the speeds available to the average home anywhere in the U.S., 9600 bits/second. Typically, even if one of these countries is "on the Internet," only a few sites are accessible. Usually, this is the major technical university for that country. However, as phone systems improve, you can expect this to change too; more and more, you'll see smaller sites (even individual home systems) connecting to the Internet.

Commercialization

Many big corporations have been on the Internet for years. For the most part, their participation has been limited to their research and engineering departments. The same corporations used some other network (usually a private network) for their business communications. After all, this IP stuff was only an academic toy. The IBM mainframes that handled their commercial data processing did the "real" networking using a protocol suite called System Network Architecture (SNA).

Businesses are now discovering that running multiple networks is expensive. Some are beginning to look to the Internet for "one-stop" network shopping. They were scared away in the past by policies which excluded or restricted commercial use. Many of these policies are under review and will change. As these restrictions drop, commercial use of the Internet will become progressively more common.

This should be especially good for small businesses. Motorola or Standard Oil can afford to run nationwide networks connecting their sites, but Ace Custom Software couldn't. If Ace has a San Jose office and a Washington office, all it needs is an Internet connection on each end. For all practical purposes, they have a nationwide corporate network, just like the big boys.

Privatization

Right behind commercialization comes privatization. For years, the networking community has wanted the telephone companies and other for-profit ventures to provide "off the shelf" IP connections. That is, just like you can place an order for a telephone jack in your house for your telephone, you could do this for an Internet connection. You order, the telephone installer leaves, and you plug your computer into the Internet. Except for Bolt, Beranek and Newman, the company that ran the ARPANet, there weren't any takers. The telephone companies have historically said, "We'll sell you phone lines, and you can do whatever you like with them." By default, the Federal government stayed in the networking business.

Now that large corporations have become interested in the Internet, the phone companies have started to change their attitude. Now they and other profit-oriented network purveyors complain that the government ought to get out of the network business. After all, who best can provide network services but the "phone companies"? They've got the ear of a lot of political people, to whom it appears to be a reasonable thing. If you talk to phone company personnel, many of them still don't really understand what the Internet is about. They ain't got religion, but they are studying the Bible furiously. (Apologies to those telephone company employees who saw the light years ago and have been trying to drag their employers into church.)

Although most people in the networking community think that privatization is a good idea, there are some obstacles in the way. Most revolve around the funding for the connections that are already in place. Many schools are connected because the government pays part of the bill. If they had to pay their own way, some schools would probably decide to spend their money elsewhere. Major research institutions would certainly stay on the net; but some smaller colleges might not, and the costs would probably be prohibitive for most secondary schools (let alone grade schools). What if the school could afford either an Internet connection or a science lab? It's unclear which one would get funded. The Internet has not yet become a "necessity" in many people's minds. When it does, expect privatization to come quickly.

Well, enough questions about the history of the information highway system. It's time to walk to the edge of the road, try and hitch a ride, and be on your way.

Acknowledgments

We would like to thank O'Reilly & Associates for permission to reprint the chapter from their book by Ed Krol (1992), "The Whole Internet User's Guide and Catalog."

For More Information

Hoffman, E. and L. Jackson. (1993) "FYI on Introducing the Internet --A Short Bibliography of Introductory Internetworking Readings for the Network Novice," 4 p. (FYI 19, [RFC 1463](#)).

To find out how to obtain this document and other on-line introductory readings, send an e-mail message to:

nis-info@nis.merit.edu, with the following text:

access.guide.

Krol, Ed. (1992) *The Whole Internet User's Guide and Catalog*, O'Reilly & Associates, Sebastopol, CA. ISBN 1-56592-025-2.

Quarterman, J. (1993) "Recent Internet Books," 15 p. (RFC 1432).

The Internet Society; Phone: (703) 620-8990; Fax: (703) 620-0913; e-mail: isoc@cnri.reston.va.us

Security Considerations

Security issues are not discussed in this memo.

Authors' Addresses

Ed Krol
Computing and Communications Service Office
Univ. of Illinois Urbana Champaign (UIUC)
1304 W Springfield
Urbana, IL 61801
Phone: (217)333-7886
EMail: e-krol@uiuc.edu

Ellen Hoffman
Merit Network, Inc.
2901 Hubbard, Pod-G
Ann Arbor, MI 48105
Phone: (313) 936-3000
EMail: ellen@merit.edu

IP Address

Every machine on the Internet has a unique address, 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, (e.g., 147.31.254.130). Sometimes called a dotted quad; there are literally thousands of them. Originally, the addressing scheme allowed only 256 combinations, hence the move to 32 bit integers.

gateway

A gateway is what it sounds like. It's an entrance and exit into a communications network. Gateways exist at the point where AT&T Communications ends and Comsat begins -- for taking the call overseas.

Gateways also exist between data networks. In data communications, they're typically referred to as a node on a network that connects two otherwise incompatible networks. For example, PC users on a local area network may need a gateway to gain access to a mainframe computer since the mainframe does not speak the same language (protocols) as the PC. Thus, gateways on data networks often perform code and protocol conversion processes as well.

Gateways also eliminate duplicate wiring by giving all users on the network access to the mainframe without having a direct, hard-wired connection. Gateways also connect compatible networks owned by different entities, such as X.25 networks linked by X.75 gateways. Gateways are commonly used to connect people on one network, say a token ring network, with those on a long distance network. According to the OSI model, a gateway is a device that provides mapping at all seven layers of the model. For example, a gateway may be used to interface between two incompatible electronic mail systems or for transferring data files from one system to another.

Gateways are application specific such as NetWare to SNA, Appletalk to DECnet, and NetWare to Banyan's VINES.

VT100 A particular terminal emulation standard, made famous by Digital Equipment.

Library-Oriented Lists and Electronic Serials

The information in this section was compiled by Charles Bailey

Computer Conferences

Electronic Serials

Computer Conferences

Computer conferences are becoming an increasingly important form of communication for librarians. There are a growing number of computer conferences of interest to librarians on BITNET and Internet.

Computer conferences are commonly called "lists." The software used to support these lists is typically referred to as the "list server."

1.1 Lists That Use Eric Thomas's List Server

Many BITNET lists utilize a list server that was developed by Eric Thomas.

Please note that some of these BITNET lists also have Internet addresses, which are not shown here.

(Entries that appear in this document for the first time or have been changed are marked with an asterisk.)

ADVANC-L@DBSU	Geac Advance Library System
AFAS-L@KENTVM	African American Studies and Librarianship
ALF-L@YORKVM1	Academic Librarian's Forum
ARCHIVES@INDYCMS	Archives and Archivists List
ARIE-L@DBSU	RLG Ariel Document Transmission System
ARLIS-L@UKCC	Art Libraries Association of North America
ASIS-L@UVMVM	American Society for Information Science
ATLAS-L@TCUBVM	Data Research ATLAS Users
AUTOCAT@UVMVM	Library Cataloging and Authorities
BI-L@BINGVMB	Bibliographic Instruction
BIBSOFT@INDYCMS	Discussion of Software for Citations and Bibliographies
BRS-L@USCVM	BRS/Search Users
BUSLIB-L@DBSU	Business Librarians
CALL-L@UNBVM1	Canadian Academic Law Libraries List*
CARL-L@UHCCVM	CARL Users
CDPLUS-L@UTORONTO	CDPLUS Software User Group
CDROMLAN@DBSU	CD-ROM LANs
CDS-ISIS@HEARN	UNESCO's CDS/ISIS Text Retrieval Software
CHMINF-L@IUBVM	Chemical Information Sources
CIRPLUS@DBSU	Circulation and Access Services
COLLDV-L@USCVM	Library Collection Development List
CONSALD@UTXVM	Committee on South Asian Libraries and Documentation
COSNDISC@BITNIC	Consortium for School Networking
CWIS-L@WUVMD	Campus-Wide Information Systems
ELDNET-L@UIUCVMD	ASEE Engineering Libraries Division
ELEASAI@ARIZVM1	Open Library/Information Science Research Forum
ELLASBIB@GREARN	Library Automation in Greece
ENDNOTE@UCSBVM	EndNote/EndLink Users Forum
EXLIBRIS@RUTVM1	Rare Books and Special Collections Forum
FEMINIST@MITVMA	ALA SRRT Feminist Task Force
FISC-L@NDSUVM1	Fee-Based Info Service Centers in Academic Libraries
GEONET-L@IUBVM	Geoscience Librarians and Information Specialists
GOVDOC-L@PSUVM	Government Documents
ILL-L@UVMVM	Interlibrary Loan
IMUG-L@OHSVMA	Innopac Music Users Group
INDEX-L@BINGVMB	Indexer's Discussion Group
INFO+REF@INDYCMS	Information + Referral List
INNOPAC@MAINE	Innovative Interfaces Users
INT-LAW@UMINN1	Foreign and International Law Librarians
JESSE@ARIZVM1	Open Library/Information Science Education Forum
LABMGR@UKCC	Academic Microcomputer Lab Management
LIBADMIN@UMAB	Library Administration and Management
LIBEVENT@USCVM	Library Events in Southern California
LIBEX-L@MAINE	Exhibits and Academic Libraries*
LIBMSTR@UOTTAWA	Library Master Bibliographic Database
LIBPER-L@KSUVM	Library Personnel Issues
LIBPLN-L@QUCDN	Library Planning
LIBRARY@INDYCMS	Libraries and Librarians
LIBREF-L@KENTVM	Discussion of Library Reference Issues
LIBSUP-L@UWAVM	Library Support Staff
LM_NET@SUVM	School Library Media & Network Communications
MAPS-L@UGA	Maps and Air Photo Forum
MEDLIB-L@UBVM	Medical and Health Sciences Libraries
MLA-L@IUBVM	Music Library Association
MULTILIS@ALBNYVM1	LIS Users
NETTRAIN@UBVM	Internet/BITNET Network Trainers
NOTIS-L@TCSVM	NOTIS Users
NOTISACQ@CUVMB	NOTIS Acquisitions Discussion Group
NOTMUS-L@UBVM	Notis Music Library List
NOTRBCAT@INDYCMS	Rare Book and Special Collections Catalogers
NYSO-L@UBVM	MLA New York State/Ontario Chapter
OFFCAMP@WAYNEST1	Off-Campus Library Services List
PACS-L@UHUPVM1	Public-Access Computer Systems Forum
PACS-P@UHUPVM1	PACS-L Publications Only
PRO-CITE@IUBVM	Personal Bibliographic Software List
RLIN-L@RUTVM1	RLIN Users*
SAVEIT-L@USCVM	SAVEIT Users*
SERIALS@UVMVM	Serials Users Discussion Group
SLAJOB@IUBVM	Special Libraries Association Employment Opportunities*
SPLIB-L@SUVM	SPIRES Users
SIRSI/UNICORN	Automated Library Systems
USMARC-L@MAINE	USMARC Advisory Group Forum
VETLIB-L@VTVM2	Veterinary Medicine Library Issues and Information*
VPJEL@VTVM1	Publishing E-Journals: Publishing, Archiving, & Access
Z3950IW@NERVM	Z39.50 Implementors Workshop

To subscribe to a list, send the following e-mail message to `LISTSERV@NODE`, where `NODE` is the part of the address after the "@" character:

SUBSCRIBE List First Name Last Name

(If you are not on BITNET, ask your computer center how to address a message to the desired BITNET node.)

For example, Jane Doe sends the following e-mail message to `LISTSERV@UHUPVM1` to subscribe to `PACS-L`:

SUBSCRIBE PACS-L Jane Doe

You can obtain a directory of list server documentation by sending the following e-mail message to the list server: `INFO ?`

Once you know the name of the desired documentation file, send another `INFO` command to the list server to obtain the file. For example, to get a file that describes searching the message database of a list, send the following command: `INFO DATABASE`.

1.2 Lists That Use Anastasios Kotsikonas's List Server

Anastasios Kotsikonas's list server is being used to support a growing number of Internet lists.

To subscribe to a list, send the following e-mail message to `LISTSERV@NODE`, where `NODE` is the part of the address after the "@" character:

SUBSCRIBE List First Name Last Name

(If you are not on Internet, ask your computer center how to address a message to the desired Internet node.)

To obtain list server documentation, send the following e-mail message to the list server: `HELP`.

`CNI-ANNOUNCE@CNI.ORG`
CNI's News Announcement Network
`CNI-ARCHITECTURE@CNI.ORG`
CNI's Architectures and Standards
`CNI-BIGIDEAS@CNI.ORG`
CNI's Big Ideas Forum
`CNI-COPYRIGHT@CNI.ORG`
CNI's Copyright and Intellectual Property Forum
`CNI-DIRECTORIES@CNI.ORG`
CNI's Directories and Resource Information Services
`CNI-LEGISLATION@CNI.ORG`
CNI's Legislation, Codes, Policies, and Practices
`CNI-MANAGEMENT@CNI.ORG`
CNI's Management and Professional and User Education
`CNI-MODERNIZATION@CNI.ORG`
CNI's Modernization of Scholarly Publication
`CNI-PUBINFO@CNI.ORG`
CNI's Access to Public Information
`CNI-TEACHING@CNI.ORG`
CNI's Teaching and Learning
`CNI-TRANSFORMATION@CNI.ORG`
CNI's Transformation of Scholarly Communication
`PALS-L@KNUTH.MTSU.EDU`
PALS System
`PUBLIB@NYSERNET.ORG`
Public Libraries and the Internet*
`VISIONS@LIBRARY.SDSU.EDU`
Strategic Visions Steering Committee Electronic Discussion
Forum on the Future of Librarianship

1.3 Other Lists

These lists use diverse software. Contact the person who sponsors the list you are interested in to get further information about how the list software works.

ACRLNY-L (Listings of Library Jobs and Events)

Send the following command to LISTSERV@NYUACF:
SUBSCRIBE ACRLNY-L First Name Last Name.

AGRIS-L (Agricultural Information)

Send the following message to LISTSERV@IRMFAO01:
SUBSCRIBE AGRIS-L First Name Last Name.

ALEPHINT (ALEPH Library System Users)

Send the following command to LISTSERV@TAUNIVM:
SUBSCRIBE ALEPHINT First Name Last Name.

CADUCEUS (History of Medicine Collections Forum)

Send a subscription request to Inci Bowman:
IBOWMAN@UTMBEACH.

Conservation DistList (Conservation of Archive, Library, and Museum Materials)

Send a subscription request to Walter Henry:
WHENRY@LINDY.STANFORD.EDU.

CORMOSEA (Committee on Research Materials on Southeast Asia)

Send a subscription request to Kent Mulliner:
MULLINER@OUVAXA.CATS.OHIOU.EDU.

DYNIX_L (DYNIX Users)

Send a subscription request to:
DYNIX_L-REQUEST@SBU.EDU.

EASTLIB (Committee on East Asian Libraries)

Send the following command to LISTSERV@MENTO.OIT.UNC.EDU:
SUBSCRIBE EASTLIB First Name Last Name.

IAMSLIC (International Association of Aquatic and Marine Science Libraries and Information Centers)

Send the following command to LISTSERV@UCSD.EDU:
SUBSCRIBE Your E-Mail Address IAMSLIC.

KATALIST (Discussion on Library Systems and Databases--In Hungarian)

Send the following command to LISTSERV@HUEARN:
SUBSCRIBE KATALIST First Name Last Name.

LAW-LIB (Law Librarians)

Send subscription requests to: LAW-REQ@UCDAVIS.EDU.
Contact Elizabeth St. Goar for technical questions:
ESTGOAR@UCDAVIS.EDU.

LIB_HYTELNET (HYTELNET Program)

Send subscription request to Peter Scott: SCOTT@SKLIB.USASK.CA.

LS2K (LS/2000 Users Group)

Send subscription request to: LS2K-REQUEST@CC.UTAH.EDU.

PAMnet (Physics, Astronomy, and Mathematics Librarians)

Send a subscription request to Joanne Goode:

JMGOODE@UKCC.UKY.EDU.

STUMPERS-L (Difficult Reference Questions)

Send the following message to ROSLIBREFRC@CRF.CUIS.EDU:
SUBSCRIBE STUMPERS-L Your E-Mail Address.

1.4 Diane Kovacs's Directory

Diane Kovacs and her colleagues have compiled a useful directory of lists in many subject areas.

To retrieve this directory, send the following e-mail message to LISTSERV@KENTVM or LISTSERV@KENTVM.KENT.EDU:

```
GET ACADLIST README F=MAIL
GET ACADLIST FILE1 F=MAIL
GET ACADLIST FILE2 F=MAIL
GET ACADLIST FILE3 F=MAIL
GET ACADLIST FILE4 F=MAIL
GET ACADLIST FILE5 F=MAIL
GET ACADLIST FILE6 F=MAIL
GET ACADLIST FILE7 F=MAIL
```

For further information about the directory, contact Diane Kovacs: DKOVACS@KENTVM.

Electronic Serials

There are a growing number of library-related electronic journals and newsletters available on BITNET and Internet.

ACQNET (The Acquisitions Librarian's Electronic Network)

Send a subscription request to Christian Boissonnas:
CRI@CORNELLC.

ALA Washington Office Newslite (ALAWON)

Send the following e-mail message to LISTSERV@UICVM:
SUBSCRIBE ALA-WO First Name Last Name.

ALCTS NETWORK NEWS (Association for Library Collections and Technical Services)

Send the following message to LISTSERV@UICVM:
SUBSCRIBE ALCTS First Name Last Name.
For a list of back issue files, send the message:
INDEX ALCTS.

The Arachnet Electronic Journal of Virtual Culture*

Send the following message to LISTSERV@UOTTAWA:
SUBSCRIBE ARACHNET First Name Last Name.

Citations for Serial Literature

Send the following message to LISTSERV@MITVMA:
SUBSCRIBE SERCITES First Name Last Name.
For a list of back issue files, send the message:
INDEX SERCITES.

Consortium Update (SPIRES)

Send a subscription request to: HQ.CON@STANFORD.

Current Cites

TELNET MELVYL.UCOP.EDU; Enter command: SHOW CURRENT CITES.
(Also distributed on PACS-L.)
Further information: David F. W. Robison, DROBISON@UCBLIBRA.

Hot Off the Tree (HOTT) (Excerpts and Abstracts of Articles about Information Technology)

TELNET MELVYL.UCOP.EDU; Enter command: SHOW HOTT.
Further information: Susan Jurist, SJURIST@UCSD.EDU.

Information Networking News

Sent to CDROMLAN subscribers. See above.

IRLIST Digest (Information Retrieval List Digest)

Send the following message to LISTSERV@UCCVMA:
SUBSCRIBE IR-L First Name Last Name.
For a list of back issue files, send the message:
INDEX IR-L.

Issues in Science and Technology Librarianship

Send a subscription request to: ACRLSTS@HAL.UNM.EDU.

Journal of Academic Media Librarianship

Send the following message to LISTSERV@UBVM:

SUBSCRIBE MCJRNL First Name Last Name.

LIBRES: Library and Information Science Research Electronic Journal*

Send the following message to LISTSERV@KENTVM:

SUBSCRIBE LIBRES First Name Last Name.

MeckJournal

Send a subscription request to MECKLER@TIGGER.JVNC.NET.

Network News

Send the following message to LISTSERV@NDSUVM1:

SUBSCRIBE NNEWS First Name Last Name.

Newsletter on Serials Pricing Issues*

Send the following message to LISTSERV@GIBBS.OIT.UNC.EDU:

SUBSCRIBE PRICES First Name Last Name.

Public-Access Computer Systems News

Sent to PACS-L and PACS-P subscribers. See above.

For a list of back issue files, send the following message

to LISTSERV@UHUPVM1: INDEX PACS-L.

The Public-Access Computer Systems Review

Sent to PACS-L and PACS-P subscribers. See above.

For a list of article files, send the following

message to LISTSERV@UHUPVM1: INDEX PACS-L.

Michael Strangelove has compiled a helpful directory of electronic serials. To retrieve this directory, send the following e-mail message to LISTSERV@UOTTAWA or LISTSERV@ACADVM1.UOTTAWA.CA:

GET EJOURNL1 DIRECTRY F=MAIL

GET EJOURNL2 DIRECTRY F=MAIL

For further information, contact Michael Strangelove: 441495@ACADVM1.UOTTAWA.CA.

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Charles W. Bailey, Jr. Assistant Director For Systems University Libraries
University of Houston
Houston, TX 77204-2091
phone: (713) 743-9804
Fax: (713) 743-9748

Campus Wide Info Systems (CWIS)

United States

[Appalachian State University VideoText System](#)
[Citadel, the Military College of South Carolina](#)
[Columbia University](#)
[CU-LawNet - Columbia Law School Public information service](#)
[Iowa State University \(CYNET\)](#)
[MIT TechInfo](#)
[University of North Carolina-Chapel Hill \(INFO\)](#)
[Washington & Lee University \(Law Library\)](#)

U.K.

[Cambridge University Information Service](#)
[Edinburgh University Information Service](#)
[London University Central Information Exchange](#)
[University of Wales, Aberystwyth Information Server](#)

related topic: [gopher](#)

Citadel (CWIS)

telnet 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

telnet 128.59.176.78

login:

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

Columbia University

telnet COLUMBIANET.COLUMBIA.EDU

or

telnet 128.59.40.154

No login required

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

Appalachian State University VideoText System

telnet CONRAD.APPSTATE.EDU

or

telnet 152.10.1.1

Login as

Emulate a VT100

Iowa State University (CYNET)

telnet ISN.IASTATE.EDU

or

telnet 129.186.99.14

DIAL:

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

MIT TechInfo

telnet TECHINFO.MIT.EDU

or

telnet 18.72.1.146

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, Quit

UNC-Chapel Hill INFO

telnet INFO.ACS.UNC.EDU
or
telnet 128.109.157.1

Username: **INFO**

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

Cambridge University Information Service

telnet SUN.NSF.AC.UK

or

telnet 128.86.8.7

login:

Hostname: uk.ac.cam.info

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

Edinburgh University Information System

telnet CASTLE.ED.AC.UK

or

telnet 129.215.128.23

login:

London University Central Information Exchange

telnet SUN.NSF.AC.UK

or

telnet 128.86.8.7

login:

hostname: uk.ac.lon.lucie

University of Wales, Aberystwyth Information Server

telnet SUN.NSF.AC.UK

or

telnet 128.86.8.7

login:

Hostname: uk.ac.aber.info

terminal type: vt100

Washington And Lee University (Law Library)

telnet liberty.uc.wlu.edu

or

telnet 137.113.10.35

login: lawlib

Whois / Directory Services

These systems can help you locate a particular individual on the Internet...

[Australian White Pages Pilot Project \(Queensland\)](#)
[British Telecom's "Electronic Yellow Pages" Service](#)
[JANET Public Access Directory Service](#)
[Knowbot Information Service at nri.reston.va.us](#)
[Netfind - University of Colorado](#)
[Ohio State University WHOIS Service](#)
[Swiss Electronic Phone Book](#)
[USENET contributor e-mail addresses](#)
[WHOIS searches](#)

Related topic: [Campus Wide Information System](#)

Australian White Pages Pilot Project (Queensland)

telnet WHITEPAGES.ADELAIDE.EDU.AU
or
telnet 129.127.40.3

Login:
Password:

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 shouldn't 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

telnet 128.86.8.7

login:

hostname: .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

JANET Public Access Directory Service

telnet SUN.NSF.AC.UK
or
telnet 128.86.8.7

login:
hostname:.ac.jnt.dir

Type what you are looking for, with commas separating parts:
e.g., , jnt, gb
or hardcastle-kille, ucl

Control-c interrupts a search, quit leaves the service.

Ohio State University WHOIS Service

telnet OSU.EDU
or telnet 128.146.10.72

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)

USENET contributor e-mail addresses

Available for searching via [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).

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.

WHOIS Searches

Available via [gopher](#)

Select Phone Books from Main Menu

Select WHOIS Searches from Phone Books Menu

Association of Research Networks in Iceland
Baylor College of Medicine
Bull HN Information Systems
California Institute of Technology
California Institute of Technology
California State University - Fresno
California State University - Hayward
California State University - Sacramento
Cambridge Computer Associates
Chalmers University of Technology
DDN Network Information Center
Dansk UNIX-system Bruger Gruppe
EASInet Operations Center
Energy Sciences Network
Florida State University
GTE Laboratories
George Mason University
Gesellschaft fuer Mathematik und Datenverarbeitung
Gettysburg College
Harvard University
Helsinki University of Technology
Imperial College
Indiana University
Institut National de Recherche en Informatique et Automatique
InterCon Systems Corporation
Johns Hopkins University
Lawrence Berkeley Laboratory
Lawrence Livermore National Laboratory
MCNC - Center for Communications
Massachusetts Institute of Technology
Merit Computer Network
Mississippi State University
NASA Ames Research Center
National Centre for Software Technology
National Energy Research Supercomputer Center
Naval Research Laboratory
New Jersey Institute of Technology
New Jersey Intercampus Network
New York University
New York University, Courant Institute
North Carolina State University
Northern Arizona University
Ohio Northern University
Ohio State University
Oregon State University
Performance Systems International
Portland State University
Prime Computer
Reseaux IP Europeens
Rutgers University
SRI International
SUNET (Swedish University Network)
San Diego State University
Sonoma State University
Stanford University
State University of New York, Stony Brook
Sunquest Information Systems
Swedish Institute of Computer Science
Syracuse University
Tampere University of Technology
USC Information Sciences Institute
Universite Claude Bernard Lyon I
University of Adelaide
University of California at Berkeley
University of California at Davis
University of California at Los Angeles
University of California at San Diego
University of Canterbury
University of Chicago
University of Cincinnati
University of Florida
University of Houston
University of Maryland
University of Miami, Rosentiel School of Marine and Atmospheric
University of Minnesota
University of Nebraska at Lincoln
University of Notre Dame
University of Oregon
University of Pennsylvania
University of Rochester
University of Saskatchewan
University of Virginia
University of Western Australia
University of Western Ontario
University of Wisconsin
Victoria University, Wellington
Waikato University
Wirtschaftsuniversitaet Wien
Worcester Polytechnic Institute

RFC (Request for Comments)

RFC-1118 The Hitchhiker's Guide to the Internet
RFC-1175 A Bibliography of Internetworking Information
RFC-1173 Responsibilities of Host and Network Managers
RFC-1325 Answers to Commonly Asked "New Internet User" Questions
RFC-1207 Answers to Commonly Asked "Experienced Internet User" Questions
RFC-1208 Networking Glossary of Terms
RFC-1359 Connecting to the Internet
RFC-1392 Internet Users' Glossary
RFC-1463 FYI on Introducing the Internet--A Short Bibliography...
RFC-1462 "FYI on 'What is the Internet?"

These are just a few of the many RFC's available to assist you in developing your internet skills. To obtain any of these documents (or a list of all available documents):

```
ftp to nis.nsf.net
cd documents/rfc
get INDEX.rfc
```


Here is the text of RFC 1463, a short bibliography on the Internet

Network Working Group
Request for Comments: 1463
FYI: 19

E. Hoffman
Merit Network, Inc.
L. Jackson
NASA
May 1993

FYI on Introducing the Internet--
A Short Bibliography of Introductory Internetworking Readings
for the Network Novice

Status of this Memo

This memo provides information for the Internet community. It does not specify an Internet standard. Distribution of this memo is unlimited.

Abstract

This bibliography offers a short list of recent information resources that will help the network novice become familiar with the Internet, including its associated networks, resources, protocols, and history. This FYI RFC includes references to free sources of information available on-line as well as traditional publications. A short section at the end includes information for accessing the on-line files. This FYI is intentionally brief so it can be easily used as a handout by user services personnel.

Acknowledgments

This document is based upon the work of the User Documents Working Group in the User Services Area of the Internet Engineering Task Force (IETF).

Bibliography of Introductory Readings

The following list includes a number of sources for learning about the Internet. If you have more questions about the Internet, the best source of information is your network service provider. For those interested in finding out about getting Internet connectivity, the books listed will help you locate a network service provider.

* Items with an asterisk are available at no charge on-line on the Internet--see the final section for information on how to obtain these.

a. Introductory Papers

* Kehoe, Brendan P. (1992) "Zen and the Art of the Internet: A Beginner's Guide to the Internet," (first edition) 95 p.

* Krol, E. and E. Hoffman. (1993) "[What is the Internet?](#)" 11 p. (FYI 20, RFC 1462).

* Malkin, G. and A. Marine. (1992) "FYI on Questions and Answers: Answers to Commonly Asked 'New Internet User' Questions," 32 p. (FYI 4, RFC 1325).

* LaQuey, Tracy with Jeanne C. Ryer. (1992) "The Internet Companion," 30 p. (on-line chapters from book published by Addison-Wesley)

b. Introductory Books: Basic User Guides

Kehoe, Brendan P. (1993) Zen and the Art of the Internet: A Beginner's Guide, (second edition) 112 p. Prentice Hall, Englewood Cliffs, NJ.

Krol, Ed. (1992) The Whole Internet User's Guide and Catalog, 400 p. O'Reilly & Assoc., Inc. Sebastopol, CA.

LaQuey, Tracy with Jeanne C. Ryer. (1992) The Internet Companion: A Beginner's Guide to Global Networking, 208 p. Addison-Wesley, Reading, MA.

c. Introductory Books: Connection Starters

SRI International. (1992) Internet: Getting Started, 318 p. SRI International, 333 Ravenswood Ave., Rm. E1291, Menlo Park, CA 94025.

. Internet services and resources

* Martin, J. (1993) "There's Gold in them thar Networks! or Searching for Treasure in all the Wrong Places," 39 p. (RFC 1402/FYI 10).

* Merit Network, Inc. (1992) "Cruise of the Internet," Merit Network Inc., Ann Arbor, MI. (Disk based tutorial available for Macintosh or Windows).

Metz, Ray (1992) Directory of Directories on the Internet, 175 p. Meckler, Westport, CT.

* NSF Network Service Center. (nd) "Internet Resource Guide," NSF Network Service Center, Cambridge, MA.

. Internet networks

Frey, Donnalynd and Rick Adams. (1991) !%@: A Directory of Electronic Mail Addressing and Networks, (second edition) 436 p. O'Reilly & Assoc. Inc. Sebastopol, CA.

LaQuey, Tracy L. (1990) User's Directory of Computer Networks, 653 p. Digital Press, Bedford, MA.

Quarterman, John S. (1990) The Matrix: Computer Networks and Conferencing Systems Worldwide, 746 p. Digital Press, Bedford, MA. . **Introducing the Internet Protocols**

Comer, Douglas E. (1991) Internetworking With TCP/IP: Volume I, Principles, Protocols, and Architecture, (second edition). 547 p. Prentice Hall, Englewood Cliffs, NJ

* Hedrick, Charles L. (1987) "Introduction to the Internet Protocols," 34 p. Rutgers University Computer Science Facilities Group, Piscataway, NJ.

Lynch, Daniel C. & Marshall T. Rose (eds). (1993) The Internet System Handbook, 822 p. Addison-Wesley, Reading, MA.

. Further Reading

* Bowers, K. L. et al. (1990) "FYI on Where to Start: A Bibliography of Internetworking Information," 42 p. (RFC 1175/FYI 3).

* Malkin, G. & T. LaQuey Parker. (1993) "Internet Users' Glossary," 53 p. (RFC 1392/FYI 18).

Getting Articles On-Line

All the documents marked with an asterisk in this bibliography are available on-line at no charge if you have access to the Internet. To find out more about accessing documents in introducing.the.internet, send electronic mail to: nis-info@nic.merit.edu, with the text: send access.guide.

If you know how to use Anonymous FTP, you can get the Access Guide from one of several sites, including nic.merit.edu, nic.mr.net, ftp.nisc.sri.com, or ftp.hawaii.edu. Check the directory introducing.the.internet for the file titled access.guide. The Access Guide includes information about obtaining documents through dial-up service using a modem for those who do not have direct Internet access.

In addition to the listed publications, many network providers publish excellent user guides and newsletters which cover Internet topics. Contact your Internet network service provider for more information. A longer bibliography with more comprehensive references and abstracts, FYI 3, RFC 1175 is listed above for those who may need more detailed materials.

Security Considerations

Security issues are not discussed in this memo. **Authors' Addresses**

Ellen S. Hoffman
Merit Network, Inc.
2901 Hubbard, Pod G
Ann Arbor, MI 48109

Phone: (313) 936-3000
E-mail: ellen@merit.edu

Lenore Jackson
NASA Ames Research Center
m/s 233-8 T-1191
Moffett Field, CA 94035

Phone: (415) 604-0455
E-mail: jackson@nsipo.arc.nasa.gov

Individual access to the internet

excerpted from RFC 1402 by J. Martin, Ohio State University

A frequently asked question concerns how the average mortal gets access to the Internet. The most common way is via electronic mail. Using e-mail, it is possible to communicate with anyone on the Internet and on any other networks as well, and there are many "gateways" to the Internet from other networks and systems. For instance using CompuServe a large commercial electronic information and communication service, you can send e-mail to and from individuals on the Internet.

A direct connection to the Internet provides some additional capabilities that e-mail cannot. One of these is the ability to establish a connection to a remote computer connected to the Internet from your own personal computer or from one connected to the Internet. The program that establishes this connection is called Telnet. Many universities and large research companies have Internet connections. They pay rather large fees to have these high speed (more than one million bits per second) connections. If you are associated with a large university or company you already may have access or can gain access to the Internet using one of their computers.

Traditionally, connections to the Internet were dedicated connections. This is still the most common type of connection. Monthly costs for the connection range anywhere from \$250 per month (plus line charges) for a dialup 9600-bps connection to \$4,000 (plus line charges) for a T1 (1.44-Mbps) connection. There is also an initial one-time startup fee of anywhere from \$100 to \$8,000 (plus equipment charges).

Some service providers also are offering part-time dialup connections. Customers share a set of phone lines and dialup when needed. This is usually less expensive than dedicated dialup connections for customers who need a connection less than 80 hours per month. Monthly costs range from \$40-100 per month (plus line charges) plus an hourly charge of \$2-4.

Some service providers have begun to offer a new dial-in service. The name for dial-in service varies from vendor to vendor. The dial-in service is usually provided as a way for Internet-connected users to connect back to their home sites from remote locations. But most service providers do not limit their service to this audience, it is open to people not already on the Internet. The dial-in service provides either a terminal server connection (with password) or an account on the service provider's equipment (with password) which permits you to use Telnet to connect to other sites on the Internet. This service differs from the normal dialup IP services because it does not require the user to run any IP software like PPP (Point-to-Point protocol) or SLIP (serial line IP). The cost for this service usually range from \$35 to \$250 per month (plus line charges). There is also an initial \$35 to \$500 connection fee (plus equipment charges).

If you do not have access to a service connected to Internet, you can get access for a fee. The following companies provide Internet access to individuals or companies at various rates depending on the time of access, speed of access desired, and several other factors. The first method to gain access to the Internet is by getting an account on a public access bulletin board system that is connected to the Internet. There are a growing number of such systems available. For information on some of these systems, send electronic mail to:

info@world.std.com
info@netcom.com
info@concert.net
info@panix.com
info@holonet.net
info@msn.com
info@csn.org
sysadmin@ids.com

Any of these systems is open to the public for a monthly access fee.

The following is a list of a few Internet service providers, along with the services they offer, an e-mail address to contact for more information, a phone number to contact for more information, or an FTP archive for more information.

PSINet

Full time connections
Part time connections: yes
Dial-in Service: Global Dialup Service (GDS)
Region: national (USA)
Contact: info@psi.com
Phone: (800)82PSI82
FTP: ftp.psi.com/press.releases/

CERFnet

Full time connections
Part time connections: yes
Dial-in Service: DIAL'n CERF (nationwide USA)
Region: California
Contact: help@cerf.net
Phone: (800)876-CERF
FTP: nic.cerf.net:/cerfnet/

ANSNET

Full time connections
Part time connections: no
Region: national (USA)
Contact: info@ans.net
Phone: (914)789-5300 or (313)663-2482
FTP: nis.ans.net:/pub/info/

MSEN

Full time connections
Part time connections: yes
Dial-in Service: yes (note: it is a local call from any 313 #)
Region: Michigan
Contact: info@msen.com
Phone: (313)741-1120
FTP: ftp.msen.com:/pub/vendor/msen/

OARnet

Full time connections
Part time connections: yes
Dial-in Service: none
Region: Ohio
Contact: nic@oar.net
Phone: (614)292-0700

