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T H E C O M P L E T E

**CYBERSPACE
REFERENCE
and
DIRECTORY**

**AN ADDRESSING AND UTILIZATION GUIDE TO
THE INTERNET, ELECTRONIC MAIL SYSTEMS,
AND BULLETIN BOARD SYSTEMS**

Gilbert Held

VAN NOSTRAND REINHOLD

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PREFACE

The purpose of this book is to provide readers with a comprehensive guide to the evolving electronic highway, a term referred to by many persons as cyberspace.

In developing the material for inclusion in this book I recognized that the term cyberspace (or electronic highway) means many things to different people. For some persons the Internet is their electronic highway, while for other persons the use of a bulletin board system or the services of an electronic mail provider represent their electronic highway. Like a conventional highway, the electronic highway has a variety of entrance and exit ramps, which provide users with the ability to route communications in the form of messages and files from one service provider to another. However, unlike the concrete variety highway, in which entrance and exit ramps are normally explicitly marked, the use of cyberspace can represent a challenge when attempting to transfer information to users on a different service from the one you are using. Thus, the key challenge for the development of this book was to provide a sufficient level of information to provide readers with the tools and techniques required to transport information between a variety of electronic messaging services, bulletin board systems and the Internet.

Another important goal of this book was to provide readers with a comprehensive list of electronic addresses from which they can obtain information. Since the information requirements of readers as well as their access to different types of electronic transfer resources can vary considerably the electronic addresses pre-

sented in this book were developed to meet those differences between readers. That is, information resources available electronically are grouped alphabetically based upon different electronic addressing methods. This means that readers that are limited to sending electronic mail will obtain a large number of electronic addresses from which they can obtain information to include files sent via electronic mail. Similarly, readers that access a bulletin board system or who have a connection to the Internet via FTP or Telnet will also obtain a significant number of electronic addresses from which they can obtain information electronically.

Recognizing the problem of terminology in which the use of abbreviations, symbols, and terms has become difficult to follow resulted in the development and inclusion of a chapter devoted entirely to terms, definitions and abbreviations. Due to the importance many readers will attach to being able to refer to this material, I decided to place this chapter at the beginning of this book. This will facilitate its use as well as provide readers that like to progress logically through a book with the ability to discover new terms, definitions and abbreviations from the beginning. In doing so you may encounter some terms, definitions and abbreviations that may facilitate future electronic sessions and provide you with the ability to communicate more effectively.

As a professional author I depend upon you, the reader, for feedback. Please feel free to write to me at the publisher's address listed on the back cover of this book concerning any comments you may wish to share with me. If there are other areas of cyberspace you would like to see covered in a second edition, an expansion of an existing area or general comments to wish to share with me please do so.

Gilbert Held
Macon, GA

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The preparation and completion of a book represents an effort which requires the cooperation and assistance of many individuals. This book was even more dependent upon the assistance of persons I met electronically than most books I previously authored due to my desire to provide readers with information concerning bulletin board systems and BBS networks, data whose compilation is beyond the ability of any one individual.

I am extremely grateful for the cooperation and assistance of Mr. Jack Crawford for providing K12Net bulletin board information and node listings, R. Bonnie Anthony for permitting the use of Relaynet node information, Mr. Joe Smolinski for permitting me to incorporate GlobalNet information into the book you are reading, Mr. Ken Sukimoto for the use of his comprehensive 96LIST, Mr. Gary Barr for his RemoteAccess node list and technical support BBS listing, Mr. Bob Breedlove for the use of his comprehensive uSBBS list, and to Mr. Cesar Keller for permission to use the Dream BBS list of Switzerland. To Dr. Anthony and the gentlemen just mentioned, I truly appreciate your cooperation and assistance which was instrumental in providing data which formed a firm foundation for this comprehensive directory of electronic highway resources.

CONTENTS

Preface vii

Acknowledgments ix

- 1** Definitions, Terms, and Abbreviations 1
- 2** General UNIX Information and Common Computer Commands 25
- 3** Internet Electronic Mail 33
- 4** Internet Commands and Electronic Address Retrieval 73
- 5** The File Transfer Protocol (FTP) and Anonymous FTP Sites 91
- 6** Telnet and Related Services and Database Addresses 181
- 7** BITNET Communications and Mailing Lists 237
- 8** E-Mail with X.400 Addressing 367
- 9** CompuServe and MCI Mail 379
- 10** SprintNet and SprintMail 425
- 11** The Relaynet Information and Message Exchange Network 441
- 12** The MajorNet Bulletin Board System Network 471
- 13** Federal Bulletin Board Systems Accessible to the Public 485
- 14** The K12Net 493
- 15** The GlobalNet Bulletin Board System Network 511
- 16** Bulletin Board System Listings 523
- 17** Engineering Bulletin Boards 681
- 18** Switzerland Bulletin Board Systems 711
- 19** Telephone Numbers to Note 749

CHAPTER 1

Definitions, Terms, and Abbreviations

The growth in electronic communications resulted in the addition of a considerable number of definitions, terms, and abbreviations used to convey information between users of electronic messagings systems, bulletin boards, and the Internet. In this chapter we focus our attention upon cyberspace terminology, providing definitions of terms, the meaning of many common abbreviations and define symbols used to express the feeling of users, the later commonly referred to as emoticons.

To facilitate the use of information contained in this chapter definitions of terms are based upon the alphabetical order of the term. Similarly, abbreviations are listed in their alphabetical order.

DEFINITIONS OF CYBERSPACE TERMS

Academnet - A network within Russia which connects universities.

Aconet - A research network in Austria.

Address Resolution Protocol (ARP) - A protocol which provides translation of host addresses from Internet addresses to Ethernet addresses.

Administrative Management Domain (ADMD) - Under X.400 addressing the ADMD represents a public messaging service, such as CompuServe or MCI Mail which handles electronic mail between countries and large organizations.

Adonis - A network operated by the Institute for Automated Systems in Moscow which connects computer centers located in the former Soviet Union.

Afrimail - An electronic mail network in Tunisia which has UUCP connections to the rest of the world.

AGFNET - A network consisting of research centers and universities located in Germany.

Alex - Software which provides Internet users with a transparent read capability of remote files at anonymous FTP sites.

Alias - A nickname for a domain or host computer.

Anonymous FTP - A service provided on some computers which enables files to be downloaded by the general Internet community, usually requiring the use of the password GUEST or ANONYMOUS.

AppleLink - Apple Computer Company's electronic mail system.

Application Programming Interface (API) - A standard interface between a communications device and a software application operating on a computer.

Archie - A service which enables the databases of many anonymous FTP sites to be searched. Archie searches can be performed by either complete or partial file names and search results include a listing of anonymous FTP site addresses, directory path, file name and the date Archie last visited the site. Archie was developed at McGill University in Montreal. Archie can be accessed via Telnet, a local archie client, or E-mail.

Ariadne - A research network located in Greece which uses the X.25 protocol.

Aristote - A research network located in France.

ARPANET - The first packet switched network used to connect different types of computer systems. ARPANET was the predecessor to the Internet.

askERIC - A question-answering service for teachers, library media specialists and administrators involved with K-12 education.

Attachment - The process of attaching a file to an electronic message.

Backbone - In a bulletin board system network the series of echo conferences carried in a zone.

Bang - An exclamation point (!) used in a Unix-to-Unix Copy Program (UUCP) electronic mail address.

Bang Path - A series of UUCP nodes mail will pass through to reach a remote user. Node names are separated by exclamation marks nicknamed "bangs." The first node in the path must be on the local system, the second node must be linked to the first, and so on. To reach user1 on sys3 through sys2 if your computer's address is sys1 you would use the following address:

```
sys1!sys2!sys3!user1
```

BBS - Bulletin Board System. BBS software enables a computer to be used for message posting and retrieval, file transfers and similar activity.

Binary File Transfer (BFT) - The transmission of binary files, documents and electronic data exchange information between fax devices.

BITNET - A network which interconnects approximately 3000 computers located at educational institutions throughout the world.

Bogon - Something that is stupid or nonfunctional.

Bounced Mail - Mail that is returned to the originator due to an incorrect E-mail address.

Btoa - A UNIX program which translates Binary files into ASCII.

CDNnet - A Canadian academic network based upon the International Standards Organization Open Systems Interconnection Reference Model.

CITNET - California Institute of Technology electronic mail network.

CIX - Commercial Internet Exchange. A group formed to link commercial providers into an Internet subnet.

ClariNews - A fee based Usenet newsfeed available from ClariNet Communications.

Class I/II - PC fax modem boards that support different fax commands and operate as Group III fax devices.

Client - The host requesting a service.

CompuServe - A fee based information service which provides a connection to the Internet.

CompuServe Mail Hub - A facility of CompuServe which enables users on a local area network operating Novell NetWare Message Handling Service (MHS)

software to exchange electronic messages with other MHS users, CompuServe Mail subscribers and users of other E-mail services that can be reached via a CompuServe gateway.

Conference - An interactive discussion forum which enables users to post statements, comments, questions and opinions. Although a conference has a general topic, user comments are not restricted to that topic.

Consultative Committee for International Telegraph and Telephone (CCITT) - An international standards recommending body which sets worldwide communications standards. Now renamed the ITU-TSS.

Cracker - A person who breaks or attempts to break the security of a computer system.

Cyberspace - A term used to reference electronic communications.

Daemon - An agent program which continuously operates on a UNIX server and provides resources to client systems on the network.

DENet - The Danish Ethernet Network which consists of many Ethernet networks in universities connected together by bridges.

Direct Inward Dialing (DID) - Dialing which enables a call to go directly to an office extension without requiring the intervention of an operator.

Domain - The owner or controller of computer resources. In the Internet a domain name consists of a sequence of names or words separated by dots.

Domain Defined Attribute (DDA) - Under X.400 addressing the DDA is a special field that may be required to assist a receiving E-mail system in delivering a message to the intended recipient. Up to four DDAs are allowed per address, with each DDA address entry made up of two parts, a Type and a Value.

Door - Any application which bulletin board software can "shell out" to execute. Most doors provide access to games and databases.

DREnet - A Canadian TCP/IP based network connected to the Internet.

DSIRnet - The Department of Scientific and Industrial Research network in New Zealand.

Easyenet - The name of DEC's internal corporate network.

Echo - The transmission of messages between bulletin board systems. A group of bulletin board systems which exchange messages using a predefined format is known as an echo network.

EchoMail - A public message area or conference on a bulletin board system that is "echoed" to other systems in a BBS network. EchoMail is organized into different groups, each with a different topic and the term normally references communications on a FidoNet network. Also a term referring to the electronic transfer of messages between bulletin board systems.

Electronic Data Exchange (EDI) - An international standard for the exchange of debit and credit transactions, such as bank debits, commercial invoices and purchase orders.

Emoticons - Symbols usually sent with electronic mail to express the emotions of normal voice communications.

E-mail - Electronic mail.

EUnet - A subscription-funded research oriented network in Europe.

European Academic Research Network (EARN) - A general purpose computer network connecting universities and research sites throughout Europe, Africa and the Middle East.

FAQ - Frequently Asked Question, references a document containing common questions and their answers.

FidoNet - An amateur network of bulletin board systems that exchange messages electronically.

File Extension - A suffix to a file name which further identifies the contents of the file. Common file extensions include:

| | |
|------|---|
| .bas | Basic language file |
| .com | DOS executable file |
| .exe | DOS executable file |
| .gif | graphic interchange format |
| .hqx | Macintosh binhex file; de-binhex with Stuffit, BinHex, or DeHQQ |
| .ps | postscript file |
| .tar | UNIX tape archive format, unpack using: tar -xvf filename.tar |
| .Z | UNIX compressed file, decompress using: uncompress filename.Z |
| .zip | DOS compressed file, compressed via use of PKZIP program |

Finger - A TCP/IP application which is used to obtain a list of persons logged onto other hosts or the status of a specific user on another host.

Firewall - Hardware and/or software which limits the exposure of a computer or group of computers to an attack from an external location.

Flame - An electronic mail message or Usenet posting which is violently argumentative.

FOSSIL - Fideo Opus SeaDog Serial Interface Layer. A program which takes over the serial port of a computer in a standard manner, acting as a buffer between some bulletin board system programs and the serial port.

Free-Nets - A computer system connected to a network which provides members of a community with access to local and remote computing resources. Some of the Freenets available for community use, the locations and modem access numbers include:

| <i>Computer System</i> | <i>Location</i> | <i>Visitor Logon</i> | <i>Modem Access Number</i> |
|---------------------------|---|----------------------|----------------------------|
| Big Sky Telegraph | Dillon, MT | bbs | 406-683-7680 |
| Buffalo Free-Net | Buffalo, NY | Freeport | 716-645-6128 |
| Cleveland Free-Net | Cleveland, OH | n/a | 216-368-3888 |
| COIN | Columbia, MO | | 314-884-7000 |
| Denver Free-Net | Denver, CO | guest | 303-270-4865 |
| Heartland Free-Net | Peoria, IL | bbguest | 309-674-1100 |
| Lorain County Free-Net | Elyria, OH | guest | 216-366-9721 |
| Medina County Free-Net | Medina, OH | guest | 216-723-6732 |
| National Capital Free-Net | Ottawa, Canada | guest | 613-780-3733 |
| Tallahassee Free-Net | Tallahassee, FL | visitor | 904-576-6330 |
| Tristate Online | Cincinnati, OH | visitor | 513-579-1990 |
| Victoria Free-Net | Victoria, British Columbia Canada | guest | 604-595-2300 |
| Wellington Citynet | Wellington, New Zealand | | 644-801-3060 |
| Youngstown Free-Net | Youngstown, OH | | 216-742-3072 |

Freqing (Freq) - A term or abbreviation for a "file request" for a file from another node in a network. In FidoNet a node user usually freq's a file through mailer software which sends an appropriate request to a distant node that has the desired file.

Frobnicate - To manipulate, adjust or tweak something. Often abbreviated as frob.

Front end mailer - A program that operates on a bulletin board system and which determines if a caller is another computer that wants to exchange mail or a human that wants to access the BBS resources. Usually the mailer transmits the prompt "Press ESC".. and upon receiving an ESC character or the passing of a

timeout period considers the caller to be human and gives it the resources of the BBS. Also known as a mailer.

FTP - File Transfer Protocol. The Internet protocol used for transferring files from one computer to another.

FTP Mail Server - A server which permits the retrieval of files via E-mail.

Freenet - An open access, free to use, community computer system.

FYI - For Your Information. A series of documents put out by the Internet NIC which addresses common user questions.

Gateway - A computer that functions as a node in two or more networks, forwarding mail and messages from one network to addresses in the other network.

GlobalNet - A free, electronic amateur bulletin board system network which operates based upon FidoNet technical standards. GlobalNet nodes are located in North America and Europe.

Global Network Navigator (GNN) - An application developed at CERN in Switzerland which provides information about new services available on the Internet, articles about existing services, and an online version of Internet related books. The GNN is a World Wide Web (WWW) based information service.

Gopher - A distributed menuing system developed at the University of Minnesota for information access on the Internet. Gopher servers store a wide range of information, from news and phone books to weather reports and recipes. To access the Gopher system your host must have a Gopher client package.

Grapevine - The name of the Xerox Corporation internal company network.

Group III - A digital facsimile standard promulgated by the CCITT in its recommendation T.4. A Group III fax can transmit a standard page in 30 seconds over the switched telephone network.

High-ASCII - ASCII characters whose values exceed 127. In most bulletin board networks the use of high-ASCII in messages is prohibited since some types of personal computers cannot correctly interpret those characters.

High Energy Physics Network (HEPnet) - A worldwide network used to connect researchers in the field of High Energy Physics.

Horton - A software program which provides an automatic method for creating a directory of e-mail addresses. Users can look up electronic addresses via a search key which can be a fragment of a persons name.

Host - An end-system computer located on a network.

Hub - A bulletin board system that calls another Hub or is called by one or more nodes to transfer mail.

Hypertext - A program which provides non-sequential access to a document. This is normally accomplished by highlighting key words or phrases in the text on a page whose selection brings up a screen with the desired information.

Hytelnet - A hypertext system which contains information about the Internet, such as accessible library catalogs, Freenets, Gophers, bulletin boards, etc.

ID CODE - On the RIME network an ID CODE is used to identify each node in the network. The ID CODE can be up to 12 alphanumeric characters in length and appears at the bottom of every message relayed throughout the network.

Internet - The set of interconnected networks that share the same network address scheme and use the TCP/IP protocol.

Internet Architecture Board (IAB) - A group tasked with addressing Internet technical problems and developing solutions to those problems.

Internet Network Information Center (InterNIC) - A joint NSFnet and NREN information center which provides voice and electronic assistance concerning the Internet.

JNET - A communications program which operates on a DEC VAX computer, providing DEC systems with the ability to communicate with IBM computers via BITNET.

Joint Academic Network (JANET) - A networking organization supported by the Science and Engineering Research Council in the United Kingdom.

Jughead - A database of Gopher links which accepts word searches and allows search results to be used on many remote Gophers.

JUNET - A network of universities in Japan which supports electronic mail and news. JUNET users can be reached via UUCP and the Internet.

JvNCnet - Princeton University's John von Neumann Computer Network which connects universities in the eastern US and Europe.

Kluge - Hardware or software assembled from a variety of parts or modules, usually in haste. A Rube Goldberg device.

Knowbots - A program which functions as a front-end to all of the white pages on the Internet, searching for the information a user enters. Knowbot Information Services of Reston, VA developed the Knowbot concept.

K12NET - A loosely organized network of school based electronic bulletin board systems located throughout North America, Australia and Europe that share curriculum related information, classroom projects and other education related information.

Linkletter - The name of a bimonthly NSFNET newsletter published by Merit Network Information Center.

Listserv - An automated system that contains BITNET discussion lists and acts as both a mail forwarding system and as a file repository.

Login - A sequence of actions at a terminal which enables a user to access the resources of a computer or communications system.

Logout - The termination of a computer or communications session.

Magic Name - A command a bulletin board system is configured to recognize which then provides the requestor with a specific file or set of files.

Mail Reader - Software which enables a user to select unread mail and unread conference messages and have them downloaded for reading off-line. Most mail readers also permit users to create responses off-line and upload them at their convenience.

Mail Reflector - A special type of electronic mailbox which upon receipt of a message resends it to a list of other mailboxes. A mail reflector provides the ability to create a discussion group.

Mailing List - A list of persons or organizational addresses that receive a copy of a message when it is addressed to a mailing list.

Merit - A regional TCP/IP network for the State of Michigan and a mid-level network in NSFNET.

MHS (Message Handling Service) - A personal computer based software system whose primary function is the transportation of messages between application programs. MHS was developed by Action Technologies and Novell acquired full marketing and development rights to MHS for NetWare based LANs. Under MHS each application sends messages to the server's \mhs\mail\snd directory. MHS delivers messages to an application by placing them in the application's assigned directory.

MIDnet - A regional TCP/IP network which covers Nebraska, Iowa, Illinois, Missouri, Arkansas, Oklahoma, and Kansas. MIDnet is also a mid-level network in NSFNET.

MILNET - The military network within the Internet.

Minnesota Regional Network (MRNET) - A NSF regional network which provides communications between the NSFNET and researchers in Minnesota.

Mirror - A term used to reference Internet FTP sites that copy files from other archives every day or so. By accessing a mirror site close to your location you reduce transmission over the Internet

Moderator - A participant who is in charge of a conference. A moderator is responsible for keeping the discussion on track, alleviating fights, and similar functions.

Multicasting - Transmitting a message to more than one site.

Multipurpose Internet Mail Extensions (MIME) - An extension to Internet mail which adds support for the exchange of multipart messages, including binary files.

Multi-User Dungeon (MUD) - A program which enables persons to interact with each other in a simulated environment.

Name Lookup Service (NLS) - An electronic directory service which is designed to respond to external queries for general information about a large group of users. Once installed, NLS can be accessed via finger or whois.

Name Server - A program which provides information about network objects, such as domains and hosts within a domain, by answering queries.

National Center for Science Information Systems (NACSIS) - The operator of a network in Japan known as the Science Information Network which connects many Japanese universities.

National Center for Supercomputer Applications network (NCSAnet) - A regional TCP/IP network which connects users in Illinois, Wisconsin and Indiana. NCSAnet is also a mid-level network in NSFNET.

Native Computer Communications Network (NCCN) - A computer network located in Canada which provides communications for native people.

Netfind - A white pages service which enables a person to query one service and have that service search other databases for addresses matching the originally entered query.

Net.God - A person very visible on a network and who may have played an important role in its development.