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FYI: 3

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FYI on Where to Start - A Bibliography of Internetworking Information

Status of this Memo

This FYI RFC is a bibliography of information about TCP/IP internetworking, prepared by the User Services Working Group (USWG) of the Internet Engineering Task Force (IETF). This memo provides information for the Internet community. It does not specify any standard. Distribution of this memo is unlimited.

Abstract

The intent of this bibliography is to offer a representative collection of resources of information that will help the reader become familiar with the concepts of internetworking. It is meant to be a starting place for further research. There are references to other sources of information for those users wishing to pursue, in greater depth, the issues and complexities of the current networking environment.

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1. Introduction

1a. Background and Purpose

On 1 June 1989, several members of the IETF User Services Working Group convened an interim working group session at the JVNC Supercomputer Center in Princeton, NJ. The purpose of the meeting was to form a distinct working group that would assemble a bibliography of useful information about the Internet for end users and for those who help end users. The first official meeting of the User Documents Working Group was held at the Stanford IETF in July 1989. The goal of the working group was to prepare a bibliography of on-line and hard copy documents, reference materials, and multimedia training tools that address general networking information and "how to use the Internet". The target audience was beginner level and intermediate level end users.

1b. Scope

This bibliography is the result of volunteer work provided by members of the User Documents Working Group. The intent of this effort is to present a representative collection of materials that will help the reader become familiar with the concepts of internetworking and will form the basis for future study. This is, quite simply, a good place to start. References to other sources of information within this collection of materials will be useful to readers who wish to pursue, in greater depth, the issues and complexities of the current networking environment. Please send comments to us-wg@nnsc.nsf.net.

1c. Organization of Document

This version of the bibliography is divided into 10 distinct categories of material, and each category is presented in a separate section:

2 ARTICLES
3 BIBLIOGRAPHIES
4 BOOKS
5 CONFERENCES AND WORKSHOPS
6 GLOSSARIES
7 GUIDES
8 MULTIMEDIA
9 NEWSLETTERS
10 REPORTS AND PAPERS
11 REQUESTS FOR COMMENTS (RFCs)

Within each section, material is arranged in alphabetical order by author or authoring organization with the exception of Section 11:

REQUESTS FOR COMMENTS (RFCs). The RFCs are ordered numerically. All entries contain fairly standard bibliographic information and provide a short abstract with information on how to obtain the particular material addressed.

For brand new network users, unsure of what to read first, we suggest reading Ed Krol's, "The Hitchhiker's Guide to the Internet" (listed in the Guide section). For general information on an introduction to Internet protocols, two documents are quite useful: Charles Hedrick's, "Introduction to the Internet Protocols", and Doug Comer's textbook, "Internetworking with TCP/IP: Principles, Protocols, and Architecture". Two excellent guides to existing networks are Tracy L. LaQuey's, "Users' Directory of Computer Networks" and John S. Quarterman's "The Matrix: Computer Networks and Conferencing Systems Worldwide". We strongly encourage the reader to scan the bibliography in its entirety as some items may be more applicable to personal needs or site requirements. (Please note that in many instances the abstracts are excerpts, provided verbatim, from the material described.)

1d. Obtaining Files By Anonymous FTP

Much of the material referenced in this bibliography is available on-line and can be obtained by using the File Transfer Protocol (FTP). Directions on how to obtain on-line files by anonymous FTP action follow. In this example, the host used is nic.ddn.mil.

Files may be obtained with the FTP program in conjunction with an ANONYMOUS login. Versions of the FTP program may vary from system to system, so the commands shown in this example may need to be modified to work on your system.

```
% ftp nic.ddn.mil  <== Use the FTP program to
                                connect to nic.ddn.mil
Connected to nic.ddn.mil
220 NIC.DDN.MIL FTP Server 5Z(47)-6 at Fri 23-Jun-89 09:38-PDT
```

The system should respond with a message to indicate that a connection has been made. Users on a Unix system will probably be prompted for a login name. Type in "anonymous" as in the example below:

```
Name (nic.ddn.mil:kbowers): anonymous
331 ANONYMOUS user ok, send real ident as password.
Password:      <== Type in <guest> at the password prompt
```

Other systems may require the use of a "login" or "user" command to send the username to the server computer. Users unsure of the

command should contact a local site representative for the specific commands.

After the username and password are sent to the system, a message to indicate that the login has been made successfully should appear:

```
    230 User ANONYMOUS logged in at Fri 23-Jun-89 09:39-PDT, job 17.
```

The user then connects to the directory in which the document to be retrieved resides. This is done with the cd command:

```
    ftp> cd RFC:
    331 Default name accepted. Send password to connect to it.
```

The user should now be connected to the RFC: directory. The "dir" or "ls" command will list the files available in this directory.

```
    ftp> dir
    200 Port 4.124 at host 192.33.33.51 accepted.
    150 List started.
    *** At this point a list of the files in the directory
        should appear **
    226 Transfer completed.
```

The "get" command will get any file in the directory.

```
    ftp> get RFC821.TXT
    200 Port 4.125 at host 192.33.33.51 accepted.
    150 ASCII retrieve of TS<RFC>RFC.821.TXT.1 (49 pages) started.
    226 Transfer completed. 124482 (8) bytes transferred.
    local: RFC.821.TXT remote: RFC.821.TXT
    124482 bytes received in 55 seconds (2.2 Kbytes/s)
```

The "quit" command leaves the FTP program.

```
    ftp> quit
    221 QUIT command received. Goodbye.
```

1e. Submitting Entries to the Bibliography

This is the first version of the "Where to Start" bibliography. Comments and suggested entries are welcome and should be sent by electronic mail to us-wg@nnsc.nsf.net.

To submit an entry for consideration, please provide the following specific details as appropriate:

Author or authoring organization:
Editor (if author is unavailable):
Title:
Journal (example: Time Magazine):
Volume:
Number:
Number of pages:
Specific pages within which the article is contained:
Publisher or publishing organization:
City of Publication:
Date of document:
Material category (Choose only one: article; bibliography; book;
conference/ workshop; glossary; guide;
multimedia; newsletter; on-line file;
report/paper; RFC):

Abstract: (Please provide a one paragraph abstract describing
the thrust of the document/reference material/
multimedia training tool. Within the abstract
include information on how one can obtain the
material described. See the entries in this
bibliography for examples.)

2. ARTICLES

Bell, Gordon, "Gordon Bell Calls for a U.S. Research Network," IEEE Spectrum, vol. 25, no. 2, pa. 54-57, IEEE Spectrum, New York, NY, Feb 1988.

This article is written by Gordon Bell, the former Chair of the FCCSET subcommittee on computer networking, infrastructure and digital communications. It discusses the merits of a national network and the potential of such a network to trigger significant advances in computing and communications research. The most viable solution is a national research network organized and maintained by the Federal government. However, the success of such a venture is tied to the need for effective leadership in communications and a coordinated Federal science and technology policy.

Catlett, Charles E., "The NSFNET: Beginnings of a National Research Internet," Academic Computing, vol. 3, no. 5, pp. 18-21, Academic Computing Publications, Inc., McKinney, TX, January 1989.

This article explains the various layers of the NSFNET. It is one of several articles in this issue of Academic Computing which is devoted to the subject of networking.

Horwitt, Elisabeth, "Science to Take the High-Speed Route," ComputerWorld, vol. 23, no. 33, p. 1, CW Publishing, Framingham, MA, August 14, 1989.

This article describes the philosophy behind NREN and the motivational factors why a 3 Gigabit network is needed. Among those quoted are Senator Albert Gore, Jr., Steve Wolff (NSF) and Ken King (EDUCOM).

Jacobsen, Ole J., "Information on TCP/IP," ConneXions, The Interoperability Report, vol. 2, no. 7, pp. 14-15, Interop, Inc., Mountain View, CA, July 1988.

This article is a reference guide on where to find more information on TCP/IP and networks in the Internet.

Jacobsen, Ole J., "Information Sources," ConneXions, The Interoperability Report, vol. 3, no. 12, pp. 16-19, Interop, Inc., Mountain View, CA, December 1989.

This article is an update of the July 1988 article and provides information on TCP/IP, OSI, and other networking topics.

LaQuey, Tracy L., "Networks for Academics," Academic Computing, vol. 4, no. 3, pp. 32-39, Academic Computing Publications, Inc., McKinney, TX, November 1989.

A variety of computer networks serve academic needs at the nation's campuses. Their thrusts differ significantly, and it is not uncommon to find campuses subscribing to multiple networks. This article is an overview of the major players. This November 1989 issue of Academic Computing also contains other interesting articles on networking.

Markoff, John, "A Supercomputer in Every Pot," New York Times, p. 1, New York, NY, December 29, 1988.

This article discusses the need for a gigabit national network to provide researchers with high speed access to remote resources and to develop other useful network applications.

Quarterman, John S. and Josiah C. Hoskins, "Notable Computer Networks," Communications of the ACM, vol. 29, no. 10, pp. 932-971, Association from Computing Machinery, Inc., New York, NY, October 1986.

This is a summary of the state of the world of networks as of late 1986. Although influential in its time and still of historical interest, it has since been superseded by Quarterman's Book, The Matrix, published in October 1989.

Quarterman, John S., "Etiquette and Ethics," ConneXions - The Interoperability Report, vol. 3, no. 4, pp. 12-16, Advanced Computing Environments, Mountain View, CA, March 1989.

Learning how to use a computer system properly takes much longer than simply learning the mechanics of making it do things. Learning to use a system without offending other users and to maximum benefit involves etiquette. Learning to use a system without causing harm to others involves ethics. These are not completely separable subjects, and the former tends to blend into the latter as the seriousness of the situation increases. This article presents a discussion of these subjects, and some suggested guidelines for appropriate behavior.

Quarterman, John S., "Mail through the Matrix," ConneXions - The Interoperability Report, vol. 3, no. 2, pp. 10-15, Advanced Computing Environments, Mountain View, CA, February 1989.

There is a worldwide metanetwork of computer networks that use dissimilar protocols at the network or internet layer, but that

communicate at the application layer. The set of such networks that are non-commercial, e.g., academic, research, or military, is sometimes called Worldnet. There are also some commercial networks and conferencing systems connected, and the metanetwork that includes all of these is what is called the Matrix. This article describes some problems associated with electronic mail correspondence through the Matrix.

Schneidewind, Norman F., "Interconnecting Local Networks to Long-distance Networks," IEEE Computer Magazine, vol. 16, no. No. 9, pp. 15-24, IEEE Computer Society, Los Alamitos, CA 90720, 10662 Los Vaqueros, (714) 821-8380, September 1983.

This article emphasizes how approaches to interconnection, network access, network services, and protocol functions are related and overlap. Decisions on which approach to undertake are based on user requirements and existing specifications. Applications to TCP/IP and the DDN Internet are provided.

3. BIBLIOGRAPHIES

Granrose, Jon, List of Anonymous FTP Sites.

This is a list of Internet sites accepting anonymous ftp. This list is available on host pilot.njin.net, directory pub/ftp-list, see the files index, help and README for more information. This list is also regularly posted to the USENET newsgroups comp.misc and comp.sources.wanted. For more information, send electronic mail to odin@pilot.njin.net.

Mogul, Jeffrey C., The Experimental Literature of The Internet: An Annotated Bibliography, 11 pgs., Digital Equipment Corporation, Palo Alto, CA, 1988.

This annotated bibliography attempts to sift out the literature of the Internet as an experiment and reveal those publications which convey the experience acquired by the experimenters. This technical note was first published as WRL Research Report 88/3. For more information, contact: Digital Western Laboratory, 100 Hamilton Avenue, Palo Alto, California 94301.

Partridge, C. ed., SIGCOMM Bibliographies, Computer Communication Review, ACM, New York, NY, Quarterly.

SIGCOMM generates a quarterly bibliography of recent publications in computer networking and publishes it in Computer Communication Review and puts it on-line on nnsc.nsf.net.

Sethi, Adarshpal S., Bibliography of Network Management, Computer Communication Review, vol. 19, no. 3, pp. 58-75, ACM SIGCOMM, New York, NY, July 1989.

This bibliography contains nearly 200 articles on Network Management. Some of the major topics are Performance Monitoring and Management, Fault Management and Diagnosis, LAN Management, Management of Telecommunication Networks, and AI Applications in Network Management. Also available on-line on host nnsc.nsf.net, directory CCR/jul89, filename sethi.ps (postscript format).

Spurgeon, Charles, List of University of Texas Network System (UTnet) Guides and Documents, The University of Texas at Austin, Austin, TX, May 17, 1990.

This is a list of documents relating to the University of Texas at Austin network system (UTnet). These documents are intended for UTnet users, system administrators and others dealing with departmental networks and hosts attached to the UTnet system. The

list includes documents that deal with usage guidelines, TCP/IP host configuration, IP addresses and routing, UNIX security, networking terms, subnet policy, subnet gateway installation, broadcast storms and packet avalanches. Although these documents are specific to the UTnet system, they do provide information that may be useful to another site. This list, which describes the documents and how to get them, is available on-line on host emx.utexas.edu, directory pub/netinfo/utnet, filename README.

Spurgeon, Charles, Network Reading List, 27 pgs., The University of Texas at Austin Computation Center, Austin, TX, April 1990.

This is an annotated list of books and other resources of use to network managers who are using TCP/IP, UNIX, and Ethernet technologies. These three technologies share the same major attribute: network managers can use them to build interoperable network systems across a wide range of vendor equipment. This list is intended for campus network managers at the University of Texas at Austin, or anywhere TCP/IP, UNIX, and Ethernet are used to provide computer communications. Available on-line on host emx.utexas.edu, directory pub/netinfo/docs, filenames network-reading-list.txt or network-reading-list.ps (.txt is in ascii format and .ps is in postscript format).

SRI International, Network Information Systems Center, Bibliography About Network Protocols: A List for Background Reading, 7 pgs., SRI International, Network Information Systems Center, Menlo Park, CA, October 1989.

A bibliography of recent articles and books pertaining to TCP and IP, X.25, the Transport Protocol (TP-4), OSI and other standards. Compiled by the DDN Network Information Center as a background reading list for vendors, this bibliography cites articles, mostly from open literature, representing a variety of viewpoints. This list does not contain references to the Requests for Comments (RFCs). Available on-line on host nic.ddn.mil, directory netinfo:, file protocols-dod.bib.

Wobus, John M., Syracuse University Network Bibliography, Syracuse University Computing & Network Services, Syracuse, NY, April 9, 1990.

This is a bibliography of publications on various kinds of networking. It is intended for use at Syracuse University and includes publications specific to Syracuse University as well as publications of more general interest. It is available online via anonymous ftp to host icarus.cns.syr.edu, directory info, filename netbib.txt.

4. BOOKS

Anderson, Bart, Bryan Costales, Harry Henderson, and The Waite Group, UNIX Communications, 542 pgs., Howard W. Sams & Company, Indianapolis, IN, 1987.

UNIX Communications provides a good overview and comprehensive introduction on UNIX mail, the USENET News and UUCP with clear examples.

Arms, Caroline, Campus Networking Strategies, 321 pgs., Digital Press, Bedford, MA, 1988.

This book contains a survey of ten colleges and universities that have made or implemented grand plans for networking. The case studies cover the planning process, technical issues, and financing and management of an ongoing service organization. Chapters on protocols and standards, wiring, and national networks provide valuable technical background. A glossary defines frequently used networking terms. This book is a project of the EDUCOM Networking and Telecommunications Task Force (NTTF), a group of research universities engaged in joint programs to support the development of computer networking technology.

Arms, Caroline ed., Campus Strategies for Libraries and Electronic Information, Vol. 3, 404 pgs., Digital Press, Bedford, MA, 1989.

This book offers a comprehensive look at planning and implementation of libraries and information systems in higher education. This is volume 3 in EDUCOM Strategies Series on Information Technology. Order source for EDUCOM members is: pubs@educom.edu. Order source for non-members is: 1-800-343-8321. Order number: ey-cl85e.dp.

Batt, Fred, Online Searching for End Users: An Information Sourcebook, 116 pgs., Oryx Press, Phoenix, AZ, 1988.

This is a sourcebook for computer and information science which includes bibliographies and indexes.

Comer, Douglas E., Internetworking With TCP/IP: Principles, Protocols, and Architecture, 382 pgs., Prentice Hall, Inc., Englewood Cliffs, NJ, 1988.

This book provides an overview and introduction to TCP/IP. It contains an overview of the Internet; reviews underlying network technologies; examines the internetworking concept and architectural model; covers the basics of the Internet addressing

and routing as well as protocol layering; explores the core gateway system and protocol gateways used to exchange routing information; and discusses application level services available in the Internet. It also contains several useful appendices including RFCs, a glossary of Internet terms, and the official DARPA Internet protocols.

Connors, Martin, Computers and Computing Information Resources, 1271 pgs., Gale Research Co., Detroit, MI, 1987.

This is a guide to approximately 6,000 print, electronic, and "live" sources of information on general and specific computer-related topics in all disciplines.

Feinler, Elizabeth J., Ole J. Jacobsen, Mary K. Stahl, and Carol A. Ward, DDN Protocol Handbook, 2749 pgs. [3 volumes], SRI International, DDN Network Information Center, Menlo Park, CA, December 1985.

This is a three volume collection of documents addressing how to attach computers to the Defense Data Network (DDN) using the Department of Defense (DoD) suite of protocols. The first volume contains official military standard protocols, such as the Transmission Control Protocol/Internet Protocol (TCP/IP), and the File Transfer Protocol (FTP). Volume two includes all of the official Defense Advanced Research Projects Agency (DARPA) protocols. The final volume contains supplementary material of interest to protocol implementors. In addition, the handbook presents general information about the protocol standardization process itself, the agencies involved and their roles, and the means for obtaining further information. Available from SRI International, DDN Network Information Center, 333 Ravenswood Ave., Room EJ291, Menlo Park, CA 94025.

Frey, Donnalyn and Rick Adams, !%@:: A Directory of Electronic Mail Addressing and Networks, Second Edition, 284 pgs., O'Reilly and Associates, Sebastopol, CA 1990.

This handbook of electronic mail addressing and networks contains an electronic mail tutorial, short descriptions of networks, and helpful indices of domain names and ISO codes. It also has several useful appendices: second-level domains sorted by organization name, second-level domains sorted by domain name, ISO country codes sorted by country, same sorted by code, and UUCP mail handling.

Garcia-Luna-Aceves, Jose J., Mary K. Stahl, and Carol A. Ward, Internet Protocol Handbook: The Domain Name System (DNS) Handbook, 219 pgs., SRI International, Network Information Systems Center, Menlo Park, CA, August 1989.

This handbook explains the Domain Name System (DNS) and the Internet Host Table. This is volume four of the DDN Protocol Handbook (see Feinler, E., et. al., DDN Protocol Handbook). This volume is divided into two sections. The first section covers the concepts and philosophy of the DNS as discussed in various articles and Requests for Comments (RFCs). The second section focuses on the transition from the Internet Host Table to the DNS. Detailed information on DNS protocol standards and implementations are provided as are guidelines for the establishment and operation of domain name servers. The handbook concludes with a glossary of DNS acronyms. Available from SRI International, Network Information Systems Center, 333 Ravenswood Ave., Room EJ291, Menlo Park, CA 94025.

Karrenberg, Daniel and Anke Goos, European R&D E-mail Directory, 210 pgs., European Unix Systems Users' Group, Owles Hall, Owles Lane, Buntingford, Herts, England, December 1988.

This book contains a reference of all organizations reachable by EARN and EUNet, the two major European electronic mail networks serving the research and development community. It contains an electronic mail tutorial and organization indexes. For more information, send electronic mail to euug@inset.uucp, or call +44 763 73039.

LaQuey, Tracy L., User's Directory of Computer Networks, 653 pgs., Digital Press, Bedford, MA, May, 1990.

This directory contains detailed lists of hosts, site contacts, and administrative domains, and general information on over 40 major networks. Included are tutorials on the Domain Name System, X.500, and Electronic Mail. An Organization List, which includes universities, colleges, research institutions, government agencies and companies, cross references much of the network and host information presented throughout the directory. Most of the lists and articles are provided or written by Network Information Centers and network contacts. For more information, send electronic mail to netbook@nic.the.net.

McConnell, John, Internetworking Computer Systems : Interconnecting Networks and Systems, 318 pgs., Prentice Hall, Englewood Cliffs, NJ, 1988.

An advanced reference series on Internetworking computer systems and computer networks. Includes bibliographical references and index.

Quarterman, John S., The Matrix: Computer Networks and Conferencing Systems Worldwide, 746 pgs., Digital Press, Bedford, MA, 1990.

A successor to the article "Notable Computer Networks" published by the CACM, October 1986, this book contains background material introducing important topics for readers unfamiliar with networks and conferencing systems. It provides descriptions of specific systems, organized geographically, in order to facilitate discussion of regional history. Maps are included. Syntaxes and gateways are provided for sending mail from one system to another. Access information is given for those wishing to join or research a system. Extensive reference sections are at the end of each chapter including a sixty page index of programs and protocols, networks and gateways, places and people. For more information, send electronic mail to matrix@longway.tic.com.

Rose, Marshall T., The Open Book: A Practical Perspective on OSI, 651 pgs., Prentice Hall, Englewood Cliffs, NJ, 1989.

This is a comprehensive book about Open Systems Interconnection (OSI). In particular, this book focuses on the pragmatic aspects of OSI: what OSI is, how OSI is implemented, and how OSI is integrated with existing networks. In order to provide this pragmatic look at OSI the book makes consistent comparisons and analogies of the OSI pieces with the TCP/IP suite of networking protocols.

Stallings, William, Handbook of Computer-Communications Standards Volume 1: The Open System (OSI) Model and OSI-Related Standards, Macmillan, New York, NY, 1990.

Stallings, William, Handbook of Computer-Communications Standards Volume 2: Local Area Network Standards, Macmillan, New York, NY, 1990.

Stallings, William, Handbook of Computer-Communications Standards Volume 3: The TCP/IP Protocol Suite, Macmillan, New York, NY, 1990.

This series systematically covers the major standards topics, providing the introductory and tutorial material not found in the

actual standards documents. The books function as a primary reference for those who need an understanding of the technology, implementation, design, and application issues that relate to the standards.

Stoll, Clifford, The Cuckoo's Egg: Tracking a Spy through the Maze of Computer Espionage, Doubleday, New York, NY, 1989.

Clifford Stoll, an astronomer turned UNIX System Administrator, recounts an exciting, true story of how he tracked a computer intruder through the maze of American military and research networks. This book is easy to understand and can serve as an interesting introduction to the world of networking. Jon Postel says in a book review, this book "... is absolutely essential reading for anyone that uses or operates any computer connected to the Internet or any other computer network."

Tanenbaum, Andrew S., Computer Networks, Second Edition, Prentice Hall, Englewood Cliffs, NJ, 1988.

This book is a reference for computer communications. In addition to OSI, some aspects of TCP/IP are discussed.

Todinao, Grace, Using UUCP and USENET: A Nutshell Handbook, 199 pgs., O'Reilly and Associates, Newton, MA, 1986.

This handbook outlines how to communicate with both UNIX and non-UNIX systems using UUCP and cu. By example it shows how to read news and post your own articles to other USENET members.

5. CONFERENCES AND WORKSHOPS

ACM SIGCOMM Symposium, The Association for Computing Machinery, New York, NY.

The annual ACM SIGCOMM Symposium is the major ACM conference on research on computer communication. The symposium provides an international forum for the presentation and discussion of communication network applications and technologies, as well as recent advances and proposals on communication architectures, protocols, algorithms, and performance models. Papers on any field in computer communication are welcomed. The conference typically accepts about 25% of the papers submitted. ACM Special Interest Group on Data Communication (SIGCOMM) is the professional society for people interested in computer communication. Established as an ACM SIG in 1969, SIGCOMM published a quarterly journal, Computer Communication Review, in addition to hosting the SIGCOMM conference. For more information, send electronic mail to sigs@acmvm (Bitnet) or contact: Association for Computing Machinery, 11 West 42nd Street, New York, NY 10036-8097. Phone (212) 869-7440, fax (212) 869-0481.

INTEROP Conference and TCP/IP OSI/ISO ISDN Internetworking Tutorials, Interop, Inc., Mountain View, CA.

Interop, Inc. hosts a number of tutorials on internetworking topics including TCP/IP, OSI, X-Windows, ISDN, and so on. The tutorials are held concurrently with the INTEROP conference and also in several locations in the US and Europe throughout the year. In-house training can also be arranged. The INTEROP conference and exhibition is held every year in October. The format is 2 days of tutorials followed by 3 days of technical sessions. A large tradeshow where attendees can see vendors demonstrating interoperability on the show network is also part of INTEROP. The show network (dubbed "Show and Tel-Net") is also connected to several wide area networks including the Internet during the conference. For more information contact: Interop, Inc., 480 San Antonio Road, Suite 100, Mountain View, CA 94040. Phone: (415) 941-3399 or 1-800-INTEROP FAX: (415) 949-1779.

National Net Conference, EDUCOM, Washington, DC.

This conference provides the annual forum in which the National Research and Education Network (NREN) partnership among education, government and industry is being forged. This conference facilitates strategic alliances to realize the NREN goals of advancing research productivity and technology transfer, broadening collaboration of the nation's leading scientists, and

improving educational access and quality. For more information, contact EDUCOM, 1112 16th Street, NW, EDUCOM, Suite 600, Washington, DC 20036 (202) 872-4200.

EDUCOM Conference, EDUCOM, Washington, DC.

EDUCOM conferences are a forum for policymakers, administrators, faculty, corporate and government representatives who want to learn more about current and emerging trends in information technology, campus computing strategy and policy, networking and computer applications in teaching, research and administration. For more information, contact EDUCOM, 1112 16th Street, NW, EDUCOM, Suite 600, Washington, DC 20036 (202) 872-4200

Internet Engineering Task Force (IETF), Corporation for National Research Initiatives, Reston, VA, Plenaries held 3 times/year.

The IETF is a large open community of network designers, operators, vendors, and researchers whose purpose is to coordinate the operation, management and evolution of the Internet, and to resolve short- and mid-range protocol and architectural issues. It is a major source of proposed protocol standards which are submitted to the Internet Activities Board for final approval. The IETF meets three times a year and extensive minutes of the plenary proceedings are issued. For more information, send electronic mail to ietf-request@venera.isi.edu or contact the Corporation for National Research Initiatives, 1895 Preston White Drive, Suite 100, Reston, VA 22091, Attn: IAB Secretariat.

Open Systems Interconnection - OSI, The Omnicom Institute.

Omnicom, Inc. is a comprehensive source for information and training in the Open Systems Interconnection (OSI) industry. They provide training courses, newsletter service, and consulting and technical support services. For more information, contact Omnicom Inc., 115 Park Street, SE, Vienna, VA 22180-4607 Phone: (703) 281-1135, FAX: (703) 281-1505

Communication Networks Conference & Exposition, IDG Conference Management Group.

This group provides 5-6 conferences a year focusing on network management, communications, OSI, standards, TCP/IP and assorted, associated tutorials. For more information, contact IDG Conference Management Group, P.O. Box 9171, Framingham, MA 01701 Telephone: (800) 225-4698, (508) 879-6700, FAX: (508) 872-8237.

6. GLOSSARIES

Colorado State University, Glossary of Networking Terms, 2 pgs., Colorado State University, Boulder, CO.

This is a condensed version of more common networking terms put together by the Colorado State University. Available on host csupwb.colostate.edu, directory general.info, file glossary.network.

Darcy, Laura ed. and Louise Boston, ed., Webster's New World Dictionary of Computer Terms, 282 pgs., Simon and Schuster, New York, NY.

This dictionary contains electronic data processing and computer terms.

Edmunds, Robert A., The Prentice-Hall Standard Glossary of Computer Terminology, 489 pgs., Prentice-Hall, Business and Professional Division, Englewood Cliffs, NJ, 1985.

This is a standard glossary of computer terminology.

Freedman, Alan, The Computer Glossary: The Complete Illustrated Desk, 776 pgs., AMACOM, New York, 1988.

This glossary contains over 3000 definitions of computer terms. It can also be used as an encyclopedia for using, understanding and benefiting from computers.

7. GUIDES

California Education and Research Federation Network - CERFnet, CERFnet User's Guide , May 1990, approx. 60 pgs., California Education and Research Federation Network-CERFnet, San Diego, CA, May 1990.

CERFnet User's Guide includes general information on CERFnet (such as a topology map and membership list), acceptable use policies, troubleshooting procedures, descriptions of the CERFnet mailing lists and network information services, information on the NSFNET and MERIT, other mid-level networks, and the Internet. It also includes the Internet Resource Guide produced by the NNSC, the Internet Accessible Library Catalogs and Databases produced by Dr. Art St. George, as well as other useful articles. The guide is available on-line on NIC.CERF.NET, directory cerfnet, filename cerfnet_guide. Both postscript and ascii formats are available. To request a hard copy of the guide send electronic mail to help@cerf.net. CERFnet charges a fee for hard copy versions of the guide.

Chew, John J. ed., Inter-Network Mail Guide, 4 pgs., Trigraph, Inc., Toronto, Canada, December 89 (issued monthly).

This bulletin documents methods of sending mail from one network to another. It is maintained by John J. Chew (poslfit@gpu.UTCS.UToronto.CA), and is posted monthly to comp.mail.misc and news.newusers.questions (USENET newsgroups). It is also available via the LISTSERV at UNMVM. Send a message to listserv@unmvm (or listserv%unmvm.bitnet@cunyvm.cuny.edu) and in the body of the message say GET NETWORK GUIDE. The guide will be sent to you. For more information, send electronic mail to Intermail-Request@intermail.isi.edu.

Colorado State University Computer Center, Colorado State University's SUBNET MANAGER'S GUIDE, 32 pgs., Colorado State University Computer Center, Ft. Collins, CO, April 1989.

Although a guide written specifically for CSUNET's subnet managers, it has general reference material containing common networking questions and concerns. Available on-line on host csupwb.colostate.edu, directory subnet.managers.info, filename guide.

Damon, Lee and Dale Weber, How to use the UUCP <===> Fido-Net<tm> Gateway, 6 pgs. (19640 bytes), Plano, TX, December 9, 1988.

This tutorial explains how to send mail from a Fido-Net site

to/from a UUCP or Internet site. Available on-line on host emx.utexas.edu, directory user.wg/documents, filename internet.fidonet.

Dennett, Stephen C. ed., Elizabeth J. Feinler, ed., Francine Perillo, ed., Mary K. Stahl, ed., and Carol A. Ward, ed., DDN New User Guide, 74 pgs., DDN Network Information Center, Menlo Park, CA, December 1985, revised November 1987.

This is a guide written for new users of the DDN. It covers the structure of the DDN and how it is administered, network connection, registration, network use and services, and a bibliography and glossary of terms. Also included are appendices which contain information about network special interest groups (SIGs), commonly-asked questions, and network contacts. Available on-line on host nic.ddn.mil, directory netinfo:, filename nug.doc. Hard copies may be obtained by writing to SRI International, Network Information Systems Center, 333 Ravenswood Ave., Room EJ291, Menlo Park, CA 94025.

Dorio, Nancy, Marlyn Johnson, Sol Lederman, Elizabeth Redfield, and Carol A. Ward, DDN Protocol Implementations and Vendors Guide, 386 pgs., SRI International, DDN Network Information Center, Menlo Park, February 1989.

This is a reference guide to products and implementations associated with the DoD Defense Data Network (DDN) group of communication protocols with emphasis on Transmission Control Protocol/Internet Protocol (TCP/IP) and OSI. The four sections of the guide: provide information on policy and evaluation procedures; discuss software and hardware implementations and include a discussion on analysis tools with a focus on protocol and network analyzers. Any products mentioned in this guide are not specifically endorsed or recommended by the Defense Communications Agency (DCA). Available on-line on host nic.ddn.mil, directory netinfo:, file vendors-guide.doc, or contact SRI International, Network Information Systems Center, 333 Ravenswood Ave,. Room EJ291, Menlo Park, CA 94025.

Krol, Ed, The Hitchhiker's Guide to the Internet, 24 pgs., University of Illinois Urbana, Urbana-Champaign, IL, September 1989.

This guide offers a quick introduction to some of the concepts and jargon, pitfalls and structure of the TCP/IP Internet. This primer also contains instructions (with examples) for finding and fetching more information from various Network Information Centers. It provides hints on how to retrieve on-line files and how to be a good Internet neighbor. Available on-line on host

nic.ddn.mil, directory RFC, filename RFC1118.TXT.

Link, Adrianne, UNIX Mail Hints, 7 pgs., National Center for Atmospheric Research Scientific Computing Division, Boulder, CO, May 1988.

This guide contains several useful UNIX mail procedures and is intended for users who are familiar with UNIX mail. For more information, send electronic mail to Mary Buck, maryb@ncar.ucar.edu, or contact the National Center for Atmospheric Research, Scientific Computing Division, P.O. Box 3000, Boulder, CO 80307-3000. (303) 497-1232

NSF Network Service Center, Internet Resource Guide, 170 pgs., NSF Network Service Center, Cambridge, MA, 1989.

This is a guide to computational resources, library catalogs, archives, white pages, networks and network information centers, available via the Internet. It includes description and contacts for specific information. Available on on-line host nnsc.nsf.net, directory resource-guide. Subscription requests should be sent to resource-guide-request@nnsc.nsf.net, or contact the NNSC at (617) 873-3400.

Pritchett, Norm, Centralized Mail Systems Summary, 8 pgs. (25446 bytes), Ohio State University, Columbus, OH, May 23, 1989.

This guide is a summary of a survey to find out what people were doing with centralized mail systems. It includes points-of-contact for the assorted mail systems addressed. Available on-line on host emx.utexas.edu, directory user.wg/documents, filename central.mail.survey.

St. George, Dr. Art and Mr. Ron Larsen, Internet-Accessible Library Catalogs and Databases, 18 pgs, University of New Mexico and University of Maryland, Albuquerque, NM, December 1989.

This guide is an ongoing project listing on-line library catalogs and databases available within the United States. (This listing will be modified in the future to include available overseas libraries as well.) It is organized by state, and then by catalog and database source. This document can be obtained by sending a message to listserv@unmvm (or listserv%unmvm.bitnet@cunyvm.cuny.edu) and in the body of the message say GET INTERNET LIBRARY (text) or GET LIBRARY PS (Postscript). The list will be sent to you. For more information, send electronic mail to stgeorge@unmb.bitnet or stgeorge%unmb.bitnet@cunyvm.cuny.edu.

IETF NOC Tools Working Group, Stine, Robert ed., Network Management Tool Catalog: Tools for Monitoring and Debugging TCP/IP Internets and Interconnected Devices, 187 pgs. (278217 bytes ascii or 126 pgs./511546 bytes postscript), Sparta, Inc., McLean, VA, December 1989.

This catalog contains descriptions of several tools available to assist network managers in debugging and maintaining TCP/IP internets and interconnected communications resources. Entries in the catalog tell what a tool does, how it works and how it can be obtained. A useful network management tutorial is also included in the appendix. Available on-line on host nic.ddn.mil, directory FYI or RFC, filenames FYI2.txt or RFC1147.txt or FYI2.ps or RFC1147.ps (.txt is in ascii format and .ps is in postscript format). For more information, send electronic mail to us-wg@nnsc.nsf.net.

8. MULTIMEDIA

National Net Audiotapes, Recorded Resources Corporation, Millersville, MD, 1988, 1989, 1990.

These tapes are recorded during sessions of the annual National Net conferences, held since 1987 in Washington, D.C. Description of the conference is listed in this bibliography in Conferences and Workshops. Availability information: 1988, 38 tapes; 1989, 33 tapes; 1990, 16 tapes. For more information, contact Recorded Resources Corporation, 8360 Maryland Rte. 3, Suite 16, P.O. Box 647, Millersville, MD 21108. (301) 621-7120

IBM, MCI and Merit, The National Network, 20 min., MCI Video Production Center, McLean, VA, 1989.

This presentation on the National Research and Education Network, cites various examples of computer-based applications: sharing distributed data for medical diagnosis, collaboration on assorted advanced research and technology projects, and more. A copy of this video may be obtained by writing Arvyette Patterson, MCI Video Library, 8003 West Park Drive, McLean, VA 22102. (703) 749-7234.

MIDNET, MIDNET 1989 Videotape, 5 min., MIDnet, Lincoln, NE, 1989.

This short film discusses the need for MIDNET (one of the geographically regional networks connected to the NSFNet backbone) and its relationship to other networks. For more information, contact MIDNET, Computing Resource Center, University of Nebraska - Lincoln, 326 Administration, Lincoln, NE 68588. (402) 472-5108.

9. NEWSLETTERS

PSINet Connection, PSI, Inc., Reston, VA.

PSINet Connection is a bi-monthly newsletter which supplies the user with information on using the Internet, reporting on the national PSINet activities and network growth and commentary on current technical issues. For more information, send electronic mail to info@psi.com, or contact PSINet Connection, PO Box 3850, Reston, VA 22091. Phone (703) 620-6651.

CERFnet News, California Education and Research Federation Network (CERFnet), San Diego, CA.

CERFnet News is published six times a year by the California Education and Research Federation Network (CERFnet). It contains information pertinent to CERFnet users and Internet users, such as network technologies, (ex.: FDDI), a report on the latest activities of CERFnet, political and legislative related networking news, articles on different resources available on-line to Internet users (ex.: databases and library catalogs), and a column on notable activity on the Internet. CERFnet News is available on-line on host sds.sdsc.edu or nic.cerf.net, directory cerfnet_news. For more information, send electronic mail to cerf-help@sds.sdsc.edu or contact the CERFnet office located at CERFnet, c/o San Diego Supercomputer Center, P. O. Box 85608, San Diego, CA 92138-5608. (619) 534-5087

CICnet, The Seeing Eye, CICNet, Inc., Ann Arbor, MI.

The Seeing Eye is a bimonthly publication on the activities of CICNet, Inc. (CIC stands for Committee on Institutional Cooperation.) This newsletter deals with issues such as electronic communication and cooperation among universities, governments, and corporations, and the establishment of a coherent national research and education network. For more information, send electronic mail to maloff@merit.edu, or contact The CICNet Information Source, CICNet, Inc., 535 West William, Ann Arbor, MI. 48103-4943. (313) 747-4272

ConneXions, Interop, Inc., Mountain View, CA.

ConneXions - The Interoperability Report is published monthly and covers the computer and communications industry, with special emphasis on networking protocols such as TCP/IP and OSI. The articles are written by the experts in the field and are typically tutorial in nature. For more information, contact Interop, Inc., 480 San Antonio Road, Suite 100, Mountain View, CA 94040. (415) 941-3399.

LinkLetter, Merit Computer Network/NSFNET Information Services, Ann Arbor, MI.

This newsletter is a publication of the Merit Computer Network, managers of the NSFNET backbone project. The Link Letter focuses on the NSFNET backbone project and is available electronically and via hard copy. To subscribe, send electronic mail to NSFNET-Linkletter-Request@merit.edu.

Merit Network News, MERIT, Inc., Ann Arbor, MI.

This newsletter is a free, quarterly publication of the Merit Computer Network, Michigan's regional computer network. The Merit Network News publishes information and documentation on the network itself, features articles about the computing environments at the Merit member institutions, and provides information about recent developments in networking technology. Merit News is available electronically or via hard copy. To subscribe, send electronic mail with your preferred method and addresses to Info@merit.edu, or contact Merit at (313) 764-9430.

NEARnet Newsletter, NEARnet, Cambridge, MA.

The NEARnet Newsletter is a bimonthly publication for users of the New England Academic and Research Network (NEARnet) and others interested in academic and research networking. This newsletter contains articles about useful network applications and projects, NEARnet services, member organizations, and plans for the future. To subscribe, send electronic mail to nearnet-staff@nic.near.net, or contact NEARnet, BBN Systems and Technologies Corporation, 10 Moulton Street, Cambridge, MA 02138, Attn: Deborah Doyle MS 6/3A.

NorthWestNet News, University Computing Services, University of Washington, Seattle, WA.

This short monthly newsletter is intended primarily for member institutions of NWNET. The newsletter contains information of interest to users and staff of these institutions, with an

emphasis upon announcing training opportunities in supercomputing and networking, upcoming NWNET meetings, and resources available to NWNET users. To subscribe, send electronic mail (for hard copy or on-line) to kochmer@uwavm.acs.washington.edu.

NSF Network News, NSF Network Service Center, Cambridge, MA.

A newsletter published by the NSF Network Service Center approximately every 5 months. Its mission is to disseminate general information about NSFNET, its architecture, its protocols and its users. The newsletter also includes a map, showing all sites attached to NSFNET and its regional networks at the time of publication. To subscribe, send electronic mail to nnsc@nnsc.nsf.net or contact NNSC, BBN Systems & Technologies, 10 Moulton St., Cambridge, MA 02138.

NYSERNet News, PSI, Inc., Reston, VA.

This bi-monthly newsletter supplies the user with information on using the Internet, reports on ongoing NYSERNet activities and network growth and commentary on current technical issues. To subscribe, send electronic mail to info@psi.com, or contact NYSERNet News, PO Box 3850, Reston, VA 22091. (703) 620-6651.

UIUCnet Newsletter, University of Illinois Computing Services Office, Urbana, IL.

The UIUCnet newsletter provides timely information about campus network issues. It covers new developments in campus networking in addition to providing tutorials and in-depth articles about both national networking and networking at the University of Illinois. Postscript versions (that are compressed) of the UIUCnet Newsletter are available on-line on host uxc.cso.uiuc.edu, directory UIUCnet. To subscribe, send electronic mail to uiucnet@uiuc.edu, or contact UIUCnet, Computing Services Office, 1304 W. Springfield Ave., Urbana, IL 61801.

10. REPORTS AND PAPERS

Deutsch, Debra, An Introduction to the X.500 Series Network Directory Service, 13 pgs., BBN Systems & Technologies Corporation, Cambridge, MA, June 1988.

This paper introduces the concepts and function of the Directory Services specified in the X.500 series and outlines how the CCITT and ISO have approached the associated technical issues. The discussion is at a fairly high level, but does assume a knowledge of networking concepts. It begins with an explanation of the model and concepts used in the standard; describes the services provided and the protocols that implement those services; describes some of the kinds of names and objects that the CCITT and ISO anticipate will appear in the database; and ends with a discussion of some issues that CCITT and ISO are expected to address in the near- to mid-future. Available by sending electronic mail to Debra Deutsch, ddeutsch@bbn.com.

EDUCOM Networking and Telecommunications Task Force, The National Research and Education Network: A Policy Paper, 10 pgs., EDUCOM, Washington, DC, April 1989.

This paper is based on conclusions reached at an EDUCOM NTTF national network workshop attended by representatives of government, education and industry on January 23-24, 1989 and from recommendations of task force committees. It addresses the goal and benefits of the NREN, access to the network and network services, and issues surrounding research and development. It also presents a model for network structure and management, and network financing. This document can be ordered by sending electronic mail to nttf@educom.edu, or contacting EDUCOM, 1112 16th Street NW, Suite 600, Washington, DC 20036, (202) 872-4200.

EDUCOM Networking and Telecommunication Task Force, A National Higher Education Network: Issues and Opportunities, 19 pgs., EDUCOM, Princeton, NJ, May 1987.

This paper is the first in a series of documents addressing the urgent need for a coordinated national highspeed computer network linking academic institutions, federal research laboratories, library resources, and industrial partners. Appendix 1 contains a statement by the President of EDUCOM to the Science, Research and Technology Subcommittee of the US House of Representatives. This document can be ordered by sending electronic mail to nttf@educom.edu, or contacting EDUCOM, 1112 16th Street NW, Suite 600, Washington, DC 20036. (202) 872-4200.

Federal Coordinating Council for Science, Engineering, and Technology (FCCSET), A Research and Development Strategy for High Performance Computing, 29 pgs., Office of Science and Technology Policy, Washington, DC, Nov 20 1987.

Prepared by the FCCSET Committee on Computer Research and Applications, this report is the result of a systematic review of the status and directions of high performance computing and its relationship to federal R&D. It contains both a summary of findings and a summary of recommendations addressing high performance computers, software technology and algorithms, networking and basic research and human resources. This document was released by the Executive Office of the President, Office of Science and Technology Policy, Washington, DC 20506. To order, call OSTP Publications at (202) 395-7347.

Federal Research Internet Coordinating Committee, Draft Program Plan for the National Research and Education Network, 25 pgs., Federal Research Internet Coordinating Committee (FRICC), Washington, DC, May 1989.

This report is the final draft of a joint agency program plan to develop a National Research and Education Network (NREN). It addresses the concerns identified in the review conducted by the ad hoc committee of the National Research Council, as documented in the report "Toward A National Research Network". It details steps to be taken by the Federal government to establish the NREN and covers the first five years of the expected ten year development path. For more information, contact the Federal Research Internet Coordinating Committee, US Dept. of Energy, Office of Scientific Computing ER-7, Washington, DC 20545.

Hedrick, Charles L., Introduction to the Internet Protocols, 34 pgs., Rutgers University Computer Science Facilities Group, Piscataway, NJ, July 3, 1987.

This paper give an introduction to the Internet networking protocols (TCP/IP). It includes a summary of the facilities available and brief descriptions of the major protocols in the family. Available on-line on host topaz.rutgers.edu, directory pub/tcp-ip-docs, filenames tcp-ip-intro.1 and tcp-ip- intro.2.

Hedrick, Charles L., Introduction to Administration of an Internet-base Local Network, 46 pgs., Rutgers University Computer Science Facilities Group, Piscataway, NJ, July 24, 1988.

This document is written for people who intend to set up or administer a network based on the Internet networking protocols

(TCP/IP). Available on-line on host athos.rutgers.edu, directory runet, filename tcp-ip-admin.doc or tcp-ip-admin.ps (.doc is in ascii format and .ps is in postscript format).

National Research Council, Toward a National Research Network, 55 pgs., National Academy Press, Washington, DC, 1988.

This report was prepared by the National Research Network Review Committee (NRNRC) on the proposed establishment of a high-performance national computer network for researchers. Three sets of issues are examined: the technical feasibility of the network proposals developed by the Committee on Computer Research and Applications of the Federal Coordinating Council for Science, Engineering and Technology (FCCSET); the utility of the proposed network to the research community; and developments in computer technology that might encroach upon the proposed network and associated services. The committee's findings with issues and recommendations are presented in this report. This document is available from the Computer Science and Technology Board, 2101 Constitution Ave. NW, Washington, DC 20418.

Raveche, Harold J., Duncan H. Lawrie, and Alvin M. Despain, A National Computing Initiative, The Agenda for Leadership, 77 pgs., Society for Industrial and Applied Mathematics, Philadelphia, PA, February 1987.

In response to congressional inquiries and urged on by the extraordinary opportunities created by rapid developments in high-performance computing, the Federal Coordinating Council on Science, Engineering and Technology (FCCSET) recommended that several federal agencies convene expert panels to assess high-performance computing. In attendance were 45 recognized leaders from industry, academe and national laboratories. In three separate sub-panels, they considered the steps necessary to grasp the opportunities and face the challenges of the next decade: in particular, to maintain U.S. leadership in computing technology and the strengthening of our competitive position vis-a-vis our trading partners. The three sub-panel reports follow an executive summary of the workshop. For copies, contact Society for Industrial and Applied Mathematics, 1400 Architects Building, 117 South 17th Street, Philadelphia, PA 19103-5052.

Reynolds, Joyce K., The Helminthiasis of the Internet, 33 pgs. (77,033 bytes), USC/Information Sciences Institute, Marina del Rey, CA, December 1989.

This report looks back at the helminthiasis (infestation with, or disease caused by parasitic worms) of the Internet that was

unleashed the evening of 2 November 1988. It provides information about an event that occurred in the life of the Internet. This document provides a glimpse at the infection, its festering, and cure. The impact of the worm on the Internet community, ethics statements, the role of the news media, crime in the computer world, and future prevention is discussed. A documentation review presents four publications that describe in detail this particular parasitic computer program. Reference and bibliography sections are also included. Available on-line on host nic.ddn.mil, directory RFC, filename RFC1135.TXT.

Shapiro, Norman Z. and Robert H. Anderson, Toward an Ethics and Etiquette for Electronic Mail, 50 pgs., The Rand Corporation, Santa Monica, CA, July 1985.

This report, prepared for the National Science Foundation, provides important general attributes of electronic mail systems, computers, or communications systems, and the effects of those attributes on the quality and appropriateness of communication. Hard copies may be obtained, for a fee, from: Publications Distribution Services, The RAND Corporation, P.O. Box 2138, Santa Monica, CA 90406-2138.

U.S. General Accounting Office, Computer Security - Virus Highlights Need for Improved Internet Management, 36 pgs., United States General Accounting Office, Washington, DC, 1989.

This report (GAO/IMTEC-89-57), by the U.S. Government Accounting Office, describes the worm and its effects. It gives a good overview of the various U.S. agencies involved in the Internet today and their concerns vis-a-vis computer security and networking. Available on-line on host nnsc.nsf.net, directory pub, filename GAO_RPT; and on nis.nsf.net, directory nsfnet, filename GAO_RPT.TXT.

11. REQUEST FOR COMMENTS (RFC)

11.a The Request for Comments Document Series

The RFCs are working notes of the Internet research and development community. A document in this series may be on essentially any topic related to computer communication, and may be anything from a meeting report to the specification of a standard.

Most RFCs are the descriptions of network protocols or services, often giving detailed procedures and formats providing the information necessary for creating implementations. Other RFCs report on the results of policy studies or summarize the work of technical committees or workshops.

Note: Currently, all standards are published as RFCs, but not all RFCs specify standards.

Anyone can submit a document for publication as an RFC. Submissions must be made via electronic mail to the RFC Editor. The RFC Editor is Jon Postel (Postel@ISI.EDU).

While RFCs are not refereed publications, they do receive technical review from either the task forces, individual technical experts, or the RFC Editor, as appropriate.

RFCs are distributed on-line by being stored as public access files, and a short message is sent to the RFC distribution list (RFC-REQUEST@NIC.DDN.MIL) indicating the availability of the memo.

The on-line files are copied by the interested people and printed or displayed at their site on their equipment. An RFC may also be returned via email in response to an email query. RFCs can be obtained via FTP from NIC.DDN.MIL, with the pathname RFC:RFCnnnn.TXT (where "nnnn" refers to the number of the RFC). Login with FTP, username "anonymous", password "guest".

The DDN Network Information Center (NIC) also provides an automatic mail service for those sites which cannot use FTP. Address the request to SERVICE@NIC.DDN.MIL and in the subject field of the message indicate the RFC number, as in "Subject: RFC nnnn".

RFCs can also be contained via FTP from NIS.NSF.NET. Using FTP, login with username "anonymous", and password "guest"; then connect to the RFC directory (cd RFC). The file name is of the form RFCnnnn.TXT-1 (where "nnnn" refers to the number of the RFC).

The NSFNet Network Information Service (NIS) also provides an

automatic mail service for those sites which cannot use FTP. Address the request to NIS-INFO@NIS.NSF.NET and leave the subject field of the message blank. The first line of the text of the message must be "SEND RFCnnnn.TXT-1", where "nnnn" is replaced by the RFC number. This means that the format of the online files must meet the constraints of a wide variety of printing and display equipment.

Once a document is assigned an RFC number and published, that RFC is never revised or re-issued with the same number. There is never a question of having the most recent version of a particular RFC. However, a protocol (such as File Transfer Protocol (FTP)) may be improved and re-documented many times in several different RFCs. It is important to verify that you have the most recent RFC on a particular protocol.

The Internet Activities Board (IAB) published the "IAB Official Protocol Standards" (currently RFC-1140), which describes the state of standardization of protocols used in the Internet. This document is issued quarterly. Current copies may be obtained from the DDN Network Information Center or from the Internet Assigned Numbers Authority. Please refer to the latest edition of the "IAB Protocol Standards" RFC for current information on the state and status of standard Internet protocols.

The complete set of all RFCs issued is maintained at, and available from, the DDN Network Information Center at SRI International. For further information, phone: 1-800-235-3155 (E-mail: NIC@NIC.DDN.MIL). Subsets of this master set (shadow copies) are maintained at MERIT and CSNET. Use of the RFC repositories at these sites may be more suitable to your network connectivity requirements. Please note, however, that the NIC.DDN.MIL is the central repository and will contain the most up-to-date set of RFCs.

11b. Key Basic Beige RFC Abstracts

The following material is organized as abstracts of key "Basic Beige" RFCs. Please see RFC 1140 for an explanation of the Internet Standards process and the definitions of the terms (e.g., Recommended versus Required).

RFC-768 User Datagram Protocol (UDP)

A Recommended Standard Protocol. Provides a datagram service to applications. Adds port addressing to the IP services.

RFC-791 Internet Protocol (IP)

A Required Standard Protocol. This is the universal protocol of the Internet. This datagram protocol provides the universal addressing of hosts in the Internet.

RFC-792 Internet Control Message Protocol (ICMP)

A Required Standard Protocol. The control messages and error reports that go with the Internet Protocol.

RFC-793 Transmission Control Protocol (TCP)

A Recommended Standard Protocol. Provides reliable end-to-end data stream service.

RFC-821 Simple Mail Transfer Protocol (SMTP)

A Recommended Standard Protocol. The procedure for transmitting computer mail between hosts.

RFC-822 Standard for the Format of ARPA Internet Text Messages

A Recommended Standard Protocol. Defines the standard for the format of Internet text messages.

RFC-826 Ethernet Address Resolution Protocol

An Elective Network Specific Standard Protocol. This is a procedure for finding the network hardware address corresponding to an Internet Address.

RFC-854 Telnet Protocol

A Recommended Standard Protocol. The protocol for remote terminal access.

RFC-862 Echo Protocol

A Recommended Standard Protocol. Debugging protocol, sends back whatever you send it.

RFC-894 A Standard for the Transmission of IP Datagrams over Ethernet Networks

An Elective Network Specific Standard Protocol. A standard method of encapsulating Internet Protocol datagrams on a Ethernet.

RFC-904 Exterior Gateway Protocol

A Recommended Standard Protocol. The protocol used between gateways of different administrations to exchange routing information.

RFC-919 Broadcasting Internet Datagrams

A Required Standard Protocol. A protocol of simple rules for broadcasting Internet datagrams on local networks that support broadcast, for addressing broadcasts, and for how gateways should handle them. Recommended in the sense of "if you do broadcasting at all, then do it this way".

RFC-922 Broadcasting Internet Datagrams in the Presence of Subnets

A Required Standard Protocol. A protocol of simple rules for broadcasting Internet datagrams on local networks that support broadcast, for addressing broadcasts, and for how gateways should handle them. Recommended in the sense of "if you do broadcasting with subnets at all, then do it this way".

RFC-950 Internet Standard Subnetting Procedure

A Required Standard Protocol. This is a very important feature and must be included in all IP implementations. Specifies procedures for the use of subnets, which are logical sub-sections of a single Internet network.

RFC-951 Bootstrap Protocol (BOOTP)

A Recommended Draft Standard Protocol. This proposed protocol provides an IP/UDP bootstrap protocol which allows a diskless client machine to discover its own IP address, the address of a server host, and the name of a file to be loaded into memory and executed.

RFC-959 File Transfer Protocol (FTP)

A Recommended Standard Protocol. The protocol for moving files between Internet hosts. Provides for access control and negotiation of file parameters.

RFC-1000 The Request for Comments Reference Guide

The RFC Reference Guide provides a historical account of the Request for Comments series of documents by categorizing and

summarizing of the Request for Comments numbers 1 through 999 issued between the years 1969-1987. These documents have been crossed referenced to indicate which RFCs are current, obsolete, or revised.

RFC-1009 Requirements for Internet Gateways

A Required Standard Protocol. An official specification for the Internet community. This RFC summarizes the requirements for gateways to be used between networks supporting the Internet protocols. This document is a formal statement of the requirements to be met by gateways used in the Internet system.

RFC-1011 Official Internet Protocols

A Required Standard Memo. This RFC is an official status report on the protocols used in the Internet community. It identifies the documents specifying the official protocols used in the Internet. Comments indicate any revisions or changes planned.

RFC-1012 Bibliography of Request for Comments 1 through 999

This RFC is a reference guide for the Internet community which provides a bibliographic summary of the Request for Comments numbers 1 through 999 issued between the years 1969-1987.

RFC-1034 Domain Names - Concepts and Facilities

A Recommended Standard Protocol. This RFC is the revised basic definition of The Domain Name System. It obsoletes RFC-882. This memo describes the domain style names and their use for host address look up and electronic mail forwarding. It discusses the clients and servers in the domain name system and the protocol used between them.

RFC-1035 Domain Names - Implementation

A Recommended Standard Protocol. This RFC is the revised specification of the protocol and format used in the implementation of the Domain Name System. It obsoletes RFC-883. This memo documents the details of the domain name client - server communication.

RFC-1042 A Standard for the Transmission of IP Datagrams over IEEE 802 Networks

An Elective Network Specific Standard. This RFC specifies a

standard method of encapsulating the Internet Protocol (IP) datagrams and Address Resolution Protocol (ARP) requests and replies on IEEE 802 Networks to allow compatible and interoperable implementations.

RFC-1048 BOOTP Vendor Information Extensions

A Recommended Draft Standard. This memo proposes an addition to the Bootstrap Protocol (BOOTP).

RFC-1058 Routing Information Protocol

An Elective Draft Standard Proposed Protocol. This RFC describes an existing protocol for exchanging routing information among gateways and other hosts. It is intended to be used as a basis for developing gateway software for use in the Internet community.

RFC-1060 Assigned Numbers

A Required Standard Memo. This RFC is an official status report on the numbers used in protocols in the Internet community. It documents the currently assigned values from several series of numbers including link, socket, port, and protocol, used in network protocol implementations.

RFC-1084 BOOTP Vendor Information Extensions

A Recommended Draft Standard. This RFC is a slight revision and extension of RFC-1048 by Philip Prindeville, who should be credited with the original work in this memo. This memo will be updated as additional tags are defined. This edition introduces Tag 13 for Boot File Size.

RFC-1087 Ethics and the Internet

This memo is a statement of policy by the Internet Activities Board (IAB) concerning the proper use of the resources of the Internet.

RFC-1095 The Common Management Information Services and Protocol over TCP/IP (CMOT)

A Recommended Draft Standard. This memo defines a network management architecture that uses the International Organization for Standardization's (ISO) Common Management Information Services/Common Management Information Protocol (CMIS/CMIP) in a TCP/IP environment. This architecture provides a means by which control and monitoring information can be exchanged between a

manager and a remote network element. In particular, this memo defines the means for implementing the Draft International Standard (DIS) version of CMIS/CMIP on top of Internet transport protocols for the purpose of carrying management information defined in the Internet-standard management information base.

RFC-1112 Host Extensions for IP Multicasting

A Recommended Standard for IP multicasting in the Internet. This memo specifies the extensions required of a host implementation of the Internet Protocol (IP) to support multicasting.

RFC-1119 Network Time Protocol (NTP)

A Recommended Standard Protocol. This document describes the Network Time Protocol (NTP), specifies its formal structure and summarizes information useful for its implementation. NTP provides the mechanisms to synchronize time and coordinate time distribution in a large, diverse internet operating at rates from mundane to lightwave.

RFC-1122 Requirements for Internet Hosts - Communication Layers

A Required Standard. An official specification for the Internet community. This memo incorporates by reference, amends, corrects, and supplements the primary protocol standards documents relating to hosts. This is one RFC of a pair (see RFC 1123) that defines and discusses the requirements for Internet host software. This RFC covers the communications protocol layers: link layer, IP layer, and transport layer.

RFC-1123 Requirements for Internet Hosts - Application and Support

A Required Standard. An official specification for the Internet community. This memo incorporates by reference, amends, corrects, and supplements the primary protocol standards documents relating to hosts. This RFC is one of a pair (see RFC 1122) that defines and discusses the requirements for Internet host software. This RFC covers the application and support protocols.

RFC-1140 IAB Official Protocol Standards

This memo describes the state of standardization of protocols used in the Internet as determined by the Internet Activities Board (IAB). This memo is issued quarterly, please be sure the copy you are reading is dated within the last three months.

RFC-1155 Structure and Identification of Management Information for TCP/IP-based Internets

A Recommended Standard. This RFC provides the common definitions for the structure and identification of management information for TCP/IP-based internets. In particular, together with its companion memos, which describe the initial management information base along with the initial network management protocol, these documents provide a simple, working architecture and system for managing TCP/IP-based internets and in particular, the Internet. TCP/IP implementations in the Internet which are network manageable are expected to adopt and implement this specification.

RFC-1156 Management Information Base for Network Management of TCP/IP-based Internets

A Recommended Standard. This RFC provides the initial version of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets in the short-term. In particular, together with its companion memos which describe the structure of management information along with the initial network management protocol, these documents provide a simple, workable architecture and system for managing TCP/IP-based internets, and in particular, the Internet. TCP/IP implementations in the Internet which are network manageable are expected to adopt and implement this specification.

RFC-1157 A Simple Network Management Protocol (SNMP)

A Recommended Standard. This memo defines a simple protocol by which management information for a network element may be inspected or altered by logical remote users. In particular, together with its companion memos which describe the structure of management information along with the initial management information base, these documents provide a simple, workable architecture and system for managing TCP/IP-based internets and in particular, the Internet.

RFC-1160 The Internet Activities Board

A history and description of the Internet Activities Board (IAB) and its subsidiary organizations. This memo is for informational use and does not constitute a standard.

RFC-1166 Internet Numbers

An official status report for the Internet community. This memo describes the fields of network numbers and autonomous system

numbers that are assigned specific values for actual use, and lists the currently assigned values.

APPENDIX A

DISCLAIMER

Neither the Internet Engineering Task Force, Internet Activities Board, nor the United States Government, nor the National Science Foundation, nor any of their employees makes any warranty or assumes the legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference to any special commercial products, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the Internet Engineering Task Force, nor the Internet Activities Board, nor the United States Government nor the National Science Foundation. The views and opinions of the author(s) do not necessarily state or reflect those of the Internet Engineering Task Force, Internet Activities Board, nor the United States Government nor the National Science Foundation and shall not be used for advertising or product endorsement.

APPENDIX B

LIST OF ACRONYMS

ARP	Address Resolution Protocol
ASCII	American Standard Code for Information Interchange
BBN	Bolt, Beranek, and Newman, Inc.
BOOTP	Bootstrap Protocol
CACM	Communications on Association for Computing Machinery
CCITT	International Telegraph and Telephone Consultative Committee
CERFnet	California Education and Research Federation Network
CIC	Committee on Institutional Cooperation
CMIS	Common Management Information Services
CMIP	Common Management Information Protocol
CMOT	Common Management Information Services and Protocol Over TCP/IP
CNRI	Corporation for National Research Initiatives
DARPA	Defense Advanced Research Projects Agency
DDN	Defense Data Network
DIS	Draft International Standard
DNS	Domain Name System
DoD	Department of Defense
EARN	European Academic Research Network
EDUCOM	
EGP	Exterior Gateway Protocol
EUnet	European Unix Network
FCCSET	Federal Coordinating Council for Science, Engineering and Technology
FDDI	Fiber Distributed Data Interface
FRICC	Federal Research Internet Coordinating Committee
FTP	File Transfer Protocol
IAB	Internet Activities Board
ICMP	Internet Control Message Protocol
IETF	Internet Engineering Task Force
IP	Internet Protocol
ISDN	Integrated Services Digital Network
ISI	Information Sciences Institute
ISO	International Organization for Standardization
JvNC	John von Neumann National Supercomputer Center

LAN	Local Area Network
MIB	Management Information Base
NEARnet	New England Academic and Research Network
NIC	Network Information Center
NNTF	Networking and Telecommunications Task Force
NREN	National Research and Education Network
NSF	National Science Foundation
NTP	Network Time Protocol
NWNET	NorthWestNet
OS	Operation System
OSI	Open Systems Interconnection
RFC	Request For Comments
SIG	Special Interest Group
SMTP	Simple Mail Transfer Protocol
SNMP	Simple Network Management Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
TP4	Transport Protocol, class 4
UDP	User Datagram Protocol
USC	University of Southern California
UUCP	Unix-to-Unix Copy Program
UTnet	University of Texas Network
WRL	DEC Western Research Laboratory

Security Considerations

Security issues are not discussed in this memo.

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