

Internet Information Series

INTERNET:



GETTING STARTED

SRI International
Network Information Systems Center

May 1992

Copyright © 1992 SRI International. All rights reserved.

ACKNOWLEDGEMENTS

OVERVIEW

PART I

1. INTRODUCTION TO THE INTERNET

- 1.1. What is the Internet?
- 1.2. Who is in charge of the Internet?
- 1.3. What is part of the Internet?
- 1.4. What is not part of the Internet?
- 1.5. Some Major Networks
 - 1.5.1. ARPANET
 - 1.5.2. NSFNET
 - 1.5.3. MILNET
 - 1.5.4. BITNET
 - 1.5.5. USENET
 - 1.5.6. NASA Science Internet
 - 1.5.7. ESnet

2. HOW TO JOIN THE INTERNET

- 2.1. MX and Dialup IP Access
- 2.2. Individual Access
 - 2.2.1. General Access Procedures
 - 2.2.2. Factors To Consider
- 2.3. Connecting a Network to the Internet
 - 2.3.1. Obtain a Unique IPNetwork Number
 - 2.3.2. Establish a Domain
 - 2.3.3. Locate a Connection Point
 - 2.3.4. Install a Router
 - 2.3.5. Obtain Proper Software
 - 2.3.6. Order Circuits
 - 2.3.7. Factors to Consider

3. COSTS

3.1. Factors That Influence Costs

3.2. Some examples

3.2.1. Network connections

3.2.2. Dia1up connections

4. SERVICE PROVIDERS

4.1. All Providers Alphabetically

4.2. Providers by Area.

5. MILITARY ACCESS

5.1. Air Force

5.2. Navy

5.3. Army

5.4. Marine Corps

6. NSFNET ACCEPTABLE USE POLICY

7. NON.U.S. SITES

7.1. Europe

7.1.1. Pan-European Cooperation

7.1.1.1. EUnet

7.1.1.2. EARN

7.1.1.3. HEPnet

7.1.1.4. EBONE

7.1.1.5. RARE

7.1.1.6. The RIPE Network Coordination Center (NCC)

7.1.2. European Network Contacts List .

7.2. Canada

7.3 .Australia

7.4. Czechoslovakia

7.5. Japan

7.6. Israel

7.7. Italy

7.8. The Netherlands

7.9. Switzerland

7.10. Greece

- 7.11. MEXICO
- 7.12. YUGOSLAVIA
- 7.13. Nordic Countries
- 7.14. Pacific Rim
- 7.15. South Africa
- 7.16. UNITED KINGDOM
- 7.17. U.S. Providers with International Connections

PARTII

8. THE INTERNET--MORE INFORMATION

- 8.1. Historical Background
- 8.2. Physical Description
- 8.3. Growth of the Internet

9. BASIC INTERNET CONCEPTS

9.1. RFCs, FYIs, and STDs

- 9.1.1. RFCs
- 9.1.2. FYIs
- 9.1.3. STDs
- 9.1.4. Indexes -Finding the Most Recent RFC or FYI
- 9.1.5. Identifying RFCs Online
- 9.1.6. Getting RFCs, FYIs, and Indexes
- 9.1.7. RFC Repositories
- 9.1.8. RFCs Online From SRI

9.2. Security

- 9.2.1. The Internet Worm
- 9.2.2. A New Awareness
- 9.2.3. Ethics and the Internet
- 9.2.4. Response Teams
- 9.2.5. User's Role in Internet Security
- 9.2.6. Sources for Computer Security Information

9.3. Protocols

- 9.3.1. Protocol Layers
- 9.3.2. What's a "Protocol Suite"?
- 9.3.3. Other TCP/IP Protocols
- 9.3.4. Standard Internet Protocols
- 9.3.5. The OSI Protocols
- 9.3.6. GOSIP

9.4. Internet Addressing

9.4.1. Identifying the Class of an Address

9.4.2. Subnetting

9.4.3. "Connected" vs. "Unconnected" Networks and RFC 1174

9.4.4. A Network "Sponsor"

9.4.5. The Future of IP Addressing

9.5. The Domain Name System (DNS)

9.5.1. Background of the DNS

9.5.2. What is a Domain?

9.5.3. The Difference Between a Domain and a Network

9.5.4. Domain Name Representation

9.5.5. Choosing a Top-Level Domain

9.5.6. The DNS Approach

9.5.7. Domain Server and Resolver

9.5.8. MX Resource Records

9.5.9. The IN-ADDR Domain

9.5.10. The US Domain

9.5.11. Commonly Asked Domain Questions

9.6. Directory Services

9.6.1. X.500 Directory Services

9.6.2. WHOIS

10. APPLICATIONS

10.1. Electronic mail

10.1.1. What Mail Looks Like

10.1.2. E-mail Ethics

10.1.3. Internet Mail Addressing

10.1.4. Electronic Mail Addresses

10.1.5. A Brief Word about X.400 addressing

10.1.6. Electronic Mail to Other Networks

10.2. Mailing Lists and News Groups

10.2.1. Mailing Lists

10.2.2. News Groups

10.2.3. LISTSERV

10.3. File Transfer Protocol (FTP)

- 10.3.1. Anonymous FTP
- 10.3.2. How to FTP a File

10.4. TELNET

- 10.4.1. Publicly Available Programs
- 10.4.2. How to Start a TELNET Session

10.5. Information Servers

- 10.5.1. Archie
- 10.5.2. Prospero
- 10.5.3. The World Wide Web Project (WWW or W3)
- 10.5.4. Wide Area Information Server (WAIS)
- 10.5.5. The Internet Gopher

11. INTERNET ORGANIZATIONS

11.1. Network Associations

- 11.1.1. FARNET
- 11.1.2. CIX
- 11.1.3. EDUCOM
- 11.1.4. RARE
- 11.1.5. RIPE
- 11.1.6. COSINE
- 11.1.7. CERN
- 11.1.8. EFF

11.2. Network Administrative Organizations

- 11.2.1. FNC
- 11.2.2. CCIRN

11.3. Administrative Bodies

- 11.3.1. FNC
- 11.3.2. The Internet Society
- 11.3.3. Internet Engineering Task Force (IETF)

11.4. Standards Organizations

- 11.4.1. American National Standards Institute (ANSI)
- 11.4.2. CCITT
- 11.4.3. CEN/CENELEC
- 11.4.4. Corporation for Open Systems (COS)

- 11.4.5. IEEE
- 11.4.6. ISO
- 11.4.7. Naval Publications and Form Center
- 11.4.8. National Institute for Standards and Technology (NIST)
- 11.4.9. Open Software Foundation (OSF)

11.5. Security Response Centers

- 11.5.1. The Forum of Incident Response Teams
- 11.5.2. The Internet CERT
- 11.5.3. DoE Computer Incident Advisory Capability
- 11.5.4. DDN Security Coordination Center
- 11.5.5. NIST CSRC
- 11.5.6. NASA Ames CNSRT

11.6. Network Information Centers (NICs)

- 11.6.1. DDN Network Information Center (DDN NIC)
- 11.6.2. NSF Network Service Center (NSC)
- 11.6.3. SRI Network Information Systems Center (NISC)
- 11.6.4. BITNET Network Information Center (BITNIC)

11.7. User Groups

- 11.7.1. USENIX
- 11.7.2. EurOpen
- 11.7.3. DIGI

12. INTERNET RESOURCES

- 12.1. NSC Internet Resource Guide
- 12.2. NSC Tour of the Internet
- 12.3. TCP/IP CD
- 12.4. Network Reading List
- 12.5. Online Libraries
- 12.6. Network Seminars
- 12.7. Supercomputer Centers

13. FURTHER READING

- 13.1. General Introductory References
- 13.2. Technical Introductions
- 13.3. Domain Name System
- 13.4. Network Security
- 13.5. Some GOSIP Documentation

BIBLIOGRAPHY and REFERENCES

Appendix I. Acronym List

Appendix II. SRI Network Information Systems Center

Appendix III. Registration Templates

III.1. IP Address Template

III.2. Domain Template

Appendix IV. RFC SETS

Appendix V. RFC Index Appendix VI. FYI Index

Appendix VI. STD Index

Appendix VII. ISI's RFC Retrieval Information

Appendix IX. International Connectivity

Appendix X. GOSIP Document Information

Index

Acknowledgements

SRI would like to extend our thanks to a great number of people who provided us with information included in this book. In addition to the many people we explicitly note in the next paragraphs, we would like to acknowledge our debt to those who wrote information provided online for public file transfer. SRI gained a lot of information from such files and, although we cite the files in the text where appropriate, often the writers of such information remain anonymous, their efforts becoming part of the tradition of that Internet cooperation and information sharing. We salute both these people and that Internet tradition.

In addition, however, there are numerous people to thank specifically, people who responded to our queries, who pointed us to information, who wrote text we included in the book, and who read our drafts and provided valuable feedback.

We would especially like to thank our readers: Ole J. Jacobsen, Editor and Publisher of *ConneXions--The Interoperability Report*, and John C. Klensin, PhD., Principal Research Scientist, Department of Architecture, Massachusetts Institute of Technology. To them goes the credit of immensely improving the quality of this

document. Of course, any weaknesses remaining rest solely in the shoulders of the authors.

Tremendous thanks are also offered to our many information contributors, those who kindly took the time to enlighten us.

Farhad Anklesaria (Gopher)
Susie Arnold (CERFnet)
Alessandro Berni (Italy)
Antonio Blasco Bonito (Italy)
Laura Breeden (FARNET)
Corinne Carroll (NNSC)
Vint Cerf (Internet Society)
Robert Collet (Sprint)
Yannis Corovesis (ARIADNE)
Steven Coya (IETF Exec Dir)
John Curran (NEARnet)
John Demco (CA*net)
Peter Deutsch (McGil/archie)
Susan Eldred (ANS)
Alan Emtage (McGill/archie)
Jill Foster (RARE WG3)
Andrea Galleni (USENIX)
Ing. Hugo E. Garcia Torres (Mexico)
Geoff Goodfellow (Anterior Technology)
Nadine Grange (EARN)
Jack Hahn (SURAnet)
Geoff Huston (Australia)
Borka Jerman-Blazic (YUNAC)
Daniel Karrenburg (RIPE NCC)
Thomas Lenggenhager (SWITCH)
Gary Malkin (Xylogics)
Jun Murai (Japan)
Sam Neely (CompuServe)
Torben Nielsen (PACCOM)
Hank Nussbacher (Israel)
Richard Nuttall (PIPEX)
Allison Pihl (JvNCnet)
John Quarterman (Matrix)
Joyce Reynolds (ISI)
Charlie Rosenberg (PeaceNet/IGC)
Pavel Rosendorf (Czechoslovakia)
Diana Scotti (ANS)
Vic Shaw (South Africa)
Eugene Siciunas (CA *net)
Art St George (University of New Mexico)

Bernhard Stockman (NORDUnet)
Marianne Swanson (NIST)
Jerry Sweet (Anterior Technology)
Ruediger Volk (DIGI)

And from SRI:

Jose J. Garcia-Luna
Franklin Kuo
Ruth Lang
Mark Lottor
Chan Wilson



ARIADNE

SRI thanks [Yannis Corovesis](#) for the following information.

The ARIADNE Network (ARIADNet) is open to all members of the Research Academic Community in Greece. It is also open to some Industrial R&D companies. The ARIADNE NOC is at the Demokritos Research Centre in Attica.

Most Research Institutes and Universities are connected via a private backbone of more than 20 leased analog circuits (9.6 kbps). Athens (Attika) is in the center of the network, with the peripheries stretching to Thrace, Macedonia, Ipeiros, Peloponnese, and Crete.

Recently, there is demand for ARIADNE services by a wider community, beyond that currently covered by State and CEC financing, and a study is underway to devise a financial cost/charging scheme to cover operational costs.

The International Networks Internet, COSINE-MHS, COSINE-IXI, BITNET, EUnet and the CERN DECnet may be accessed from ARIADNE.

The ARIADNE Network currently offers the following services:

- Remote login via PAD or TELNET .
- E-Mail {RFC 822, X.400 and gateway RFC 987}.
- File transfer via FTP and Kermit, and anonymous FTP to fetch RFCs, FYIs, and UNIX configuration files.
- Dial-up on 5 telephone lines for PC users (1200-9600 bps, MNP error correction), including provision of a mailbox.

- Pythia, an information server for browsing information ?n keywords about networks and related topics, cunently at an embryonic stage.

Plans for the ARIADNE Network include:

- Immediate plans are the upgrade of Intemational connectivity to 64K (this is an IXI line). Also a leased line running TCP/IP to CERN is being installed.
- ARIADNE backbone is to receive 10 cisco Routers (cunently installed).
- Build an X.400 backbone (10 sites) in 1992-1993.
- Install 10 network servers over the backbone in 1992.
- A supercomputer, CONVEX, to be installed in Demokritos by September 1992 and made available to ARIADNE users for projects in physics, meteorology , environmental pollution, space, and defense.
- Mass publish a Network Users Guide fully in Greek, with examples and explanations.

For additional information about ARIADNE network contact:

ARIADNE Network Help Desk

+30 1 6513392

+30 1 6536351

FAX: +30 16532910

FAX: +30 16532175

E - Mail help via:

Intemet: postmaster@isosun.ariadne-t.gr

BITNET : postmast@grathdem

COSINE-MHS: S=postmaster; OU=isosun; O=ariadne-t; P=ariadne-t; C=gr;

Yannis Corovesis

ycor@isosun.ariadne-t.gr

C=gr; ADMD= ; PRMD=ariadne-t; OU=isosun; S=corovesis; G=yannis;

Takis Telonis

ttel@isosun.ariadne-t.gr