

ESnet

*The Energy
Sciences
Network*

July 1994

SERVICES



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ESnet Services

What Is ESnet?

The Energy Sciences Network (ESnet) is a nationwide computer data communications network managed and funded by the U.S. Department of Energy's Energy Research Office of Scientific Computing (DOE/ER/OSC). The primary purpose of ESnet is to support multiple program, open scientific research. ESnet is intended to facilitate remote access to major Energy Research (ER) scientific facilities and resources; provide information dissemination among scientific collaborators throughout all ER programs; support remote experimentation, distributed computing, and collaborative environments; provide widespread access to existing ER supercomputer facilities; and support technology evaluation and prototyping for the technologies that will be important to the development and implementation of the emerging National Information Infrastructure (NII).

What Services Does ESnet Offer?

In addition to the networking services, ESnet also offers a wide variety of on-line services. This includes information access and retrieval services, directory services, group communication services, remote file access services, and infrastructure services. Descriptions of all ESnet services are provided within this brochure. A more comprehensive description of each service is available online in the pub/services directory on the ESnet file server (e.g. ftp.es.net), and may be retrieved using any one of the "Remote File Access Services" described in this brochure.

How Do I Access These Services?

Each service requires the use of local client software. In many cases, this client software is already provided on your host by your system vendor or your system administrator. "Public Domain" or "Freely Available" client and server source code is also available on the ESnet Information Server. This code is stored in files located in the pub/public-domain directory.

Where Do I Obtain More Information?

If you are unable to locate the information you want, or if you have any questions regarding ESnet and its services, please call 1-800-33-ESnet or send e-mail to info@es.net. This brochure is also available via ESnet's World-Wide Web Service. The URL (Uniform Resource Locator) to access this brochure online is:

<http://www.es.net/hypertext/esnet-services.html>

Information Access and Retrieval Services

WIDE-AREA INFORMATION SERVERS

ACCESS:

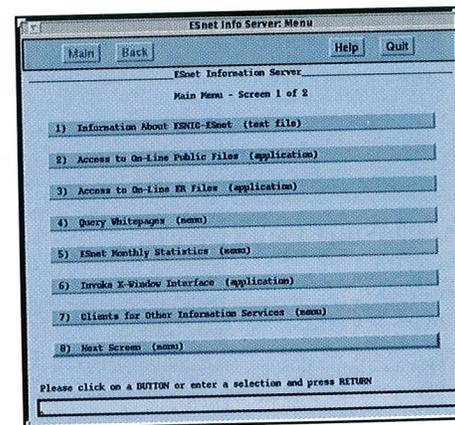
wais.es.net or wais2.es.net

MORE INFO:

<ftp://ftp.es.net/pub/services/wais.info>

DESCRIPTION: WAIS (Wide Area Information retrieval) provides a distributed information retrieval system. WAIS uses a full-text information retrieval architecture based on the Z39.50 NISO standard. WAIS servers maintain complete inverted indices of the contents of documents and can execute full-text searches on these documents. Users formulate natural language queries to WAIS servers which then return a set of document descriptions. The relevant documents are ranked using a word weighting algorithm. WAIS servers support relevance feedback whereby documents are retrieved that are similar to other documents that the user previously marked as relevant.

The ESnet WAIS Server provides full-text searches of all documents on the ESnet Network Information Server.



NETWORK INFORMATION SERVER

ACCESS:

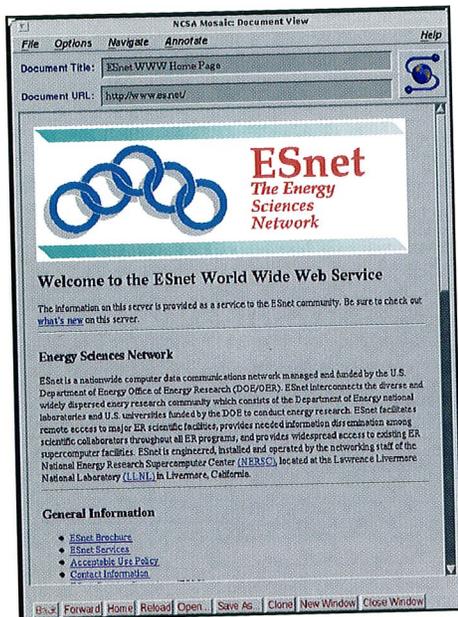
nic.es.net or nic2.es.net

MORE INFO:

<ftp://ftp.es.net/pub/services/nic.info>

DESCRIPTION: The ESnet Information Server (ESnet NIC) is primarily used as a file repository for storing information and documents relevant to the ESnet networking community. This includes documents regarding the latest networking technology and research areas, public-domain software, and ESnet mailing list information and NetNews archives. All information on the ESnet NIC is full-text WAIS indexed. These indices are accessible via ESnet's WWW, Gopher, and WAIS Services.

Direct access to the ESnet NIC is available via TELNET to nic.es.net. For a standard plain-text interface, log in as "anonymous" and enter your e-mail address as the password. For an X window interface, enter "xanonymous", followed by your e-mail address as the password.



WORLD-WIDE WEB

ACCESS:

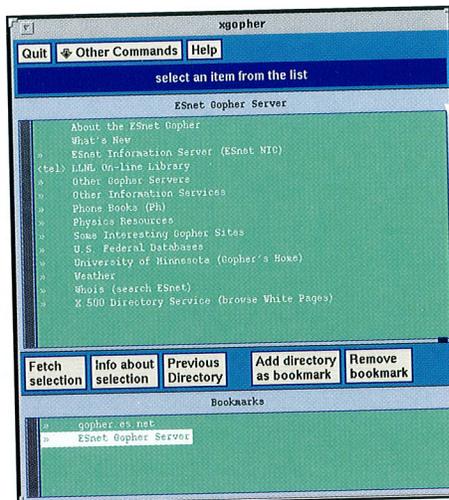
www.es.net or www2.es.net

MORE INFO:

<ftp://ftp.es.net/pub/services/www.info>

DESCRIPTION: The World-Wide Web (WWW) is a wide-area hypermedia information retrieval system that gives users a uniform method of accessing a variety of media in a simplified fashion. Hypertext documents may contain links within the text to other documents. Hypermedia documents contain links not only to text, but to other forms of media such as sounds, images and movies. In this way, links can be used to create a very complex virtual "web" of information.

The ESnet WWW Server provides access to all the information available through other ESnet online information access services. Additionally, the ESnet WWW Server offers a hypertext view of commonly accessed documents on the ESnet Network Information Server.



GOPHER SERVICE

ACCESS:

gopher.es.net or gopher2.es.net

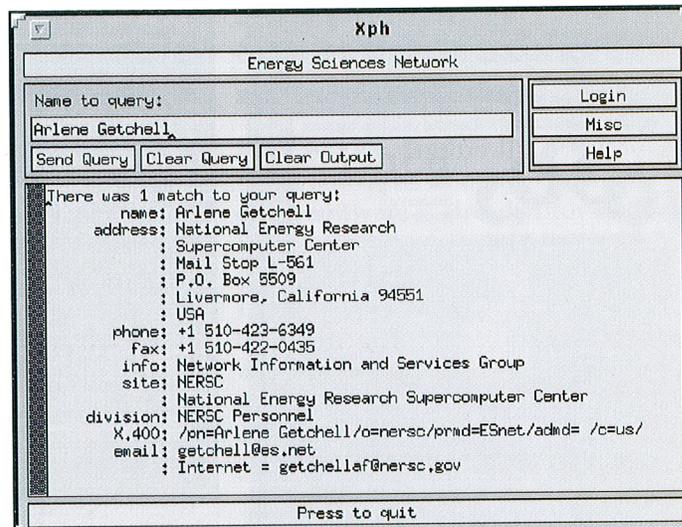
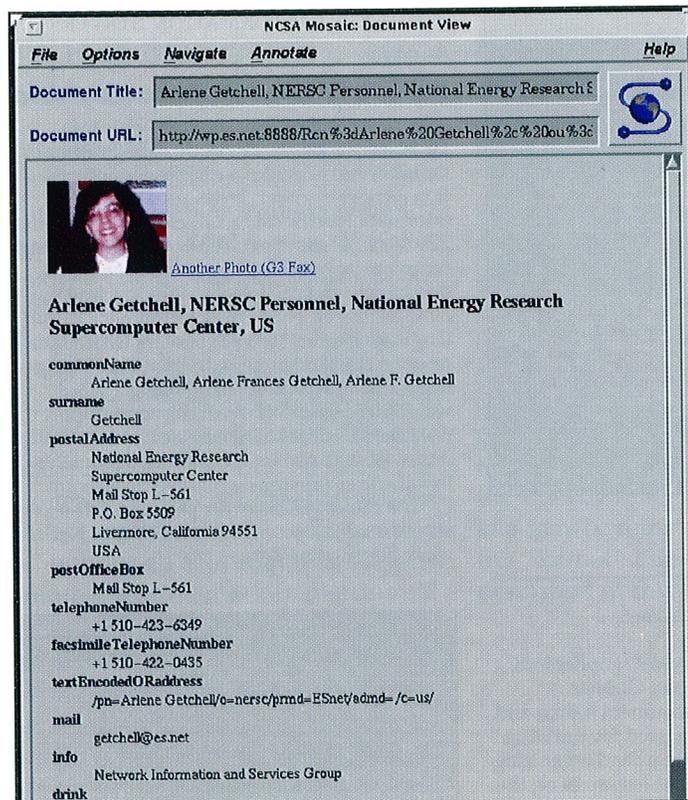
MORE INFO:

<ftp://ftp.es.net/pub/services/gopher.info>

DESCRIPTION: The Internet Gopher is designed for distributed document search and retrieval. Gopher has been used for building distributed information systems and organizing access to various information resources on the Internet. Gopher presents a uniform interface to data, documents, and services residing on physically distributed servers, allowing you to browse, search, and retrieve information from many different sources in a seamless fashion.

The ESnet Gopher Service provides: access to numerous documents on the ESnet Network Information Server; the ability to conveniently search for persons in the ESnet community; the ability to browse the worldwide X.500 white-pages directory; pointers to physics resources; access to U.S. federal databases; access to national weather forecasts; the ability to perform WAIS (Wide-Area Information Servers) searches; and pointers to other Gopher servers on the Internet.

Directory Services



X.500 WHITE-PAGES DIRECTORY SERVICE

ACCESS:

finger help@wp.es.net
whois -h wp.es.net help
ESnet Gopher Service
ESnet WWW Service

MORE INFO:

ftp://ftp.es.net/pub/services/wp.info

DESCRIPTION: The White-Pages Pilot Project is part of a worldwide distributed directory service pilot project based on the ISO/OSI X.500 standard. More than 30 countries participate in the global pilot project, which contain more than one million entries. The pilot directory service contains information primarily about persons and organizations. The information in the directory is hierarchically structured, with entries arranged in the form of a tree. This tree can be browsed, or information about a person can be retrieved, generally by knowing a person's name and organization.

The ESnet community is well represented in the White-Pages Pilot Project. There are over 19 ESnet organizations represented in the directory, comprising over 120,000 entries. These entries are primarily descriptions of persons that include e-mail address, postal address, telephone number, and optionally, other descriptive information. Seven of these sites are made available via ESnet's X.500 DSAs (Directory Service Agents).

PH SERVICE

ACCESS:

ph.es.net or ph2.es.net
ESnet Gopher Service
ESnet WWW Service

MORE INFO:

ftp://ftp.es.net/pub/services/ph.info

DESCRIPTION: Ph (Phone book) is an online, fully indexed, fast access white-pages directory service developed and freely distributed by the Computer and Communications Services Office at the University of Illinois at Urbana. Ph primarily contains information about people such as e-mail address, postal address, telephone number, and other descriptive information. There are over 200 Ph Servers on the Internet today.

In the ESnet community, over 15 sites are offering their white-pages information via Ph Servers. Ten of these ESnet sites are made available via ESnet's Ph Server. ESnet's Ph Service is a read-only service, and is only populated from existing X.500 white-pages information. To discover which sites are currently available via ESnet's Ph Service, just query the "sites" entry. To discover which sites are operating their own Ph Service, query the "ns-servers" entries.

VIDEO CONFERENCING SERVICE

ACCESS:

vcs.es.net or vcs2.es.net
ISDN

MORE INFO:

<ftp://ftp.es.net/pub/services/vcs.info>

DESCRIPTION: The ESnet VCS (Video Conferencing Service) provides a full range of ISDN-based (Integrated Services Digital Network) video conferencing services to the ESnet user community. Users can check for available time slots and book video conferences by accessing the VCS Scheduler (VCSS), an online automated reservation system. The VCSS tracks available resources, schedules conferences, generates reports, and sends electronic mail notification. Access to the VCSS is achieved via TELNET to vcs.es.net.

The VCS also provides the bridging equipment, multiplexers, and ISDN circuits necessary to host multi-way video conferences. Additionally, a help desk has been established to assist VCS users with operational issues. Other VCS services include support of open standards and an interoperability gateway for conferencing with outside organizations.



AUDIO/VIDEO MULTICAST BACKBONE

ACCESS:

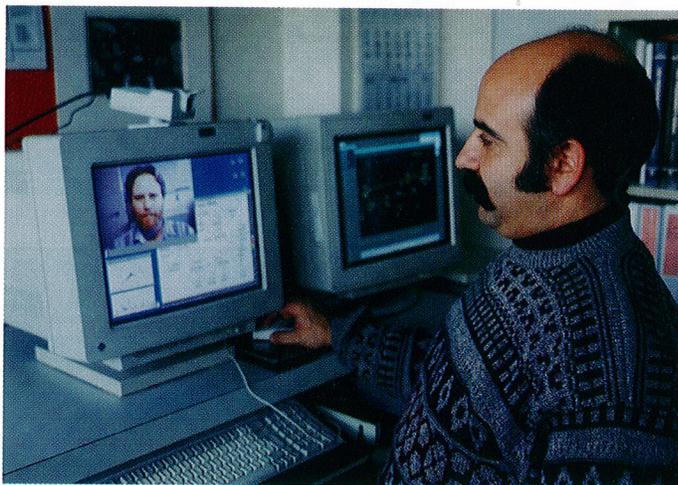
IP Multicast

MORE INFO:

<ftp://ftp.es.net/pub/services/mbone.info>

DESCRIPTION: The ESnet Mbone (Multicast backbone) is an experimental service provided to the ESnet community to enable the sharing of multicast data. This technology allows audio, video, images, and raw data to be sent simultaneously to many users worldwide. A typical application of the ESnet Mbone is audio/video desktop conferencing.

ESnet-wide desktop video conferences have been held, allowing participants to contribute to the meeting without ever leaving their office. Additionally, the ESnet Mbone is connected to the larger Internet Mbone, giving ESnet users the capability to interact in real time with colleagues around the globe. While this is still an experimental service, it promises to become a mature offering in the next several years.



MESSAGE HANDLING SERVICES

ACCESS:

Internet Mail (SMTP)
ISO/OSI X.400

MORE INFO:

<ftp://ftp.es.net/pub/services/e-mail.info>

DESCRIPTION: ESnet's Message Handling Services (electronic mail) provides fully compliant SMTP (Simple Mail Transfer Protocol) and ISO/OSI X.400 mail transport services. A gateway between SMTP mail and X.400 mail is provided to support full, bi-directional connectivity between these two communities.

ESnet's mail system supports mail list archiving and NetNews cross-posting, as well as remote list management. All archives are full-text WAIS indexed, and are accessible via ESnet's WWW, Gopher and WAIS Services. Remote list management is accomplished via an X window tool that allows "list owners" to build and manage their own ESnet mailing lists.

NETNEWS SERVICE

ACCESS:

nntp.es.net or nntp2.es.net

MORE INFO:

<ftp://ftp.es.net/pub/services/netnews.info>

DESCRIPTION: NetNews is a global service that permits a group of people with a common

interest to easily exchange articles tagged with one or more universally recognized labels, called "NewsGroups." Public NewsGroups exist for almost every area of interest, from hobbies to scientific research.

ESnet's NetNews service carries many of the public NewsGroups available on the Internet, as well as NewsGroups local to the ESnet community. ESnet's NetNews service supports e-mail cross-posting for any mailing list on the ESnet mail system, and also provides for NewsGroup archiving on the ESnet Information Server. The NewsGroup archives are full-text WAIS indexed, and are accessible via ESnet's WWW, Gopher, and WAIS Services.

Remote File Access Services

ANONYMOUS FTP

ACCESS:

ftp.es.net or ftp2.es.net

MORE INFO:

ftp://ftp.es.net/pub/services/ftp.info

DESCRIPTION: Many organizations on the Internet today provide anonymous FTP access to their file servers. The term "anonymous FTP" means that any user on the Internet can access a file server via FTP using the log-in name "anonymous" with a password of "guest," or by supplying their e-mail address as the password. ESnet provides anonymous FTP access to its file server, the ESnet Information Server.

ANDREW FILE SYSTEM

ACCESS:

/afs/es.net/nic

MORE INFO:

ftp://ftp.es.net/pub/services/afs.info

DESCRIPTION: AFS (Andrew File System) is an efficient, wide-area, distributed file system originally developed by Carnegie-Mellon University. AFS later became a commercial product, supported and distributed by Transarc Corporation. There are currently over 300 AFS

"cells" internationally, of which approximately 80 are "registered" as publicly accessible on the Internet.

ESnet's Internet-accessible AFS cell holds all documents and information stored in the ESnet Information Server (ESnet NIC). AFS is also used internally by ESnet to provide redundant, reliable access to ESnet NIC data by all of ESnet's online information services.

READ-ONLY NFS

ACCESS:

nfs.es.net or nfs2.es.net

MORE INFO:

ftp://ftp.es.net/pub/services/nfs.info

DESCRIPTION: NFS (Network File System) is a local-area, distributed file system originally developed by Sun Microsystems, Incorporated. It has since become a defacto standard for local-area file systems on many vendor's platforms, and is usually provided with the platform's operating system distribution. Since there is potentially a large number of hosts in the ESnet community with built-in NFS clients, a read-only export of the ESnet Information Server's data is made available via nfs.es.net to provide convenient access to this information.

ANONYMOUS DECNET PHASE IV COPY

ACCESS:

esnic:: (42158::) or esnic2:: (42160::)

MORE INFO:

ftp://ftp.es.net/pub/services/decnet.info

DESCRIPTION: DECnet Phase IV is one of the three network protocols supported on the ESnet backbone. To provide easy and convenient to the users of the DECnet Phase IV suite within the ESnet community, anonymous DECnet Phase IV Copy access has been provided to the information stored on the ESnet Information Server. This provides access similar to the anonymous FTP access described above.

E-MAIL-BASED FILE ACCESS

ACCESS:

nic@es.net

MORE INFO:

ftp://ftp.es.net/pub/services/nic-mail.info

DESCRIPTION: If an ESnet user happens to be in an environment where none of the remote file access mechanisms mentioned above are available, they may still access data on the ESnet Information Server via electronic mail. This service allows any user to retrieve multiple plain text and binary files with a single e-mail request. For more complete information, just send e-mail to nic@es.net with the word "help" in the message body.

Infrastructure Services

INTERNET PROTOCOL DOMAIN NAME SERVICE

ACCESS:

dns-west.es.net or dns-east.es.net

MORE INFO:

ftp://ftp.es.net/pub/services/ip-dns.info

DESCRIPTION: ESnet provides Internet Protocol Domain Name Service (IP DNS) to the ESnet community through two separate name servers, dns-west.es.net and dns-east.es.net. These name servers provide the primary IP hostname to address translations for the es.net domain. You may also query either to resolve IP host-name to address translations for any IP host on the Internet.

In addition, these machines provide secondary name service for many of the ESnet sites. Employing this functionality, sites can off-load many name server queries destined for their local name servers to ESnet's machines. This has two advantages: the load on a site's name server is lessened, and a backup to the site's name server is provided.

DECDNS

ACCESS:

esdns1.es.net or esdns2.es.net

MORE INFO:

ftp://ftp.es.net/pub/services/decdns.info

DESCRIPTION: DECDns (Distibuted Name Service) is a DECnet/OSI network-wide service that makes it possible to use network resources without knowing their physical location. Users and applications can assign DECDns names to resources such as nodes, disks and files. The creator of the name also supplies other relevant information, such as the resource's network address, for DECDns to store. Users then need to remember only the name, and DECDns acts as a lookup service, providing the rest of the data when necessary.

The OMNI namespace has been created to support the transition to DECnet Phase V within the DECnet Internet. ESnet supports two root DECDns servers within the ESnet portion of the DECnet Internet (ESnet/DECnet). As ESnet sites bring up DECDns servers, they are added to the OMNI namespace.

DISTRIBUTED TIME SERVICES

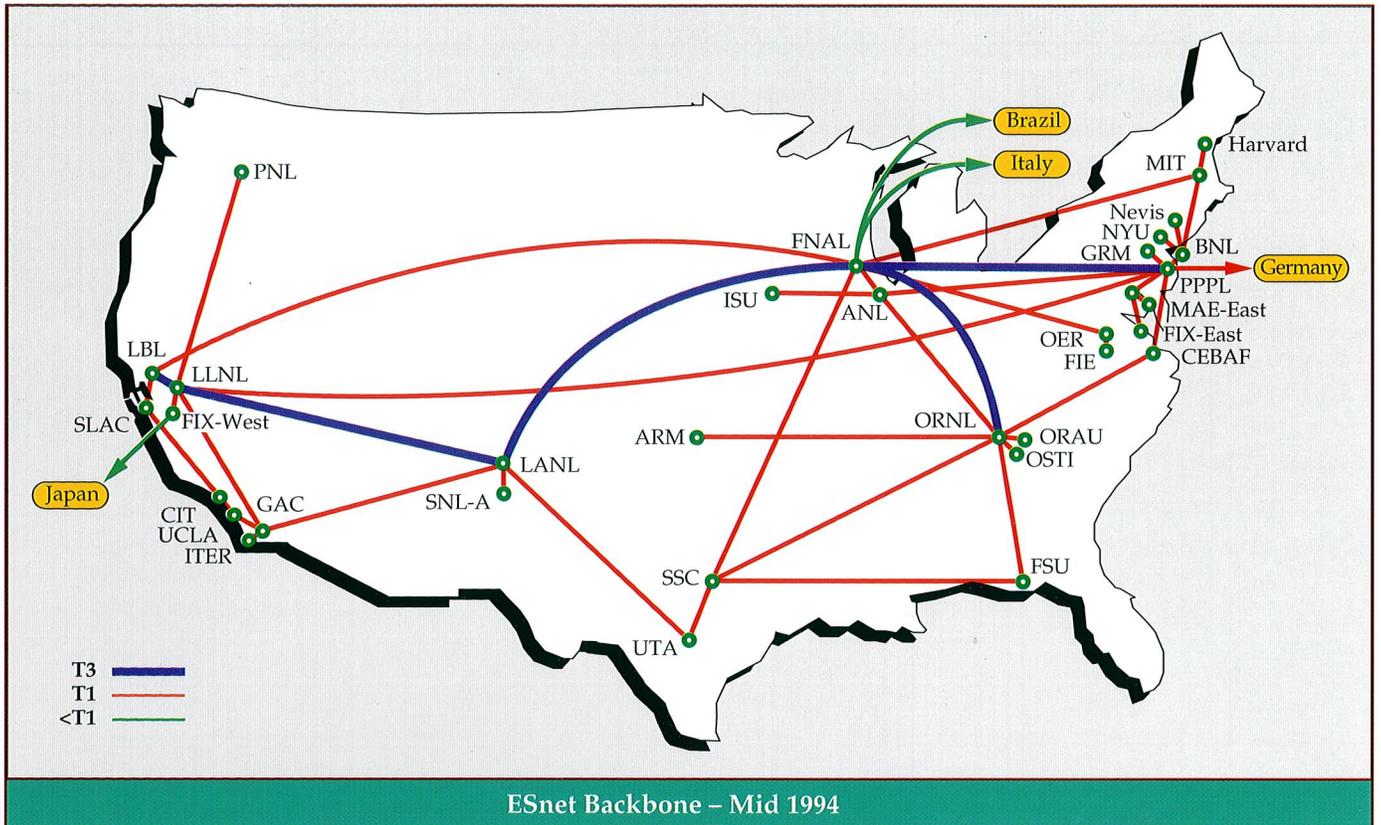
ACCESS:

ntp1.es.net, ntp2.es.net, ntp3.es.net,
ntp4.es.net or ntp5.es.net

MORE INFO:

ftp://ftp.es.net/pub/services/time.info

DESCRIPTION: NTP (Network Time Protocol) is the protocol used for synchronizing the clocks on multiple hosts on the Internet. NTP allows for multiple clock "sources" for redundancy, and performs sanity checks across these sources to ensure that the local host's time is accurate. ESnet provides several Stratum 1 time servers on the network. These servers obtain their time from locally connected radio clocks, which in turn source their time from the WWVB broadcast out of Fort Collins, Colorado. These time servers also provide DECDts (DEC Distributed Time Service) services to the ESnet/DECnet community.



NETWORKING SERVICES

ACCESS:

- DoD Internet Protocol (DoD IP)
- DECnet Phase IV
- ISO/OSI Connectionless Network Protocol (CLNP)

MORE INFO:

<ftp://ftp.es.net/pub/services/networking.info>
DESCRIPTION: The ESnet staff currently manages over 45 network routers deployed on a national basis. Protocols supported include Department of Defense Internet Protocol (DoD IP), DECnet Phase IV, and the Open Systems Interconnection Connectionless Network-layer Protocol (OSI CLNP). Bandwidth supported is typically 1.5 Mbps, with several 45-Mbps links in operation. Broad interconnectivity is supported to other agencies, regional and commercial networks, and international entities. For more information on the ESnet backbone and operational support, refer to the ESnet Brochure, document UCRL-TB-104203.

For More Information

GENERAL CONTACT

Phone: 1-800-33-ESnet
Outside the U.S.: +1 510-422-5521

e-mail:

Internet: info@es.net
DECnet: ESNIC::INFO
X.400: /s=info/p=ESnet/a= /c=us/

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e-mail:

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DECnet: ESNIC::APS
X.400: /s=aps/p=ESnet/a= /c=us/

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