



**NETWORKING AND  
DATA COMMUNICATION  
GLOSSARY**

*Manuale per l'utente ZC-235-94*

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# Networking and Data Communication Glossary

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# Premessa

Il glossario presentato in questo documento è stato ricavato dalle pubblicazioni "User Glossary Working Group" Internet Glossary January 1993 RFC1392, e "A Glossary of Networking Terms" RFC1208.

Abbiamo ritenuto importante integrarla con alcuni termini, a nostro avviso indispensabili, per un più generale approccio alla problematica. Sono stati consultati i volumi: "DATA COMMUNICATION ACRONYMS AND STANDARD" pubblicato da "Retix - 2401 Colorado Avenue, Santa Monica, California 90404-3563 USA" e "ZEN and the Art of the Internet" di Brendan P. Kehoe First Edition January 1992

Alcuni termini corrispondono a nuovi metodi di accesso ai servizi sia della rete EARN sia della rete Internet e sono tratti da: "Guide to Network Resource Tools" April 13, 1993 edito da EARN Association.

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Glossario

10BaseT                    A variant of Ethernet which allows stations to be attached twisted pair cable. See also: Ethernet, twisted pair.[Source: RFC1392]

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**A**

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abstract syntax            A description of a data structure that is independent of machine-oriented structures and encodings.[Source: RFC1208]

ACL                        (Access Control List). Most network security systems operate by allowing selective use of services. An Access Control List is the usual means by which access to, and denial of, services is controlled. It is simply a list of the services available, each with a list of the hosts permitted to use the service.[Source: RFC1392]

ACK (acknowledgment)    A type of message sent to indicate that a block of data arrived at its destination without error. See also: Negative Acknowledgement. [Source: NNSC]

ACSE                      Association Control Service Element. The method used in OSI for establishing a call between two applications. Checks the identities and contexts of the application entities, and could apply an authentication security check.[Source: RFC1208]

Active Devices            In Token Ring, a device that requires AC power for operation. In current loop applications, a device capable of supplying the current for the loop.

AD                        (Administrative Domain). A collection of hosts and routers, and the interconnecting network(s), managed by a single administrative authority.[Source: RFC1392]

address                    There are three types of addresses in common use within the Internet. They are email address; IP, internet or Internet address; and hardware or MAC address. See also: email address, IP address, internet address, MAC address.[Source: RFC1392]

address mask              A bit mask used to identify which bits in an IP address correspond to the network and subnet portions of the address. This mask is often referred to as the subnet mask because the network portion of the address can be determined by the encoding inherent in an IP address.[Source: RFC1392]

address resolution        Conversion of an Internet address into the corresponding physical address. On an Ethernet, resolution requires broadcasting on the local area network.[Source: ZEN]

ADMD	(Administration Management Domain). An X.400 Message Handling System public service carrier. Examples: MCI mail and ATT mail in the U.S., British Telecom Gold400 mail in the U.K. The ADMDs in all countries worldwide together provide the X.400 backbone. See PRMD.[Source: RFC1208]
administrivia	Administrative tasks, most often related to the maintenance of mailing lists, digests, news gateways, etc. [Source: ZEN]
ADPCM	(Adaptive Differential Pulse Code Modulation). A CCITT standardized technique for encoding analog voice signals into a digital form at 32 kbps (half the standard PCM rate). Four bits describe the difference between adjacent samples at a rate of 8000 times per second.
agent	In the client-server model, the part of the system that performs information preparation and exchange on behalf of a client or server application. See NMS, DUA, MTA.[Source: RFC1208]
AIFF	A sound format
alias	A name, usually short and easy to remember, that is translated into another name, usually long and difficult to remember.[Source: RFC1392]
Alternative Mark Inversion (AMI)	A bipolar coding scheme in which successive ones (marks) must alternate in polarity (alternate between positive and negative).
analog	A continuous wave or signal (such as the human voice).
analog loopback	A testing technique which isolates faults in transmission equipment by performing a loopback on the data at the analog (line) side of the modem.
analog transmission	The transmission of a continuously variable signal, as opposed to a discrete (digital) one.
anchor	synonym for <i>hyperlink</i> .
annotation	feature of NCSA Mosaic that lets you add personal notes to World Wide Web documents.
ANSI	(American National Standards Institute). This organization is responsible for approving U.S. standards in many areas, including computers and communications. Standards approved by this organization are often called ANSI standards (e.g., ANSI C is the version of the C language approved by ANSI). ANSI is a member of ISO. See also:



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	International Organization for Standardization. [Source: NNSC]
AOW	(Asia and Oceania Workshop). One of the three regional OSI Implementors Workshops, equivalent to OIW and EWOS.[Source: RFC1208]
anonymous FTP	Anonymous FTP allows a user to retrieve documents, files, programs, and other archived data from anywhere in the Internet without having to establish a userid and password. By using the special userid of "anonymous" the network user will bypass local security checks and will have access to publicly accessible files on the remote system. See also: archive site, File Transfer Protocol.[Source: RFC1392]
annotation	Feature of NCSA Mosaic that lets you add personal notes to World Wide Web documents.
API	(Application Program Interface). A set of calling conventions defining how a service is invoked through a software package. [Source: RFC1208]
Appletalk	A networking protocol developed by Apple Computer for communication between Apple Computer products and other computers. This protocol is independent of the network layer on which it is run. Current implementations exist for Localtalk, a 235Kb/s local area network; and Ethertalk, a 10Mb/s local area network. [Source: NNSC]
application	A program that performs a function directly for a user. FTP, mail and Telnet clients are examples of network applications.[Source: RFC1392]
APPC	Advanced Program-to-Program Communication. LU6.2/IBM.
Application Layer	The top-most layer in the OSI Reference Model providing such communication services as electronic mail and file transfer.
APPN	Advanced Peer-to-Peer Networking. SNA/IBM.
archie	A system to automatically gather, index and serve information on the Internet. The initial implementation of archie provided an indexed directory of filenames from all anonymous FTP archives on the Internet. Later versions provide other collections of information. See also: archive site, Gopher, Prospero, Wide Area Information Servers.[Source: RFC1392]
archive site	A machine that provides access to a collection of files across the Internet. An "anonymous FTP archive site", for example, provides access to this material via the FTP protocol. See also: anonymous FTP, archie, Gopher, Prospero, Wide Area Information Servers.[Source: RFC1392]

archive server	An email-based file transfer facility offered by some systems. [Source: ZEN]
ARP	(Address Resolution Protocol). Used to dynamically discover the low level physical network hardware address that corresponds to the high level IP address for a given host. ARP is limited to physical network systems that support broadcast packets that can be heard by all hosts on the network. It is defined in RFC 826. See also: proxy ARP.[Source: RFC1392]
ARPA	(Advanced Research Projects Agency). Now called DARPA, the U.S. government agency that funded the ARPANET.[Source: RFC1208]
ARPANET	A packet switched network developed in the early 1970s. The "grandfather" of today's Internet. ARPANET was decommissioned in June 1990.[Source: RFC1208]
ARQ	(Automatic Request for Repeat or Retransmission). A communications feature where the receiver asks the transmitter to resend a block or frame because errors were detected by the receiver.
AS	(Autonomous System) Internet (TCP/IP) terminology for a collection of gateways (routers) that fall under one administrative entity and cooperate using a common Interior Gateway Protocol (IGP). See subnetwork.[Source: RFC1208]
ASCII	(American Standard Code for Information Interchange). A standard character-to-number encoding widely used in the computer industry. See also: EBCDIC.[Source: RFC1392].
asynchronous	Transmission by individual bytes, not related to specific timing on the transmitting end. [Source: ZEN]
ASN.1	(Abstract Syntax Notation One) The language used by the OSI protocols for describing abstract syntax. This language is also used to encode SNMP packets. ASN.1 is defined in ISO documents 8824.2 and 8825.2. See also: Basic Encoding Rules.[Source: RFC1392]
assigned numbers	The RFC [STD2] which documents the currently assigned values from several series of numbers used in network protocol implementations. This RFC is updated periodically and, in any case, current information can be obtained from the Internet Assigned Numbers Authority (IANA). If you are developing a protocol or application that will require the use of a link, socket, port, protocol, etc., please contact the IANA to receive a number assignment. See also: Internet Assigned Numbers Authority, STD. [Source: STD2]

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ASTRA	Is the EARN service that allows users to retrieve documents from databases known by ASTRA throughout the network. Users can send their queries to the ASTRA server which in turn forwards the query to the related database servers. This provides an easy-to-use uniform access method to a large number of databases. Anyone who can send electronic mail to EARN/Bitnet can access ASTRA. Interactive user interfaces (clients) to ASTRA are available for VM and VMS systems on the EARN/Bitnet network. [Source: EARN Association]
attenuation	The difference between transmitted and received power due to loss through equipment, lines or other transmission devices. Measured in decibels.
ATM	(Asynchronous Transfer Mode). A method for the dynamic allocation of bandwidth using a fixed-size packet (called a cell). ATM is also known as "fast packet". [Source: RFC1392]
attribute	The form of information items provided by the X.500 Directory Service. The directory information base consists of entries, each containing one or more attributes. Each attribute consists of a type identifier together with one or more values. Each directory Read operation can retrieve some or all attributes from a designated entry. [Source: RFC1392]
AU	A sound format
AUP	(Acceptable Use Policy). Many transit networks have policies which restrict the use to which the network may be put. A well known example is NSFNET's AUP which does not allow commercial use. Enforcement of AUPs varies with the network. See also: National Science Foundation. [Source: RFC1392]
authentication	The verification of the identity of a person or process. [Source: MALAMUD]
auto-magic	Something which happens pseudo-automatically, and is usually too complex to go into any further than to say it happens "automagically". [Source: ZEN]
AWG	The American Wire Gauge System which specifies wire size.



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**B**

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- backbone** The primary connectivity mechanism of a hierarchical distributed system. All systems which have connectivity to an intermediate system on the backbone are assured of connectivity to each other. This does not prevent systems from setting up private arrangements with each other to bypass the backbone for reasons of cost, performance, or security. See Core gateway.[Source: RFC1208]
- balanced** A transmission line in which voltages on the two conductors are equal in magnitude, but opposite in polarity with respect to ground (with opposite polarities).
- bandwidth** Technically, the difference, in Hertz (Hz), between the highest and lowest frequencies of a transmission channel. However, as typically used, the amount of data that can be sent through a given communications circuit.[Source: RFC1392]
- mail path** A series of machine names used to direct electronic mail from one user to another, typically by specifying an explicit UUCP path through which the mail is to be routed. See also: email address, mail path, UNIX-to-UNIX CoPy.[Source: RFC1392]
- baseband** Characteristic of any network technology that uses a single carrier frequency and requires all stations attached to the network to participate in every transmission. See broadband.[Source: RFC1208]
- baud** Unit of signalling speed equivalent to the number of discrete conditions or events per second. If each signal event represents only one bit condition, baud rate equals bps (bit per second).
- BBS** (Bulletin Board System). A computer, and associated software, which typically provides electronic messaging services, archives of files, and any other services or activities of interest to the bulletin board system's operator. Although BBS's have traditionally been the domain of hobbyists, an increasing number of BBS's are connected directly to the Internet, and many BBS's are currently operated by government, educational, and research institutions. See also: Electronic Mail, Internet, Usenet. [Source: NWNET]
- BER** (Basic Encoding Rules) Standard rules for encoding data units described in ASN.1. Sometimes incorrectly lumped under the term ASN.1, which properly refers only to the abstract syntax description language, not the encoding technique. See also: Abstract Syntax Notation One.[Source: NNSC]

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BERT	Bit Error Rate Test/Tester. A device used to test the bit error rate of a communications circuit. The device checks for errors by comparing a received data pattern with a known transmitted data pattern to determine transmission line quality.
bipolar	A signalling method (used in T1/E1) which represents a binary "1" by alternating positive and negative pulses, and binary "0" by absence of pulses.
BGP	(Border Gateway Protocol. Is an exterior gateway protocol defined in RFCs 1267 and 1268. It's design is based on experience gained with EGP, as defined in STD 18, RFC 904, and EGP usage in the NSFNET Backbone, as described in RFCs 1092 and 1093. See also: Exterior Gateway Protocol.[Source: RFC1392]
big-endian	A format for storage or transmission of binary data in which the most significant bit (or byte) comes first. The term comes from "Gulliver's Travels" by Jonathan Swift. The Lilliputians, being very small, had correspondingly small political problems. The Big-Endian and Little-Endian parties debated over whether soft-boiled eggs should be opened at the big end or the little end. See also: little-endian.[Source: RFC1208]
BIND	(Berkeley Internet Name Domain) Implementation of a DNS server developed and distributed by the University of California at Berkeley. Many Internet hosts run BIND, and it is the ancestor of many.[Source: RFC1392]
BinHex	A file format where binary data is converted into ASCII text.
B.ISDN	Broadband Integrated Services Digital Networks. See Asynchronous Transfer Mode.
bit	A contraction of "Binary Digit", the smallest unit of information in a binary system. A bit represents either a one or zero ("1" or "0").
Bit Interleaving/Multiplexing	A process used in time division multiplexing where individual bits from different lower speed channel sources are combined (one bit from one channel at a time) into one continuous higher speed bit stream.
BITFTP	Is a BITNET FTP Server, allows users of, bitnet and associated networks to access FTP sites on the Internet.[Source: EARN Association]
BITNET	An academic computer network that provides interactive electronic mail and file transfer services, using a store-and-forward protocol, based on IBM Network Job Entry protocols. Bitnet-II encapsulates the Bitnet protocol within IP packets and depends on the Internet to route them.[Source: RFC1392]

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BOC	Bell Operating Company. More commonly referred to as RBOC for Regional Bell Operating Company. The local telephone company in each of the seven U.S. regions. Source: RFC1208]
BOF	(Birds Of a Feather) A Birds Of a Feather (flocking together) is an informal discussion group. It is formed, often ad hoc, to consider a specific issue and, therefore, has a narrow focus.
BOOTP	The Bootstrap Protocol, defined in RFC 1542, is a UDP/IP-based protocol which allows a booting host to configure itself dynamically and without user supervision.
bounce	The return of a piece of mail because of an error in its delivery. [Source: ZEN]
BPS	(Bit Per Second). A measure of data transmission rate in serial transmission. Also used to describe hardware capabilities. (for example, a 9600 bps modem).
bridge	A device that connects two or more physical networks and forwards packets between them. Bridges can usually be made to filter packets, that is, to forward only certain traffic. Related devices are: repeaters which simply forward electrical signals from one cable to another, and full-fledged routers which make routing decisions based on several criteria. In OSI terminology, a bridge is a Data Link Layer intermediate system. See repeater and router.[Source: RFC1208]
broadband	Characteristic of any network that multiplexes multiple, independent network carriers onto a single cable. This is usually done using frequency division multiplexing. Broadband technology allows several networks to coexist on one single cable; traffic from one network does not interfere with traffic from another since the "conversations" happen on different frequencies in the "ether," rather like the commercial radio system.[Source: RFC1392]
broadcast	A packet delivery system where a copy of a given packet is given to all hosts attached to the network. Example: Ethernet.[Source: RFC1208]
broadcast storm	An incorrect packet broadcast onto a network that causes multiple hosts to respond all at once, typically with equally incorrect packets which causes the storm to grow exponentially in severity.[Source: RFC1392]
router	A device which bridges some packets (i.e., forwards based on datalink layer information) and routes other packets (i.e., forwards based on network layer information). The bridge/route decision is based on configuration information. See also: bridge, router.[Source: RFC1392]

browser	A World Wide Web client-that is, a software package that permits you to look around the World Wide Web (WWW).
BSC	Binary Synchronous Control. IBM classic synchronous protocol.
BSD	(Berkeley Software Distribution). Implementation of the UNIX operating system and its utilities developed and distributed by the University of California at Berkeley. "BSD" is usually preceded by the version number of the distribution, e.g., "4.3 BSD" is version 4.3 of the Berkeley UNIX distribution. Many Internet hosts run BSD software, and it is the ancestor of many commercial UNIX implementations. [Source: NNSC]
BT	British Telecom. British PTT.
btw	An abbreviation for "by the way".
buffer	A storage device. Commonly used to compensate for differences in data rates or event timing when transmitting from one device to another. Also used to remove jitter.
bus	A transmission path or channel. A bus is typically an electrical connection with one or more conductors, where all attached devices receive all transmission at the same time.
Byte	A computer-readable group of bits (normally 8 bits in length).



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**C**

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- carrier A continuous signal at a fixed frequency capable of being modulated with a second (information Carrying) signal.
- catenet A network in which hosts are connected to networks with varying characteristics, and the networks are interconnected by gateways (routers). The Internet is an example of a catenet. See IONL.[Source: RFC1208]
- (CCIRN) (Coordinating Committee for Intercontinental Research Networks). A committee that includes the United States FNC and its counterparts in North America and Europe. Co-chaired by the executive directors of the FNC and the European Association of Research Networks (RARE), the CCIRN provides a forum for cooperative planning among the principal North American and European research networking bodies. See also: Federal Networking Council, RARE. [Source: MALAMUD]
- CCITT (Consultative Committee International for Telegraphy and Telephony). A unit of the International Telecommunications Union (ITU) of the United Nations. An organization with representatives from the PTTs of the world. CCITT produces technical standards, known as "Recommendations," for all internationally controlled aspects of analog and digital communications. See X Recommendations.[Source: RFC1208]
- CCR (Commitment, Concurrency, and Recovery). An OSI application service element used to create atomic operations across distributed systems. Used primarily to implement two-phase commit for transactions and [Source: RFC1208]
- CD (Carrier Detect). A modem interface signal indicating to an attached terminal that the local modem is receiving a signal from the remote modem.
- CDP (Conditiona Di-Phase). A digital encoding technique wich is a variant of Manchester encoding, but is insensitive to polarity of wires (wires in a pair can be crossed).
- CERN Particle physics institute located in Geneva, Switzerland, originators of the World Wide Web.
- CERT (Computer Emergency Response Team). The CERT was formed by DARPA in November 1988 in response to the needs exhibited during the Internet worm incident. The CERT charter is to work with the

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	<p>Internet community to facilitate its response to computer security events involving Internet hosts, to take proactive steps to raise the community's awareness of computer security issues, and to conduct research targeted at improving the security of existing systems. CERT products and services include 24-hour technical assistance for responding to computer security incidents, product vulnerability assistance, technical documents, and tutorials. In addition, the team maintains a number of mailing lists (including one for CERT Advisories), and provides an anonymous FTP server, at "cert.org", where security-related documents and tools are archived. The CERT may be reached by email at "cert@cert.org" and by telephone at +1-412-268-7090 (24-hour hotline). See also: Defense Advanced Research Projects Agency, worm. [Source: RFC1392]</p>
channel	<p>A path for electrical transmission between two or more points. Also called a link, line, circuit or facility.</p>
channel bank	<p>Equipment that connects multiple voice channels into a high speed link, by performing voice digitization and Time Division Multiplexing. Generally voice is converted to a 64 kbps signal (24 channels into 1.544 Mbps in the U.S.; 30 channels into 2.048 Mbps in Europe).</p>
character	<p>Any coded representation of a letter, digit, or special symbol.</p>
characteristic impedance	<p>The termination impedance of an electrically uniform transmission line.</p>
checksum	<p>A computed value which is dependent upon the contents of a packet. This value is sent along with the packet when it is transmitted. The receiving system computes a new checksum based upon the received data and compares this value with the one sent with the packet. If the two values are the same, the receiver has a high degree of confidence that the data was received correctly. [Source: NNSC]</p>
CICS	<p>Customer Information Control System. IBM</p>
circuit switching	<p>A communications paradigm in which a dedicated communication path is established between two hosts, and on which all packets travel. The telephone system is an example of a circuit switched network. See also: connection-oriented, connectionless, packet switching. [Source: RFC1392]</p>
CFV	<p>(Call For Votes). Initiates the voting period for a Usenet newsgroup. At least one (occasionally two or more) email address is customarily included as a repository for the votes. See Newsgroup Creation for a full description of the Usenet voting process. [Source: ZEN]</p>

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ClariNews	The fee-based Usenet News feed available from ClariNet Communications.[Source: ZEN]
client	A computer system or process that requests a service of another computer system or process. A workstation requesting the contents of a file from a file server is a client of the file server. See also: client-server model, server. [Source: NNSC]
client-server model	A common way to describe the paradigm of many network protocols. Examples include the name-server/name-resolver relationship in DNS and the file-server/file-client relationship in NFS. See also: client, server, Domain Name System, Network File System.[Source: RFC1392]
CLNP	Connectionless Network Protocol. The OSI protocol for providing the OSI Connectionless Network Service (datagram service). CLNP is the OSI equivalent to Internet IP, and is sometimes called ISO IP. [Source: RFC1208]
CLNS	Connectionless Network Service. The model of interconnection in which communication takes place without first establishing a connection. Sometimes (imprecisely) called datagram. E.g.: LANs, Internet IP and OSI CLNP, UDP, ordinary postcards. [Source: RFC1208]
Clock	A shorthand term for the source(s) of timing signals used in synchronous transmission.
CLTP	(Connectionless Transport Protocol). Provides for end-to-end Transport data addressing (via Transport selector) and error control (via checksum), but cannot guarantee delivery or provide flow control. The OSI equivalent of UDP. [Source: RFC1208]
cluster	A configuration in which two or more terminals are connected to a single line or single modem.
CMIP	(Common Management Information Protocol.). The OSI network management protocol.[Source: RFC1208]
CMOT	(CMIP Over TCP). An effort to use the OSI network management protocol to manage TCP/IP networks. [Source: RFC1208]
CMS	Conversational Monitor System. IBM.
CNI	(Coalition for Networked Information). A consortium formed by American Research Libraries, CAUSE, and EDUCOM to promote the creation of, and access to, information resources in networked environments in order to enrich scholarship and enhance intellectual productivity.[Source: RFC1392]

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Composite Link	The line or circuit connecting a pair of multiplexers or concentrators, carrying multiplexed data.
compression	Any of several techniques that reduce the number of bits required to represent information in data transmission or storage, thereby conserving bandwidth and/or memory.
Concentrator	(Statistical Multiplexer). A device which divides a data channel into two or more channels of lower average speed. The concentrator dynamically allocates channel space according to demand in order to maximize throughput.
congestion	Congestion occurs when the offered load exceeds the capacity of a data communication path.[Source: RFC1392]
connection tools	One of the three types of communications tools. A connection tool determines the type of connection that is established between your Macintosh and the other computer.
connection-oriented	The data communication method in which communication proceeds through three well-defined phases: connection establishment, data transfer, connection release. TCP is a connection-oriented protocol. See also: circuit switching, connectionless, packet switching, Transmission Control Protocol.[Source: RFC1392]
connectionless	The data communication method in which communication occurs between hosts with no previous setup. Packets between two hosts may take different routes, as each is independent of the other. UDP is a connectionless protocol. See also: circuit switching, connection-oriented, packet switching, User Datagram Protocol.[Source: RFC1392]
CONS	(Connection-Oriented Network Service). The model of interconnection in which communication proceeds through three well-defined phases: connection establishment, data transfer, connection release. Examples: X.25, Internet TCP and OSI TP4, ordinary telephone calls.
contention	A condition arising when two or more data stations attempt to transmit at the same time using the same channel.
control characters	In communications, any extra transmitted characters used to control or facilitate data transmission (for example, characters associated with polling, framing, synchronization, error checking, or message delimiting).

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control signals	Signals passing between one part of a communications systems and another (such RTS, DTR, or RI), as part of a mechanism for controlling the system.
core gateway	Historically, one of a set of gateways (routers) operated by the Internet Network Operations Center at Bolt, Beranek and Newman (BBN). The core gateway system formed a central part of Internet routing in that all groups must advertise paths to their networks from a core gateway. [Source: MALAMUD]
COS	(Corporation for Open Systems). A vendor and user group for conformance testing, certification, and promotion of OSI products.[Source: RFC1208]
COSINE	(Cooperation for Open Systems Interconnection Networking in Europe). A program sponsored by the European Commission, aimed at using OSI to tie together European research networks.[Source: RFC1208]
cracker	A cracker is an individual who attempts to access computer systems without authorization. These individuals are often malicious, as opposed to hackers, and have many means at their disposal for breaking into a system. See also: hacker, Computer Emergency Response Team, Trojan Horse, virus, worm. [Source: RFC1392]
CRC	(Cyclic Redundancy Check) A number derived from a set of data that will be transmitted recalculating the CRC at the remote end and comparing it to the value originally transmitted, the receiving node can detect some types of transmission errors. [Source: MALAMUD]
CREN	(Corporation for Research and Educational Networking). This organization was formed in October 1989, when Bitnet and CSNET (Computer + Science NETwork) were combined under one administrative authority. CSNET is no longer operational, but CREN still runs Bitnet. See also: Bitnet. [Source: NNSC]
Crosstalk	Unwanted transfer of energy from one circuit to another. Crosstalk typically occurs between adjacent circuits.
CSDN	(Circuit Switched Data Network.). As opposed to PSDN.
CSMA/CD	(Carrier Sense Multiple Access with Collision Detection). The access method used by local area networking technologies such as Ethernet.[Source: RFC1208]
CSNET	(Computer+Science Network). A large computer network, mostly in the U.S. but with international connections. CSNET sites include universities,

- research labs, and some commercial companies. Now merged with BITNET to form CREN. See BITNET.[Source: RFC1208]
- CSU (Channel Service Unit). User-owned equipment installed on customer premises at the interface to phone company lines to terminate a DDS or T1 circuit. CSUs provide network protection and diagnostic capabilities.
- CTS (Clear To Send). A modem interface control signal from the data communications equipment (DCE) indicating to the data terminal equipment (DTE) that it may begin data transmission.
- Current Loop Method of data transmission. A mark (binary "1") is represented by current on the line, and a space (binary "0") is represented by the absence of current.
- (CWIS) (Campus Wide Information System). A CWIS makes information and services publicly available on campus via kiosks, and makes interactive computing available via kiosks, interactive computing systems and campus networks. Services routinely include directory information, calendars, bulletin boards, databases.[Source: RFC1392]
- Cyberspace A term coined by William Gibson in his fantasy novel *Neuromancer* to describe the "world" of computers, and the society that gathers around them. [Source: ZEN]

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**D**

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DACS	(Digital Access and Cross-Connect System). A computerized or manual facility which allows DS-1/T1 lines to be remapped electronically at the DS-0 (64 kbps) level. Also called DCS or DXS.
DARPA	(Defense Advanced Research Projects Agency). An agency of the U.S. Department of Defense responsible for the development of new technology for use by the military. DARPA (formerly known as ARPA) was responsible for funding much of the development of the Internet we know today, including the Berkeley version of Unix and TCP/IP. [Source: NNSC]
Data	Information represented in digital form, including voice, text, facsimile and video.
datagram	The basic unit of information passed across the Internet. It contains a source and destination address along with data. Large messages are broken down into a sequence of IP datagrams. [Source: ZEN]
Data Link Layer	The OSI layer that is responsible for data transfer across a single physical connection, or series of bridged connections, between two Network entities.[Source: RFC1208]
dB (Decibel)	Unit for measuring relative strength (ratio) of two signals.
dBm	A measure of power in communications: the decibel in reference to one milliwatt (0dBm = 1 milliwatt and 30 dBm = .001 milliwatt).
DCA	See: Defense Information Systems Agency.
DCD	Data Carrier Detect - Modem signal.
DCE	(Data Circuit-terminating Equipment). The equipment providing functions which establish, maintain and terminate a data transmission connection (such as a modem)
DDS	(Dataphone Digital Service). A trademark of AT&T identifying a private line service for digital data communications.
DDN	(Defense Data Network). A global communications network serving the US Department of Defense composed of MILNET, other portions of the Internet, and classified networks which are not part of the Internet. The DDN is used to connect military installations and is managed by the Defense

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	Information Systems Agency. See also: Defense Information Systems Agency.[Source: RFC1392]
DDN NIC	(Defense Data Network Network Information Center). Often called "The NIC", the DDN NIC's primary responsibility is the assignment of Internet network addresses and Autonomous System numbers, the administration of the root domain, and providing information and support services to the DDN. It is also a primary repository for RFCs. See also: Autonomous System, network address, Internet Registry, Network Information Center, Request For Comments.[Source: RFC1392]
DECnet	A proprietary network protocol designed by Digital Equipment Corporation. The functionality of each Phase of the implementation, such as Phase IV and Phase V, is different.[Source: RFC1392]
default route	A routing table entry which is used to direct packets addressed to networks not explicitly listed in the routing table. [Source: MALAMUD]
DEK	(Data Encryption Key). Used for the encryption of message text and for the computation of message integrity checks (signatures). See also: encryption.[Source: RFC1392]
DES	(Data Encryption Standard). A popular, standard encryption scheme. See also: encryption.[Source: RFC1392]
diagnostic	Procedures and systems which detect and isolate a malfunction or mistake in a communications device, network or system.
dialup	A temporary, as opposed to dedicated, connection between machines established over a standard phone line.[Source: RFC1392]
digital	The binary ("1/0") output of a computer or terminal. In data communication, an alternating, non-continuous (pulsating) signal.
digital loopback	A technique for testing the digital processing circuitry of a communications device. The loopback is toward the line side of a modem, but tests most of the circuitry in the modem under test.
Directory Access Protocol	(X.500). Protocol used for communication between a Directory User Agent and a Directory System Agent. [Source: MALAMUD]
DISA	(Defense Information Systems Agency). Formerly called the Defense Communications Agency (DCA), this is the government agency responsible for managing the DDN portion of the Internet, including



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	the MILNET. Currently, DISA administers the DDN, and supports the user assistance services of the DDN NIC. See also: Defense Data Network.[Source: RFC1392]
disassembling	Converting a binary program into human-readable machine language code. [Source: ZEN]
distortion	The unwanted change in waveform occurring between two points in a transmission system.
Distributed Computing Environment (DCE)	An architecture of standard programming interfaces, conventions, and server functionalities (e.g., naming, distributed file system, remote procedure call) for distributing applications transparently across networks of heterogeneous computers. Promoted and controlled by the Open Software Foundation (OSF), a consortium led by Digital, IBM and Hewlett Packard. [Source: RFC1208]
distributed database	A collection of several different data repositories that looks like a single database to the user. A prime example in the Internet is the Domain Name System.[Source: RFC1392]
DIX Ethernet	See: Ethernet
DOV	(Data Over Voice). A technology for transmitting data and voice simultaneously over twisted-pair copper wiring.
DNA	Digital Network Architecture. DEC.
DNS	(Domain Name System) The DNS is a general purpose distributed, replicated, data query service. The principal use is the lookup of host IP addresses based on host names. The style of host names now used in the Internet is called "domain name", because they are the style of names used to look up anything in the DNS. Some important domains are: .COM (commercial), .EDU (educational), .NET (network operations), .GOV (U.S. government), and .MIL (U.S. military). Most countries also have a domain. For example, .US (United States), .UK (United Kingdom), .AU (Australia). It is defined in STD 13, RFCs 1034 and 1035. See also: Fully Qualified Domain Name.[Source: RFC1392]
document	Unit of information sent from servers to clients; a document may contain plain or formatted text, in-lined graphics, sound, other multimedia data, or hyperlinks to other documents.
domain	In the Internet, a part of a naming hierarchy. Syntactically, an Internet domain name consists of a sequence of names (labels) separated by periods

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	(dots), e.g., "tundra.mpk.ca.us." In OSI, "domain" is generally used as an administrative partition of a complex distributed system, as in MHS Private Management Domain (PRMD), and Directory Management Domain (DMD). [Source: RFC1208]
dotted quad	A set of four numbers connected with periods that make up an Internet address; for example, 147.31.254.130 [Source: ZEN]
DS1	A framing specification for T-1 synchronous lines. See also: T1
DS3	A framing specification for T-3 synchronous lines. See also: T3
DSA	(Directory System Agent) The software that provides the X.500 Directory Service for a portion of the directory information base. Generally, each DSA is responsible for the directory information for a single organization or organizational unit. [Source: RFC1208]
DSU	(Digital Service Unit). A user device interfacing to a digital circuit (such as DDS or T1 when combined with a CSU). The DSU converts, the user's data stream to bipolar format for transmission.
DTE	(Data Terminal Equipment).- A device transmitting data to, and/or receiving data from, a DCE (for example, a terminal or printer).
DTR	(Data Terminal Ready). A modem interface control signal sent from the DTE to the modem, usually telling the modem that the DTE is ready to transmit data.
DUA	(Directory User Agent) The software that accesses the X.500 Directory Service on behalf of the directory user. The directory user may be a person or another software element. [Source: RFC1208]
dynamic adaptive routing	Automatic rerouting of traffic based on a sensing and analysis of current actual network conditions. NOTE: this does not include cases of routing decisions taken on predefined information. [Source: J. Postel]

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**E**

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E & M Signalling	Voice transmission system that uses separate paths for signalling and voice signals. The "M" lead (mouth) transmits signal to the end of circuit while the "E" lead (ear) receives incoming signal.
EARN	(European Academic and Research Network). A network connecting European academic and research institutions with electronic mail and file transfer services using the Bitnet protocol. See also: Bitnet [Source: RFC1392]
EBCDIC	(Extended Binary Coded Decimal Interchange Code). A standard character-to-number encoding used primarily by IBM computer systems. See also: ASCII.
Ebone	A pan-European backbone service.
echo	Signal distortion occurring when transmitted signal is echoed back (reflected) to the originating station
echo cancellation	A technique used in high-speed modems to isolate and filter out unwanted signal energy caused by echoes from the main transmitted signal
ECMA	European Computer Manufacturers Association.
EFF	(Electronic Frontier Foundation). A foundation established to address social and legal issues arising from the impact on society of the increasingly pervasive use of computers as a means of communication and information distribution.
EFLA	(Extended Four Letter Acronym). A recognition of the fact that there are far too many TLAs. See also: Three Letter Acronym. [Source: K. Morgan]
EGP	(Exterior Gateway Protocol). A protocol which distributes routing information to the routers which connect autonomous systems. The term "gateway" is historical, as "router" is currently the preferred term. There is also a routing protocol called EGP defined in STD 18, RFC904. See also: Autonomous System, Border Gateway Protocol, Interior Gateway Protocol. [Source: RFC1392]
external viewer	A software program that Mosaic calls upon to view file formats it does not itself support
Electronics Industries Association	
EIA	A standards organization in the U.S. specializing in the electrical and functional characteristics of interface equipment.

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Electronic Mail (email)	A system whereby a computer user can exchange messages with other computer users (or groups of users) via a communications network. Electronic mail is one of the most popular uses of the Internet. [Source: NNSC]
EMA	(Enterprise Management Architecture). DEC network management.
email	See: Electronic mail
email address	The UUCP or domain-based address that a user is referred to with. For example, the author's address is brendan@cs.widener.edu. [Source: ZEN]
EMI	(ElectroMagnetic Interference). Radiation leakage outside a transmission medium, resulting mainly from the use of high frequency wave energy and signal modulation. EMI can be reduced by appropriate shielding.
encapsulation	The technique used by layered protocols in which a layer adds header information to the protocol data unit (PDU) from the layer above. As an example, in Internet terminology, a packet would contain a header from the physical layer, followed by a header from the network layer (IP), followed by a header from the transport layer (TCP), followed by the application protocol data. [Source: RFC1208]
encryption	Encryption is the manipulation of a packet's data in order to prevent any but the intended recipient from reading that data. There are many types of data encryption, and they are the basis of network security. See also: Data Encryption Standard. [Source: RFC1392]
end system	An OSI system which contains application processes capable of communicating through all seven layers of OSI protocols. Equivalent to Internet host.
entity	OSI terminology for a layer protocol machine. An entity within a layer performs the functions of the layer within a single computer system, accessing the layer entity below and providing services to the layer entity above at local service access points.
Equalizer	A device that compensates for distortion due to signal attenuation and propagation time with respect to frequency (reduces the effects of amplitude frequency and/or phase distortion).
ES-IS	End system to Intermediate system protocol. The OSI protocol by which end systems announce themselves to intermediate systems.

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ESF	(Extended Superframe Format). A T1 framing format that uses the framing but to provide maintenance and diagnostic functions
Ethernet	A 10-Mb/s standard for LANs, initially developed by Xerox, and later refined by Digital, Intel and Xerox (DIX). All hosts are connected to a coaxial cable where they contend for network access using a Carrier Sense Multiple Access with Collision Detection (CSMA/CD) paradigm. See also: 802.x, Local Area Network, token ring. [Source: RFC1392]
Ethernet meltdown	An event that causes saturation, or near saturation, on an Ethernet. It usually results from illegal or misrouted packets and typically lasts only a short time. [Source: COMER]
EUnet	European UNIX Network.
EUUG	European UNIX Users Group.
EWOS	(European Workshop for Open Systems). The OSI Implementors Workshop for Europe. See OIW.
E1	Refers to Europe's 2.048 Mbps digital came system Also called CEPT



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**F**

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Faces	(;-)). This odd symbol is one of the ways a person can portray "mood" in the very flat medium of computers by using "smiley faces". This is "metacommunication", and there are literally hundreds of such symbols, from the obvious to the obscure. This particular example expresses "happiness". Don't see it? Tilt your head to the left 90 degrees. Smiles are also used to denote sarcasm. [Source: ZEN]
FARNET	A non-profit corporation, established in 1987, whose mission is to advance the use of computer networks to improve research and education. [Source: RFC1392]
FAQ	Frequently Asked Question
FCC	(Federal Communications Commission). The regulatory agency established in the United States for all interstate radio and electronic communications
FEP	(Front End Processor). A dedicated computer designed for communications control of a mainframe.
FEC	(Forward Error Correction). A technique for detecting and correcting errors in transmission without requiring retransmission of data by the transmitter.
FDDI	(Fiber Distributed Data Interface). A high-speed (100Mb/s) LAN standard. The underlying medium is fiber optics, and the topology is a dual-attached, counter-rotating token ring. See also: Local Area Network, token ring. [Source: RFC1208]
FNC	(Federal Networking Council) The coordinating group of representatives from those federal agencies involved in the development and use of federal networking, especially those networks using TCP/IP and the Internet. Current members include representatives from DOD, DOE, DARPA, NSF, NASA, and HHS. See also: Defense Advanced Research Projects Agency, National Science Foundation. [Source: RFC1392]
Fiber Opticus	Thin filaments of glass or plastic carrying a transmitted light beam (generated by an LED or laser)
file transfer	The copying of a file from one computer to another over a computer network. See also: File Transfer Protocol, Kermit. [Source: RFC1392]
finger	A program that displays information about a particular user, or all users, logged on the local system or on a remote system. It typically shows full name, last login time, idle time, terminal line, and terminal location (where applicable). It may also display plan and project files left by the user. [Source: RFC1392]

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FIPS	Federal Information Processing Standard.
FIX	(Federal Information eXchange). One of the connection points between the American governmental internets and the Internet. [Source: SURA]
flame	A strong opinion and/or criticism of something, usually as a frank inflammatory statement, in an electronic mail message. It is common to precede a flame with an indication of pending fire (i.e., FLAME ON!). Flame Wars occur when people start flaming other people for flaming when they shouldn't have. See also: Electronic Mail. [Source: RFC1392]
FNC	(Federal Networking Council). The coordinating group of representatives from those federal agencies involved in the development and use of federal networking, especially those networks using TCP/IP and the Internet. Current members include representatives from DOD, DOE, DARPA, NSF, NASA, and HHS. See also: Defense Advanced Research Projects Agency, National Science Foundation. [Source: RFC1392]
Four-Wire Circuit	A communications path consisting of two pairs of conductors (wires), one pair for transmitting and one pair for receiving.
FQDN	(Fully Qualified Domain Name). The FQDN is the full name of a system, rather than just its hostname. For example, "venera" is a hostname and "venera.isi.edu" is an FQDN. See also: hostname, Domain Name System. [Source: RFC1392]
fragment	A piece of a packet. When a router is forwarding an IP packet to a network that has a maximum packet size smaller than the packet size, it is forced to break up that packet into multiple fragments. These fragments will be reassembled by the IP layer at the destination host. [Source: RFC1392]
fragmentation	The IP process in which a packet is broken into smaller pieces to fit the requirements of a physical network over which the packet must pass. See also: reassembly. [Source: RFC1392]
frame	A frame is a datalink layer "packet" which contains the header and trailer information required by the physical medium. That is, network layer packets are encapsulated to become frames. See also: datagram, encapsulation, packet. [Source: RFC1392]
freenet	Community-based bulletin board system with email, information services, interactive communications, and conferencing. Freenets are funded and operated by individuals and volunteers -- in one sense, like public television. They are part of the National Public Telecomputing Network (NPTN), an organization



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	based in Cleveland, Ohio, devoted to making computer telecommunication and networking services as freely available as public libraries. [Source: LAQUEY]
FRICC	(Federal Research Internet Coordinating Committee). Now replaced by the FNC.
FT	France Telecom. French PTT.
FTAM	File Transfer, Access, and Management. The OSI remote file service and protocol.
FTP	(File Transfer Protocol). A protocol which allows a user on one host to access, and transfer files to and from, another host over a network. Also, FTP is usually the name of the program the user invokes to execute the protocol. It is defined in STD 9, RFC959. See also: anonymous FTP. [Source: RFC1392]
Full Duplex	A circuit or device permitting transmission in two directions in the same time
Fractional T1	A service provided by North American carriers where a full T1 link is given to the customer, but the service charge is calculated based on the number of timeslots used.
FXO	(Foreign eXchange Office). A voice interface emulating a PABX trunk line, as it appears to the C.O. (Central Office). Also emulating regular telephone set, as it appears to the PABX extension interface.
FXS	(Foreign eXchange Subscriber). A voice interface, emulating the extension interface of a PABX (or subscriber interface of a C.O.) for connecting a regular telephone set to a multiplexer.
FYI	(For Your Information) A subseries of RFCs that are not technical standards or descriptions of protocols. FYIs convey general information about topics related to TCP/IP or the Internet. See also: Request For Comments, STD. [Source: RFC1392]



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**G**

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- GATE** General Access to X.25 Transport Extension.
- gated** (Gatedaemon). A program which supports multiple routing protocols and protocol families. It may be used for routing, and makes an effective platform for routing protocol research. The software is freely available by anonymous FTP from "gated.cornell.edu". Pronounced "gate-dee". See also: Exterior Gateway Protocol, Open Shortest Path First..., Routing Information Protocol, routed. [Source: RFC1392]
- gateway** The term "router" is now used in place of the original definition of "gateway". Currently, a gateway is a communications device/program which passes data between networks having similar functions but dissimilar implementations. This should not be confused with a protocol converter. By this definition, a router is a layer 3 (network layer) gateway, and a mail gateway is a layer 7 (application layer) gateway. See also: mail gateway, router, protocol converter. [Source: RFC1392]
- GIF** (Compuserve Graphics Interchange Format). An image format.
- Gopher** A distributed information service that makes available hierarchical collections of information across the Internet. Gopher uses a simple protocol that allows a single Gopher client to access information from any accessible Gopher server, providing the user with a single "Gopher space" of information. Public domain versions of the client and server are available. See also: archie, archive site, Prospero, Wide Area Information Servers. [Source: RFC1392]
- Gopherspace** Term for the interconnected Gopher servers.
- GOSIP** (Government OSI Profile). A subset of OSI standards specific to U.S. Government procurements, designed to maximize interoperability in areas where plain OSI standards are ambiguous or allow excessive options. [Source: BIG-LAN]
- G.703** A CCITT standard for the physical and electrical characteristics of various digital interfaces, including those at 64 kbps and 2.048 Mbps.



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**H**

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hacker	A person who delights in having an intimate understanding of the internal workings of a system, computers and computer networks in particular. The term is often misused in a pejorative context, where "cracker" would be the correct term. See also: cracker. [Source: RFC1392]
Half Duplex	A circuit or device capable of transmitting in two directions, but not at the same time.
Handshaking	Exchange of predetermined signals between two devices establishing a connections protocol.
HDLC	(High level Data Link Control). ISO data link level protocol.
header	The portion of a packet, preceding the actual data, containing source and destination addresses, and error checking and other fields. A header is also the part of an electronic mail message that precedes the body of a message and contains, among other things, the message originator, date and time. See also: Electronic Mail, packet. [Source: RFC1392]
heterogeneous network	A network running multiple network layer protocols. See also: DECnet, IP, IPX, XNS.
hierarchical routing	The complex problem of routing on large networks can be simplified by reducing the size of the networks. This is accomplished by breaking a network into a hierarchy of networks, where each level is responsible for its own routing. The Internet has, basically, three levels: the backbones, the mid-levels, and the stub networks. The backbones know how to route between the mid-levels, the mid-levels know how to route between the sites, and each site (being an autonomous system) knows how to route internally. See also: Autonomous System, Exterior Gateway Protocol, Interior Gateway Protocol, stub network, transit network. [Source: RFC1392]
HIPPI	(High Performance Parallel Interface). An emerging ANSI standard which extends the computer bus over fairly short distances at speeds of 800 and 1600 Mb/s. HIPPI is often used in a computer room to connect a supercomputer to routers, frame buffers, mass-storage peripherals, and other computers. See also: American National Standards Institute [Source: MALAMUD]
history list	In NCSA Mosaic, a list of recently visited documents.
home page	The document initially displayed when starting up NCSA Mosaic

## H

hop	A term used in routing. A path to a destination on a network is a series of hops, through routers, away from the origin. [Source: RFC1392]
host	A computer that allows users to communicate with other host computers on a network. Individual users communicate by using application programs, such as electronic mail, Telnet and FTP. [Source: NNSC]
host address	See: internet address
hostname	The name given to a machine. (See also: FQDN). [Source: ZEN]
host number	See: internet address
hotlist	A personal online reference of WWW documents
HPCC	(High Performance Computing and Communications). High performance computing encompasses advanced computing, communications, and information technologies, including scientific workstations, supercomputer systems, high speed networks, special purpose and experimental systems, the new generation of large scale parallel systems, and application and systems software with all components well integrated and linked over a high speed network. [Source: HPCC]
HTML	(HyperText Markup Language). The collection of styles used to define the various components of a WWW documents.
.html	the extension used on a file that is coded using HTML ( <i>myfile.html</i> ).
HTTP	(HyperText Transport Protocol). The protocol used by Web servers.
hub	A device connected to several other devices. In ARCnet, a hub is used to connect several computers together. In a message handling service, a hub is used for the transfer of messages across the network. [Source: MALAMUD]
hyperlink	A hotspot that links one document to another; in Mosaic, a hyperlink is displayed as a highlighted word or graphic (colour and/or underlining); clicking on a hyperlink takes to you to the linked document
hypermedia	Richly formatted documents containing hyperlinks

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**I**

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- I-D (Internet-Draft). Internet-Drafts are working documents of the IETF, its Areas, and its Working Groups. As the name implies, Internet-Drafts are draft documents. They are valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. Very often, I-Ds are precursors to RFCs. See also: Internet Engineering Task Force, Request For Comments. [Source: RFC1392]
- IAB (Internet Architecture Board). The technical body that oversees the development of the Internet suite of protocols. It has two task forces: the IETF and the IRTF. "IAB" previously stood for Internet Activities Board. See also: Internet Engineering Task Force, Internet Research Task Force. [Source: RFC1392]
- IANA (Internet Assigned Numbers Authority). The central registry for various Internet protocol parameters, such as port, protocol and enterprise numbers, and options, codes and types. The currently assigned values are listed in the "Assigned Numbers" document [STD2]. To request a number assignment, contact the IANA at "iana@isi.edu". See also: assigned numbers, STD. [Source: RFC1392]
- ICMP (Internet Control Message Protocol). Is an extension to the Internet Protocol. It allows for the generation of error messages, test packets and informational messages related to IP. It is defined in STD 5, RFC792. [Source: FYI4]
- IEEE (Institute of Electrical and Electronic Engineers). An international professional society issuing its own standards. The IEEE is a member of ANSI and ISO.
- IESG (Internet Engineering Steering Group). The IESG is composed of the IETF Area Directors and the IETF Chair. It provides the first technical review of Internet standards and is responsible for day-to-day "management" of the IETF. See also: Internet Engineering Task Force. [Source: RFC1392]
- IEEE 802 (802.x). The set of IEEE standards for the definition of LAN protocols. See also: IEEE. [Source: RFC1392]
- IEN (Internet Experiment Note). A series of reports pertinent to the Internet. IENs were published in parallel to RFCs and are no longer active. See also: Internet-Draft, Request For Comments. [Source: RFC1392]

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IETF	(Internet Engineering Task Force). 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-range and mid-range protocol and architectural issues. It is a major source of proposals for protocol standards which are submitted to the IAB for final approval. The IETF meets three times a year and extensive minutes are included in the IETF Proceedings. See also: Internet, Internet Architecture Board. [Source: FYI4]
IINREN	(Interagency Interim National Research and Education Network). An evolving operating network system. Near term (1992-1996) research and development activities will provide for the smooth evolution of this networking infrastructure into the future gigabit NREN. [Source: HPCC]
IGP	(Interior Gateway Protocol). A protocol which distributes routing information to the routers within an autonomous system. The term "gateway" is historical, as "router" is currently the preferred term. See also: Autonomous System, Exterior Gateway Protocol, Open Shortest Path First..., Routing Information Protocol. [Source: RFC1392]
IGRP	(Internet Gateway Routing Protocol). A proprietary IGP used by cisco System's routers.
IMHO	(In My Humble Opinion). This usually accompanies a statement that may bring about personal offense or strong disagreement. [Source: ZEN].
Impedance	The total effect of resistance inductance and capacitance on a transmitted signal Impedance varies at different frequencies
IMR	(Internet Monthly Report). Published monthly, the purpose of the Internet Monthly Reports is to communicate to the Internet Research Group the accomplishments, milestones reached, or problems discovered by the participating organizations. [Source: RFC1392]
In-Band Signalling	Signalling utilizing frequencies within the information band of a channel
in-line image	A graphic image that is displayed along with text in a NCSA Mosaic window.
INTAP	(Interoperability Technology Association for Information Processing). The technical organization which has the official charter to develop Japanese OSI profiles and conformance tests.



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Interface	A shared boundary defined by common physical interconnection characteristics, signal characteristics and meanings of interchanged signals
internet	While an internet is a network, the term "internet" is usually used to refer to a collection of networks interconnected with routers. See also: network. [Source: RFC1392]
Internet	Internet (note the capital "I") The Internet is the largest internet in the world. Is a three level hierarchy composed of backbone networks (e.g., NSFNET, MILNET), mid-level networks, and stub networks. The Internet is a multiprotocol internet. See also: backbone, mid-level network, stub network, transit network, Internet Protocol, Corporation for Research and Educational Networks, National Science Foundation. [Source: RFC1392]
internet address	A IP address that uniquely identifies a node on an internet. An Internet address (capital "I"), uniquely identifies a node on the Internet. See also: internet, Internet, IP address. [Source: RFC1392]
internet number	See: internet address
interoperability	The ability of software and hardware on multiple machines from multiple vendors to communicate meaningfully. [Source: RFC1392]
IONL	Internal Organization of the Network Layer. The OSI standard for the detailed architecture of the Network Layer. Basically, it partitions the Network layer into subnetworks interconnected by convergence protocols (equivalent to internetworking protocols), creating what Internet calls a catenet or internet.
IP	(Internet Protocol. The Internet Protocol, defined in STD 5, RFC 791, is the network layer for the TCP/IP Protocol Suite. It is a connectionless, best-effort packet switching protocol. See also: packet switching, Request For Comments, TCP/IP Protocol Suite. [Source: RFC1392]
IP address	The 32-bit address defined by the Internet Protocol in STD 5, RFC 791. It is usually represented in dotted decimal notation. See also: dot address, internet address, Internet Protocol, network address, subnet address, host address. [Source: RFC1392]
IP datagram	See: datagram
IPX	(Internetwork Packet eXchange). Novell's protocol used by Netware. A router with IPX routing can interconnect LANs so that Novell Netware clients and servers can communicate. See also: Local Area Network. [Source: RFC1392]

- IR (Internet Registry). The IANA has the discretionary authority to delegate portions of its responsibility and, with respect to network address and Autonomous System identifiers, has lodged this responsibility with an IR. The IR function is performed by the DDN NIC. See also: Autonomous System, network address, Defense Data Network..., Internet Assigned Numbers Authority. [Source: RFC1392]
- IRC (Internet Relay Chat) A world-wide "party line" protocol that allows one to converse with others in real time. IRC is structured as a network of servers, each of which accepts connections from client programs, one per user. See also: talk. [Source: HACKER]
- IRSG (Internet Research Steering Group). The "governing body" of the IRTF. See also: Internet Research Task Force. [Source: MALAMUD]
- IRTF (Internet Research Task Force) The IRTF is chartered by the IAB to consider long-term Internet issues from a theoretical point of view. It has Research Groups, similar to IETF Working Groups, which are each tasked to discuss different research topics. Multi-cast audio/video conferencing and privacy enhanced mail are samples of IRTF output. See also: Internet Architecture Board, Internet Engineering Task Force, Privacy Enhanced Mail. [Source: RFC1392]
- S (Intermediate System). An OSI system which performs network layer forwarding. It is analogous to an IP router. See also: Open Systems Interconnection, router. [Source: RFC1392]
- IS-IS (Intermediate System-Intermediate System). The OSI IGP. See also: Open Systems Interconnection, Interior Gateway Protocol. [Source: RFC1392]
- ISDN (Integrated Services Digital Network) An emerging technology which is beginning to be offered by the telephone carriers of the world. ISDN combines voice and digital network services in a single medium, making it possible to offer customers digital data services as well as voice connections through a single "wire". The standards that define ISDN are specified by CCITT. See also: CCITT. [Source: RFC1208]
- ISO (International Organization for Standardization). A voluntary, nontreaty organization founded in 1946 which is responsible for creating international standards in many areas, including computers and communications. Its members are the national standards organizations of the 89 member countries, including ANSI for the U.S. See also: American National Standards Institute, Open Systems Interconnection. [Source: TAN]

- ISOC (Internet Society). The Internet Society is a non-profit, professional membership organization which facilitates and supports the technical evolution of the Internet, stimulates interest in and educates the scientific and academic communities, industry and the public about the technology, uses and applications of the Internet, and promotes the development of new applications for the system. The Society provides a forum for discussion and collaboration in the operation and use of the global Internet infrastructure. The Internet Society publishes a quarterly newsletter, the Internet Society News, and holds an annual conference, INET. The development of Internet technical standards takes place under the auspices of the Internet Society with substantial support from the Corporation for National Research Initiatives under a cooperative agreement with the US Federal Government. [Source: V. Cerf]
- ISODE (ISODevelopment Environment). Software that allows OSI services to use a TCP/IP network. Pronounced eye-so-dee-eee. See also: Open Systems Interconnection, TCP/IP Protocol Suite. [Source: RFC1392]
- IXI International X.25 Interconnect. 64Kbit/s X.25 european research backbone.



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**J**

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JANET	Joint Academic Network. A university network in the U.K.
Jitter	The slight movement of a transmission signal in time or phase. Can introduce errors and loss of synchronization in high-speed synchronous communications
JPEG	(Joint Photographic Expert Group). An image format
JUNET	(Japan UNIX Network).



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**K**

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- KA9Q                      A popular implementation of TCP/IP and associated protocols for amateur packet radio systems. See also: TCP/IP Protocol Suite. [Source: RFC1208]
- Kerberos                 Kerberos is the security system of MIT's Project Athena. It is based on symmetric key cryptography. See also: encryption. [Source: RFC1392]
- Kermit                    A popular file transfer protocol developed by Columbia University. Because Kermit runs in most operating environments, it provides an easy method of file transfer. Kermit is NOT the same as FTP. See also: File Transfer Protocol [Source: MALAMUD]
- kernel                    The level of an operating system or networking system that contains the system-level commands or all of the functions hidden from the user. In a Unix system, the kernel is a program that contains the device drivers, the memory management routines, the scheduler, and system calls. This program is always running while the system is operating. [Source: ZEN]
- Knowbot                 An experimental directory service. See also: white pages, WHOIS, X.500.





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**L**

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LAN	(Local Area Network). A data network intended to serve an area of only a few square kilometers or less. Because the network is known to cover only a small area, optimizations can be made in the network signal protocols that permit data rates up to 100Mb/s. See also: Ethernet, Fiber Distributed Data Interface, token ring, Wide Area Network. [Source: NNSC]
LAP	(Link Access Procedure). X.25
LAPB	(Link Access Procedure 'Balanced'). X.25
LAPD	(Link Access Procedure 'D'). Data link/ISDN.
layer	Communication networks for computers may be organized as a set of more or less independent protocols, each in a different layer (also called level). The lowest layer governs direct host-to-host communication between the hardware at different hosts; the highest consists of user applications. Each layer builds on the layer beneath it. For each layer, programs at different hosts use protocols appropriate to the layer to communicate with each other. TCP/IP has five layers of protocols; OSI has seven. The advantages of different layers of protocols is that the methods of passing information from one layer to another are specified clearly as part of the protocol suite, and changes within a protocol layer are prevented from affecting the other layers. This greatly simplifies the task of designing and maintaining communication programs. See also: Open Systems Interconnection, TCP/IP Protocol Suite. [Source: RFC1392]
LCN	(Logical Channel Number). Packet switching.
Leased-line	A telephone line reserved for the exclusive use of a customer, without inter-change switching arrangements.
Line Driver	A signal converter which conditions a digital signal to ensure reliable transmission over an extended distance
Link	In Data Communication a connection between two pieces of equipment. Also referred to as point-to-point.
LISTSERV	Is a distribution list management package. It runs on IBM VM/CMS systems in the international NJE network (Bitnet/EARN). It allows groups of computer users with a common interest to communicate among themselves, while making efficient use of computer and network resources. It makes it easy for even novice users to discover, join, and participate in these interest group mailing lists. LISTSERV also provides

	facilities for logging and archiving of mail traffic, file server functions and database searches of archives and files. [Source: EARN Association]
little-endian	A format for storage or transmission of binary data in which the least significant byte (bit) comes first. See big-endian. [Source: RFC1208]
LLC	Logical Link Control). The upper portion of the datalink layer, as defined in IEEE 802.2. The LLC sublayer presents a uniform interface to the user of the datalink service, usually the network layer. Beneath the LLC sublayer is the MAC sublayer. See also: 802.x, layer, Media Access Control. [Source: RFC1392]
Loading	The addition of inductance to a line in order to minimize amplitude distortion. Used commonly on public telephone lines to improve voice quality and makes the lines impassable to high-speed data
Loopback	A type of diagnostic test in which the transmitted signals is returned to the sending device after passing through all or part of a communications link or network. A loopback test permits the comparison of a returned signal with the transmitted signal.
LRC	(Longitudinal Redundancy Check). Error detection algorithm.
LU	Logical Unit. User definition /IBM.
LU6.2	Llogical Unit 6.2. Session layer protocol/SNA
Lurking	No active participation on the part of a subscriber to an mailing list or USENET newsgroup. A person who is lurking is just listening to the discussion. Lurking is encouraged for beginners who need to get up to speed on the history of the group. See also: Electronic Mail, mailing list, Usenet. [Source: LAQUEY]

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**M**

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- MAC** (Media Access Control) The lower portion of the datalink layer. The MAC differs for various physical media. See also: MAC Address, Ethernet, Logical Link Control, token ring. [Source: RFC1392]
- MAC address** The hardware address of a device connected to a shared media. See also: Media Access Control, Ethernet, token ring. [Source: MALAMUD]
- MacTCP** software from Apple Computer that allows Macintoshes to talk with other computers via TCP/IP
- mail bridge** A mail gateway that forwards electronic mail between two or more networks while ensuring that the messages it forwards meet certain administrative criteria. A mail bridge is simply a specialized form of mail gateway that enforces an administrative policy with regard to what mail it forwards. See also: Electronic Mail, mail gateway. [Source: NNSC]
- mail exploder** Part of an electronic mail delivery system which allows a message to be delivered to a list of addresses. Mail exploders are used to implement mailing lists. Users send messages to a single address and the mail exploder takes care of delivery to the individual mailboxes in the list. See also: Electronic Mail, email address, mailing list. [Source: RFC1208]
- mail gateway** A machine that connects two or more electronic mail systems (including dissimilar mail systems) and transfers messages between them. Sometimes the mapping and translation can be quite complex, and it generally requires a store-and-forward scheme whereby the message is received from one system completely before it is transmitted to the next system, after suitable translations. See also: Electronic Mail. [Source: RFC1208]
- mail path** A series of machine names used to direct electronic mail from one user to another. This system of email addressing has been used primarily in UUCP networks which are trying to eliminate its use altogether. See also: bang path, email address, UNIX-to-UNIX CoPy. [Source: RFC1392]
- mail server** A software program that distributes files or information in response to requests sent via email. Internet examples include Almanac and netlib. Mail servers have also been used in Bitnet to provide FTP-like services. See also: Bitnet, Electronic Mail, FTP. [Source: NWNET]

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mailing list	A possibly moderated discussion group, distributed via email from a central computer maintaining the list of people involved in the discussion. [Source: ZEN]
MAN	(Metropolitan Area Network) A data network intended to serve an area approximating that of a large city. Such networks are being implemented by innovative techniques, such as running fiber cables through subway tunnels. A popular example of a MAN is SMDS. See also: Local Area Network, Switched Multimegabit Data Service, Wide Area Network. [Source: NNSC]
Manchester Encoding	A digital encoding technique in which each bit period is divided into two complementary halves a negative-to-positive transition in the middle of the bit period designates a binary 1 and a positive-to-negative transition represents the 0. This encoding technique is self-clocking.
Mark	In telecommunications, this means the presence of a signal. A mark is equivalent to a binary "1". A mark is the apposite of a space ("0").
Martian	Humorous term applied to packets that turn up unexpectedly on the wrong network because of bogus routing entries. Also used as a name for a packet which has an altogether bogus (non-registered or ill-formed) Internet address. [Source: RFC1208]
Master-clock	The source of timing signals (or the signals themselves) that all network stations use for synchronization.
medium	The material used to support the transmission of data. This can be copper wire, coaxial cable, optical fiber, or electromagnetic wave (as in microwave). [Source: ZEN]
message switching	See: packet switching
MHS.	(Message Handling System). The system of message user agents, message transfer agents, message stores, and access units which together provide OSI electronic mail. MHS is specified in the CCITT X.400 series of Recommendations.
MIB	(Management Information Base) The set of parameters an SNMP management station can query or set in the SNMP agent of a network device (e.g., router). Standard, minimal MIBs have been defined, and vendors often have Private enterprise MIBs. In theory, any SNMP manager can talk to any SNMP agent with a properly defined MIB. See also: client-server model, Simple Network Management Protocol. [Source: BIG-LAN]

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mid-level network	Mid-level networks (a.k.a. regionals) make up the second level of the Internet hierarchy. They are the transit networks which connect the stub networks to the backbone networks. See also: backbone, Internet, stub network, transit network. [Source: RFC1392]
MILNET	(MILitary NETwork). Originally part of the ARPANET, MILNET was partitioned in 1984 to make it possible for military installations to have reliable network service, while the ARPANET continued to be used for research. See DDN.
MIME	(Multipurpose Internet Mail Extensions). An extension to Internet email which provides the ability to transfer non-textual data, such as graphics, audio and fax. It is defined in RFC 1341. See also: Electronic Mail. [Source: RFC1392]
Modem	(Modulator- Demodulator). A device used to convert serial digital data from a transmitting DTE to a signal suitable for transmission over telephone lines. It also reconverts the transmitted signal to serial digital data for acceptance by a receiving DTE.
Modem Eliminator	A device used to connect a local terminal and a computer port. The modem eliminator replaces the pair of modems ordinarily required
Modulation	The alteration of a carrier wave in relation to the value or samples of the data being transferred
moderator	A person, or small group of people, who manage moderated mailing lists and newsgroups. Moderators are responsible for determining which email submissions are passed on to list. See also: Electronic Mail, mailing list, Usenet. [Source: RFC1392]
Mosaic	See: NCSA Mosaic.
MPEG	Moving Pictures Experts Group, a movie format
MTA	(Message Transfer Agent). An OSI application process used to store and forward messages in the X.400 Message Handling System. Equivalent to Internet mail
MTBF	(Mean Time Between Failures). The average length of time a system or component will work without failure
MTU	(Maximum Transmission Unit) The largest frame length which may be sent on a physical medium. See also: fragmentation, frame. [Source: RFC1392]
MUD	(Multi-User Dungeon) Adventure, role playing games, or simulations played on the Internet. Devotees call them "text-based virtual reality adventures". The games can feature fantasy combat, booby traps and magic. Players interact in real time and can change the "world" in the game as they play it. Most MUDs are based on

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	the Telnet protocol. See also: Telnet. [Source: LAQUEY]
multicast	A packet with a special destination address which multiple nodes on the network may be willing to receive. See also: broadcast. [Source: RFC1392]
Multidrop	A communications arrangement in which multiple devices share a common transmission channel, although generally only one may transmit at a time.
multihomed host	A host which has more than one connection to a network. The host may send and receive data over any of the links but will not route traffic for other nodes. See also: host, router. [Source: MALAMUD]
multiplex	The division of a single transmission medium into multiple logical channels supporting many simultaneous sessions. For example, one network may have simultaneous FTP, telnet, rlogin, and SMTP connections, all going at the same time. [Source: ZEN]
Multiplexer (Mux)	A device allowing two or more signals to pass over and share a common transmission path.
Multipoint Line	A single communications line or circuit interconnecting several stations. Usually used with some kind of polling mechanism to address each connected terminal with a unique address code.
MVS	Multiple Virtual Storage. IBM.
MX Record	(Mail eXchange Record). A DNS resource record type indicating which host can handle mail for a particular domain. See also: Domain Name System, Electronic Mail. [Source: MALAMUD]

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**N**

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NAK	(Negative Acknowledgement) Response to receipt of a corrupted packet of information. See also: Acknowledgement. [Source: RFC1392]
name resolution	The process of mapping a name into the corresponding address. See also: Domain Name System. [Source: RFC1208]
namespace	A commonly distributed set of names in which all names are unique. [Source: MALAMUD]
NAU	Network Addressable Unit. IBM/SNA.
NCCF	Nework Communications Control Facilities. Netwiew/IBM.
NCP	Network Control Program. SNA/IBM.
NCSA	National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign; developers of NCSA Mosaic.
NCSA Mosaic	A World Wide Web client developed by NCSA's Software Development Group
NetBIOS	Network Basic Input Output System. The standard interface to networks on IBM PC and compatible systems.
net.citizen	An inhabitant of Cyberspace. One usually tries to be a good net.citizen, lest one be flamed. [Source: ZEN]
netiquette	A pun on "etiquette" referring to proper behavior on a network. [Source: RFC1392]
Netnews	See: Usenet
NETSERV	Is a server, wich allows fast access to data files and programs of general interest. The main functions of the server can be divided into three general categories: File Server, Node Management and User Directory services. [Source: EARN Association]
network	A computer network is a data communications system which interconnects computer systems at various different sites. A network may be composed of any combination of LANs, MANs or WANs. See also: Local Area Network, Metropolitan Area Network, Wide Area Network, internet. [Source: RFC1392]
network address	The network portion of an IP address. For a class A network, the network address is the first byte of the IP address. For a class B network, the network address is the first two bytes of the IP address. For a class C

- network, the network address is the first three bytes of the IP address. In each case, the remainder is the host address. In the Internet, assigned network addresses are globally unique. See also: Internet, IP address, subnet address, host address, Internet Registry. [Source: RFC1392]
- Network Management System A comprehensive system of equipment used in monitoring, controlling, and managing a data communications network.
- network number See: network address
- NFS (Network File System). A protocol developed by Sun Microsystems, and defined in RFC 1094, which allows a computer system to access files over a network as if they were on its local disks. This protocol has been incorporated in products by more than two hundred companies, and is now a de facto Internet standard. [Source: NNSC]
- NIC (Network Information Center). A NIC provides information, assistance and services to network users. See also: Network Operations Center. [Source: RFC1392]
- NIC.DDN.MIL This is the domain name of the DDN NIC. See also: Defense Data Network..., Domain Name System, Network Information Center.
- NIS (Network Information Services). A set of services, generally provided by a NIC, to assist users in using the network. See also: Network Information Center. [Source: RFC1392]
- NIST (National Institute of Standards and Technology). The United States governmental body that provides assistance in developing standards. Formerly the National Bureau of Standards. [Source: MALAMUD]
- NLDM Network Logical Data Manager. Netview/IBM.
- NMS Network Management Station. The system responsible for managing a (portion of a) network. The NMS talks to network management agents, which reside in the managed nodes, via a network management protocol. See agent.
- NNTP (Network News Transfer Protocol). A protocol, defined in RFC 977, for the distribution, inquiry, retrieval, and posting of news articles. See also: Usenet. [Source: RFC1392]
- NOC (Network Operations Center). A location from which the operation of a network or internet is monitored. Additionally, this center usually serves as a clearinghouse for connectivity problems and efforts to



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	resolve those problems. See also: Network Information Center. [Source: NNSC]
Node	An addressable device attached to a computer network. See also: host, router. In Data Communication a point of interconnection to a network
NPDA	Network Problem Determination Application. Netview/IBM - also CISCO/ TCP/IP NM.
NREN	(National Research and Education Network). The NREN is the realization of an interconnected gigabit computer network devoted to High Performance Computing and Communications. See also: HPPC, IINREN. [Source: HPCC]
NRZ	(Non-return to Zero). A binary encoding scheme representing ones and zeroes by opposite and alternating high and low voltages, in which there is no return to a zero (reference) voltage between encoded bits.
NRZI	(Non-Return to Zero Inverted). A binary encoding scheme which inverts the signal in a "1" and leaves the signal unchanged for a "0". Also called transition coding.
NSAP	Network Service Access Point. The point at which the OSI Network Service is made available to a Transport entity. The NSAPs are identified by OSI Network Addresses.
NSF	(National Science Foundation). A U.S. government agency whose purpose is to promote the advancement of science. NSF funds science researchers, scientific projects, and infrastructure to improve the quality of scientific research. The NSFNET, funded by NSF, is an essential part of academic and research communications. It is a highspeed "network of networks" which is hierarchical in nature. At the highest level, it is a backbone network currently comprising 16 nodes connected to a 45Mb/s facility which spans the continental United States. Attached to that are mid-level networks and attached to the mid-levels are campus and local networks. NSFNET also has connections out of the U.S. to Canada, Mexico, Europe, and the Pacific Rim. The NSFNET is part of the Internet. [Source: RFC1392]
NSS	(Nodal Switching System). Main routing nodes in the NSFnet backbone. See also: backbone, National Science Foundation. [Source: MALAMUD]
NT1	Network Termination 1. ISDN.
NT2	Network Termination 2. ISDN.

NTP

(Network Time Protocol) A protocol that assures accurate local timekeeping with reference to radio and atomic clocks located on the Internet. This protocol is capable of synchronizing distributed clocks within milliseconds over long time periods. It is defined in STD 12, RFC 1119. See also: Internet. [Source: NNSC]

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**O**

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- OCLC** (Online Computer Library Catalog). OCLC is a nonprofit membership organization offering computer-based services to libraries, educational organizations, and their users. The OCLC library information network connects more than 10,000 libraries worldwide. Libraries use the OCLC System for cataloging, interlibrary loan, collection development, bibliographic verification, and reference searching. [Source: OCLC]
- octet** An octet is 8 bits. This term is used in networking, rather than byte, because some systems have bytes that are not 8 bits long. [Source: RFC1392]
- OIW** (Workshop for Implementors of OSI). Frequently called NIST OIW or the NIST Workshop, this is the North American regional forum at which OSI implementation agreements are decided. It is equivalent to EWOS in Europe and AOW in the Pacific.
- ONC** (Open Network Computing). A distributed applications architecture promoted and controlled by a consortium led by Sun Microsystems.
- OS/2** Operating System 2. IBM/MicroSoft.
- OSI** (Open Systems Interconnection). A suite of protocols, designed by ISO committees, to be the international standard computer network architecture. See also: International Organization for Standardization. [Source: RFC1392]
- Reference Model A seven-layer structure designed to describe computer network architectures and the way that data passes through them. This model was developed by the ISO in 1978 to clearly define the interfaces in multivendor networks, and to provide users of those networks with conceptual guidelines in the construction of such networks. See also: International Organization for Standardization. [Source: NNSC]
- OSI Network Address** The address, consisting of up to 20 octets, used to locate an OSI Transport entity. The address is formatted into an Initial Domain Part which is standardized for each of several addressing domains, and a Domain Specific Part which is the responsibility of the addressing authority for that domain.
- OSI Presentation Address** The address used to locate an OSI Application entity. It consists of an OSI Network Address and up to three selectors, one each for use by the Transport, Session, and Presentation entities.

OSPF

(Open Shortest-Path First Interior Gateway Protocol). A link state, as opposed to distance vector, routing protocol. It is an Internet standard IGP defined in RFC 1247. See also: Interior Gateway Protocol, Routing Information Protocol. [Source: RFC1392]

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**P**

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PABX	Private Automatic Branch eXchange.
packet	The unit of data sent across a network. "Packet" a generic term used to describe unit of data at all levels of the protocol stack, but it is most correctly used to describe application data units. See also: datagram, frame. [Source: RFC1392]
packet switching	A communications paradigm in which packets (messages) are individually routed between hosts, with no previously established communication path. See also: circuit switching, connection- oriented, connectionless. [Source: RFC1392]
PAD	(Packet Assembly/Disassembly). X.3.
Parity Bit	An additional non-information bit added to a group of bits to ensure that the total number of 1 bits in the character is even or odd.
PCI	(Protocol Control Information). The protocol information added by an OSI entity to the service data unit passed down from the layer above, all together forming a Protocol Data Unit (PDU).
PCM	(Pulse Code Modulation). A procedure for adapting an analog signal (such as voice) into a 64 kbps digital stream for transmission. The analog signal is sampled 8000 times per second, and an 8-bit code is used to convert to digital.
PD	(Public Domain)
PDU	(Protocol Data Unit). "PDU" is International Standards Committee Speak for packet. See also: packet. [Source: RFC1392]
PEM	(Privacy Enhanced Mail). Internet email which provides confidentiality, authentication and message integrity using various encryption methods. See also: Electronic Mail, encryption. [Source: RFC1392]
Physical Layer	The OSI layer that provides the means to activate and use physical connections for bit transmission. In plain terms, the Physical Layer provides the procedures for transferring a single bit across a Physical Media.
Physical Media	Any means in the physical world for transferring signals between OSI systems. Considered to be outside the OSI Model, and therefore sometimes referred to as "Layer 0." The physical connector to the media can be considered as defining the bottom interface of the Physical Layer, i.e., the bottom of the OSI

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PING	(Packet InterNet Groper). A program used to test reachability of destinations by sending them an ICMP echo request and waiting for a reply. The term is used as a verb: "Ping host X to see if it is up!" See also: Internet Control Message Protocol. [Source: RFC1208]
Point Of Presence	(POP) A site where there exists a collection of telecommunications equipment, usually digital leased lines and multi-protocol routers. [Source: RFC1392]
Point-to-Point (Link)	A connection between two, and only two pieces of equipment.
polling	Connecting to another system to check for things like mail or news. [Source: ZEN]  In Data Communications polling a means of controlling devices on a multipoint line in a polling scheme each terminal is called in turn to permit it to transmit information.
POP	(Post Office Protocol). A protocol designed to allow single user hosts to read mail from a server. There are three versions: POP, POP2, and POP3. Latter versions are NOT compatible with earlier versions. See also: Electronic Mail. [Source: RFC1392]
PPP	(Point-to-Point Protocol). The Point-to-Point Protocol, defined in RFC 1661, provides a standard method for transporting multi-protocol datagrams over point-to-point links. See also: Serial Line IP.
port	A port is a transport layer demultiplexing value. Each application has a unique port number associated with it. See also: Transmission Control Protocol, User Datagram Protocol. [Source: RFC1392]
port	In Data Communications the physical interface to a computer or multiplexer for connection of terminals and modems.
POSI	(Promoting Conference for OSI). The OSI "800-pound gorilla" in Japan. Consists of executives from the six major Japanese computer manufacturers and Nippon Telephone and Telegraph. They set policies and commit resources to promote OSI.
PostScript	A page description language developed by Adobe System
postmaster	The person responsible for taking care of electronic mail problems, answering queries about users, and other related work at a site. [Source: ZEN]
Presentation Address	See OSI Presentation Address.

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Presentation Layer	The OSI layer that determines how Application information is represented (i.e., encoded) while in transit between two end systems.
PRMD	(Private Management Domain.). An X.400 Message Handling System private organization mail system. Example: NASAmail. See ADMD.
PROFS	PRofessional Office System. SNA/IBM.
Prospero	A distributed filesystem which provides the user with the ability to create multiple views of a single collection of files distributed across the Internet. Prospero provides a file naming system, and file access is provided by existing access methods (e.g., anonymous FTP and NFS). The Prospero protocol is also used for communication between clients and servers in thearchie system. See also: anonymous FTP,archie, archive site, Gopher, Network File System, Wide Area Information Servers. [Source: RFC1392]
protocol	A formal description of message formats and the rules two computers must follow to exchange those messages. Protocols can describe low-level details of machine-to-machine interfaces (e.g., the order in which bits and bytes are sent across a wire) or high-level exchanges between allocation programs (e.g., the way in which two programs transfer a file across the Internet). [Source: MALAMUD]
protocol converter	A device/program which translates between different protocols which serve similar functions (e.g., TCP and TP4). [Source: RFC1392]
protocol stack	A layered set of protocols which work together to provide a set of network functions. See also: layer, protocol. [Source: RFC1392]
proxy	The mechanism whereby one system "fronts for" another system in responding to protocol requests. Proxy systems are used in network management to avoid having to implement full protocol stacks in simple devices, such as modems.
proxy ARP	The technique in which one machine, usually a router, answers ARP requests intended for another machine. By "faking" its identity, the router accepts responsibility for routing packets to the "real" destination. Proxy ARP allows a site to use a single IP address with two physical networks. Subnetting would normally be a better solution. See also: Address Resolution Protocol. [Source: RFC1208]
PSN	(Packet Switch Node). A dedicated computer whose purpose is to accept, route and forward packets in a packet switched network. See also: packet switching, router. [Source: NNSC]

# P

PSDN	(Packet Switched Data Network). X.25.
PTT	(Postal Telegraph and Telephone). Outside the USA, PTT refers to a telephone service provider, which is usually a monopoly, in a particular country. [Source: RFC1392]
PU	Physical Unit. Node definition/IBM.
PU2.1	Physical Unit 2.1. LU6.2/SNA



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Q

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QLLC	Qualified LLC. OSI/SNA - IBM protocol use X.25 network as SNA data link.
queue	A backup of packets awaiting processing.
QuickTime	A movie format developed by Apple Computer



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**R**

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RARE	(Reseaux Associes pour la Recherche Europeenne). European association of research networks. [Source: RFC1208]
RARP	(Reverse Address Resolution Protocol). A protocol, defined in RFC 903, which provides the reverse function of ARP. RARP maps a hardware (MAC) address to an internet address. It is used primarily by diskless nodes when they first initialize to find their internet address. See also: Address Resolution Protocol, BOOTP, internet address, MAC address. [Source: RFC1392]
RBOC	Regional Bell Operating Company
RCP	Remote Copy Program
RTFM	(Read the Fantastic Manual). This acronym is often used when someone asks a simple or common question. The word 'Fantastic' is usually replaced with one much more vulgar. [Source: ZEN]
reassembly	The IP process in which a previously fragmented packet is reassembled before being passed to the transport layer. See also: fragmentation. [Source: RFC1392]
recursion	The facility of a programming language to be able to call functions from within themselves. [Source: ZEN]
Redundancy/ Redundant Card or Power	Backup components used to ensure uninterrupted operation of a system in case of failure, Also called "failsafe"
RFC	(Request For Comments). The document series, begun in 1969, which describes the Internet suite of protocols and related experiments. Not all (in fact very few) RFCs describe Internet standards, but all Internet standards are written up as RFCs. The RFC series of documents is unusual in that the proposed protocols are forwarded by the Internet research and development community, acting on their own behalf, as opposed to the formally reviewed and standardized protocols that are promoted by organizations such as CCITT and ANSI. See also: For Your Information, STD. [Source: RFC1392]
regional	See: mid-level network
remote login	(rlogin). Operating on a remote computer, using a protocol over a computer network, as though locally attached. See also: Telnet. [Source: RFC1392]

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repeater	A device which propagates electrical signals from one cable to another. See also: bridge, gateway, router. [Source: RFC1392] In OSI terminology, a repeater is a Physical Layer intermediate system.
RFC 822	(822). The Internet standard format for electronic mail message headers. Mail experts often refer to "822 messages". The name comes from "RFC 822", which contains the specification (STD 11, RFC 822). 822 format was previously known as 733 format. See also: Electronic Mail. [Source: COMER]
RFD	(Request For Discussion) Usually a two- to three-week period in which the particulars of newsgroup creation are battled out. [Source: ZEN]
RIP	(Routing Information Protocol) A distance vector, as opposed to link state, routing protocol. It is an Internet standard IGP defined in STD 34, RFC 1058 (updated by RFC 1388). See also: Interior Gateway Protocol, Open Shortest Path First.... [Source: RFC1392]
RIPE	(Reseaux IP Europeenne). A collaboration between European networks which use the TCP/IP protocol suite. [Source: RFC1392]
ROSE	(Remote Operations Service Element). A lightweight RPC protocol, used in OSI Message Handling, Directory, and Network Management application protocols.
route	The path that network traffic takes from its source to its destination. Also, a possible path from a given host to another host or destination. [Source: RFC1392]
routed	Route Daemon). A program which runs under 4.2BSD/4.3BSD UNIX systems (and derived operating systems) to propagate routes among machines on a local area network, using the RIP protocol. Pronounced "route-dee". See also: Routing Information Protocol, gated. [Source: RFC1392]
router	A device which forwards traffic between networks. The forwarding decision is based on network layer information and routing tables, often constructed by routing protocols. See also: bridge, gateway, Exterior Gateway Protocol, Interior Gateway Protocol. [Source: RFC1392]
routing	The process of selecting the correct interface and next hop for a packet being forwarded. See also: hop, router, Exterior Gateway Protocol, Interior Gateway Protocol.
routing domain	A set of routers exchanging routing information within an administrative domain. See also: Administrative Domain, router. [Source: RFC1392]

- RPC (Remote Procedure Call). An easy and popular paradigm for implementing the client-server model of distributed computing. In general, a request is sent to a remote system to execute a designated procedure, using arguments supplied, and the result returned to the caller. There are many variations and subtleties in various implementations, resulting in a variety of different (incompatible) RPC protocols. [Source: RFC1208]
- RTS (Request To Send). A modem control signal sent from the DTE to the modem, used to tell the DTE has data to send.
- RTSE (Reliable Transfer Service Element). A lightweight OSI application service used above X.25 networks to handshake application PDUs across the Session Service and TP0. Not needed with TP4, and not recommended for use in the U.S. except when talking to X.400 ADMDs.
- RTT (Round-Trip Time). A measure of the current delay on a network. [Source: MALAMUD]



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**S**

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SAA	Systems Application Architecture. SNA/IBM
SAP	Service Access Point. The point at which the services of an OSI layer are made available to the next higher layer. The SAP is named according to the layer providing the services: e.g., Transport services are provided at a Transport SAP (TSAP) at the top of the Transport Layer.
SDLC	Synchronous Data Link Control. IBM - bit oriented system-independed data protocol.
selector	The identifier used by an OSI entity to distinguish among multiple SAPs at which it provides services to the layer above. See port.
Serial Transmission	The most common mode of transmission, where the character bits are sent sequentially one at the time instead of a parallel.
server	A provider of resources (e.g., file servers and name servers). See also: client, Domain Name System, Network File System. [Source: RFC1392]
Session Layer	The OSI layer that provides means for dialogue control between end systems.
SGML	Standard Generalized Markup Language, a programming language for style sheets for documents
SGMP	Simple Gateway Management Protocol. The predecessor to SNMP. See SNMP.
Sharing Device	A device that enables sharing of a single resource (modem, mux or computer port) among several devices (terminals, controllers or modems). Used only in polling environment.
Shielding	The protective enclosure surrounding a transmission medium, designed to minimize electromagnetic interference (EMI/RFI).
Short Haul Modem	A data set designed for use in communicating data up to distances of 25 miles across private metallic circuits. Such devices permit speed of 192 kbps or greater, and generally do not modulate the digital input signal. Also called a line driver or limited distance modem (LDM).
SIG	Special Interest Group
signal-to-noise ratio	When used in reference to Usenet activity, 'signal-to-noise ratio' describes the relation between amount of actual information in a discussion, compared to their quantity. More often than not, there's substantial

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	activity in a newsgroup, but a very small number of those articles actually contain anything useful. [Source: ZEN]
signature	The three or four line message at the bottom of a piece of email or a Usenet article which identifies the sender. Large signatures (over five lines) are generally frowned upon. See also: Electronic Mail, Usenet. [Source: RFC1392]
SIP	Società Idroelettrica Piemontese. Original name of the Italian Telephone Company.
SLIP	(Serial Line IP) A protocol used to run IP over serial lines, such as telephone circuits or RS-232 cables, interconnecting two systems. SLIP is defined in RFC 1055. See also: Point-to-Point Protocol. [Source: RFC1392]
SMDS	(Switched Multimegabit Data Service). An emerging high-speed datagram-based public data network service developed by Bellcore and expected to be widely used by telephone companies as the basis for their data networks. See also: Metropolitan Area Network. [Source: RFC1208]
SMI	(Structure of Management Information) The rules used to define the objects that can be accessed via a network management protocol. This protocol is defined in STD 16, RFC 1155. See also: Management Information Base. [Source: RFC1208]
SMTP	(Simple Mail Transfer Protocol). A protocol, defined in STD 10, RFC 821, used to transfer electronic mail between computers. It is a server to server protocol, so other protocols are used to access the messages. See also: Electronic Mail, Post Office Protocol, RFC 822. [Source: RFC1392]
SNA	(Systems Network Architecture). A proprietary networking architecture used by IBM and IBM-compatible mainframe computers. [Source: NNSC]
snail mail	A pejorative term referring to the U.S. postal service.
SNMP	(Simple Network Management Protocol). The Internet standard protocol, defined in STD 15, RFC 1157, developed to manage nodes on an IP network. It is currently possible to manage wiring hubs, toasters, jukeboxes, etc. See also: Management Information Base. [Source: RFC1392]
Space	In telecommunications, the absence of a Signal Equivalent to a binary "0". A space is the opposite of a mark ("1").
SPAG	Standards Promotion and Application Group. A group of European OSI manufacturers which chooses option



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	subsets and publishes these in a "Guide to the Use of Standards" (GUS).
SQL	Structured Query Language. The international standard language for defining and accessing relational databases.
STD	A subseries of RFCs that specify Internet standards. The official list of Internet standards is in STD 1. See also: For Your Information, Request For Comments. [Source: RFC1392]
STM or STDM	(Statistical Multiplexer). A device connecting multiple channels to a single line by dynamically allocating timeslots to the channels based on their activity.
STP	(Shielded Twisted Pairs). General term for cabling systems that are designed specifically for data transmission and where the cables are shielded.
stream-oriented	A type of transport service that allows its client to send data in a continuous stream. The transport service will guarantee that all data will be delivered to the other end in the same order as sent and without duplicates. See also: Transmission Control Protocol. [Source: MALAMUD]
stub network	A stub network only carries packets to and from local hosts. Even if it has paths to more than one other network, it does not carry traffic for other networks. See also: backbone, transit network. [Source: RFC1392]
subnet	A portion of a network, which may be a physically independent network segment, which shares a network address with other portions of the network and is distinguished by a subnet number. A subnet is to a network what a network is to an internet. See also: internet, network. [Source: FYI4]
subnet address	The subnet portion of an IP address. In a subnetted network, the host portion of an IP address is split into a subnet portion and a host portion using an address (subnet) mask. See also: address mask, IP address, network address, host address. [Source: RFC1392]
subnet mask	See: address mask
subnet number	See: subnet address
subnetwork	A collection of OSI end systems and intermediate systems under the control of a single administrative domain and utilizing a single network access protocol. Examples: private X.25 networks, collection of bridged LANs.
Sub-rate Multiplexing	In the U.S., refers generally to time division multiplexing at data rates less than 64 kbps.

# S

summarize	To encapsulate a number of responses into one coherent, usable message. Often done on controlled mailing lists or active newsgroups, to help reduce bandwidth. [Source: ZEN]
Synchronous transmission	Transmission in which data bits are sent at a fixed rate, with the transmitter and receiver synchronized. Synchronized transmission eliminates the need for start and stop bits.

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**T**

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T1	An AT&T term for a digital carrier facility used to transmit a DS-1 formatted digital signal at 1.544 megabits per second.
T3	A term for a digital carrier facility used to transmit a DS-3 formatted digital signal at 44.746 megabits per second. [Source: FYI4]
TAC	(Terminal Access Controller). A device which connects terminals to the Internet, usually using dialup modem connections and the TACACS protocol. [Source: RFC1392]
tags	formatting codes used in HTML (e.g., <h1>, </h1>, <p>)
talk	A protocol which allows two people on remote computers to communicate in a real-time fashion. See also: Internet Relay Chat. [Source: RFC1392]
TCP	(Transmission Control Protocol) An Internet Standard transport layer protocol defined in STD 7, RFC 793. It is connection-oriented and stream-oriented, as opposed to UDP. See also: connection-oriented, stream-oriented, User Datagram Protocol. [Source: RFC1392]
TCP/IP Protocol Suite	Transmission Control Protocol over Internet Protocol. This is a common shorthand which refers to the suite of transport and application protocols which runs over IP. See also: IP, ICMP, TCP, UDP, FTP, Telnet, SMTP, SNMP. [Source: RFC1392]
TDM	(Time Division Multiplexer). A device which divides the time available on its composite link among its channels, usually interleaving bits (Bit TDM) or characters (character TDM) of data from each terminal.
TELENET	A public packet switched network using the CCITT X.25 protocols. It should not be confused with Telnet. [Source: RFC1392]
Telnet	Telnet is the Internet standard protocol for remote terminal connection service. It is defined in STD 8, RFC 854 and extended with options by many other RFCs. [Source: RFC1392]
terminal emulator	A program that allows a computer to emulate a terminal. The workstation thus appears as a terminal to the remote host. [Source: MALAMUD]
terminal server	A device which connects many terminals to a LAN through one network connection. A terminal server can also connect many network users to its asynchronous

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	ports for dial-out capabilities and printer access. See also: Local Area Network. [Source: RFC1392]
TeX	A free typesetting system by Donald Knuth
three-way-handshake	The process whereby two protocol entities synchronize during connection establishment.
Throughput	The total amount of data generated or transmitted during a specific time period.
TIFF	Tag Image File Format, an image format
Time Slot	A portion of a serial multiplex of information dedicated to a single channel.
TLA	(Three Letter Acronym). A tribute to the use of acronyms in the computer field. See also: Extended Four Letter Acronym. [Source: RFC1392]
TN3270	A variant of the Telnet program that allows one to attach to IBM mainframes and use the mainframe as if you had a 3270 or similar terminal. [Source: BIG-LAN]
Token ring	A token ring is a type of LAN with nodes wired into a ring. Each node constantly passes a control message (token) on to the next; whichever node has the token can send a message. Often, "Token Ring" is used to refer to the IEEE 802.5 token ring standard, which is the most common type of token ring. See also: 802.x, Local Area Network. [Source: RFC1392]
topology	A network topology shows the computers and the links between them. A network layer must stay abreast of the current network topology to be able to route packets to their final destination. [Source: MALAMUD]
TP	See: Twisted Pair
TP0	OSI Transport Protocol Class 0 (Simple Class). This is the simplest OSI Transport Protocol, useful only on top of an X.25 network (or other network that does not lose or damage data).
TP4	OSI Transport Protocol Class 4 (Error Detection and Recovery Class). This is the most powerful OSI Transport Protocol, useful on top of any type of network. TP4 is the OSI equivalent to TCP.
Transceiver	Transmitter-receiver. The physical device that connects a host interface to a local area network, such as Ethernet. Ethernet transceivers contain electronics that apply signals to the cable and sense collisions. [Source: RFC1208]

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transit network	A transit network passes traffic between networks in addition to carrying traffic for its own hosts. It must have paths to at least two other networks. See also: backbone, stub network. [Source: RFC1392]
Transparent Mode	The operation of a digital transmission facility during which the user has complete and free use of the available bandwidth and is unaware of any intermediate processing.
Transport Layer	The OSI layer that is responsible for reliable end-to-end data transfer between end systems.
TRICKLE	Is a service which will send you files on request, or by subscription. TRICKLE works with various anonymous FTP sites, computers in the Internet network that allow public access and retrieval of software and files. It provides a quick and easy alternative to FTP, whether or not you have access to the Internet.[Source: EARN Association]
Trojan Horse	A computer program which carries within itself a means to allow the creator of the program access to the system using it. See also: virus, worm. See RFC 1135. [Source: RFC1392]
Trunk	A single circuit between two points both of which are switching centers of individual distribution points. A trunk usually handles many channels simultaneously
TTFN	Ta-Ta For Now
TTL	(Time to Live). A field in the IP header which indicates how long this packet should be allowed to survive before being discarded. It is primarily used as a hop count. See also: Internet Protocol. [Source: MALAMUD]
tunnelling	Tunnelling refers to encapsulation of protocol A within protocol B, such that A treats B as though it were a datalink layer. Tunnelling is used to get data between administrative domains which use a protocol that is not supported by the internet connecting those domains. See also: Administrative Domain. [Source: RFC1392]
twisted pair	Cable made up of a pair of insulated copper wires wrapped around each other to cancel the effects of electrical noise. [Source: ZEN]



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**U**

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- UA (User Agent). An OSI application process that represents a human user or organization in the X.400 Message Handling System. Creates, submits, and takes delivery of messages on the user's behalf.
- UDP (User Datagram Protocol) An Internet Standard transport layer protocol defined in STD 6, RFC 768. It is a connectionless protocol which adds a level of reliability and multiplexing to IP. See also: connectionless, Transmission Control Protocol. [Source: RFC1392]
- Unbalanced Line A transmission line in which a single conductor is used to transmit a signal in reference to ground (for example in a coaxial cable).
- urban legend A story, which may have started with a grain of truth, that has been embroidered and retold until it has passed into the realm of myth. It is an interesting phenomenon that these stories get spread so far, so fast and so often. Urban legends never die, they just end up on the Internet! Some legends that periodically make their rounds include "The Infamous Modem Tax," "Craig Shergold/Brain Tumor/Get Well Cards," and "The \$250 Cookie Recipe". [Source: LAQUEY]
- URL (Uniform Resource Locator), server and path information used to specify the location of a document; URL is inserted in a document in the following format: *scheme://host-domain[:port]/path/filename*
- Usenet A collection of thousands of topically named newsgroups, the computers which run the protocols, and the people who read and submit Usenet news. Not all Internet hosts subscribe to Usenet and not all Usenet hosts are on the Internet. See also: Network News Transfer Protocol, UNIX-to-UNIX CoPy. [Source: NWNET]
- UTC (Universal Time Coordinated). This is Greenwich Mean Time. [Source: MALAMUD]
- UTP (Unshielded Twisted Pair). General term for all local cabling systems used for transmission of data which are not shielded.
- UUCP (UNIX-to-UNIX CoPy). This was initially a program run under the UNIX operating system that allowed one UNIX system to send files to another UNIX system via dial-up phone lines. Today, the term is more commonly used to describe the large international network which uses the UUCP protocol to pass news and electronic mail. See also: Electronic Mail, Usenet. [Source: RFC1392]





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V

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VERONICA	Was designed as a solution to the problem of resource discovery in the rapidly-expanding Gopher web, providing a keyword search of more than 500 Gopher menus. Veronica helps you find Gopher-based information without doing a menu-by-menu, site-by-site search. It is to the Gopher information space, what archie is to the FTP archives.[Source: EARN Association]
virtual circuit	A network service which provides connection-oriented service regardless of the underlying network structure. See also: connection-oriented. [Source: RFC1392]
virus	A program which replicates itself on computer systems by incorporating itself into other programs which are shared among computer systems. See also: Trojan Horse, worm. [Source: RFC1392]
VRC	Vertical Redundancy Check.
VTAM	Virtual Telecom Access Method. SNA/IBM.



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**W**

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- WAIS** (Wide Area Information Servers). A distributed information service which offers simple natural language input, indexed searching for fast retrieval, and a "relevance feedback" mechanism which allows the results of initial searches to influence future searches. Public domain implementations are available. See also:archie, Gopher, Prospero. [Source: RFC1392]
- WAN** (Wide Area Network). A network, usually constructed with serial lines, which covers a large geographic area. See also: Local Area Network, Metropolitan Area Network. [Source: RFC1392]
- Web** Another name of World Wide Web
- WG** Working Group
- White Pages** The Internet supports several databases that contain basic information about users, such as email addresses, telephone numbers, and postal addresses. These databases can be searched to get information about particular individuals. Because they serve a function akin to the telephone book, these databases are often referred to as "white pages. See also: Knowbot, WHOIS, X.500. [Source: RFC1392]
- WHOIS** An Internet program which allows users to query a database of people and other Internet entities, such as domains, networks, and hosts, kept at the DDN NIC. The information for people shows a person's company name, address, phone number and email address. See also: Defense Data Network Network ..., white pages, Knowbot, X.500. [Source: FYI4]
- WAIS** (Wide Area Information Servers). A distributed information service which offers simple natural language input, indexed searching for fast retrieval, and a "relevance feedback" mechanism which allows the results of initial searches to influence future searches. Public domain implementations are available. See also:archie, Gopher, Prospero. [Source: RFC1392]
- WAN** (Wide Area Network). A network, usually constructed with serial lines, which covers a large geographic area. See also: Local Area Network, Metropolitan Area Network. [Source: RFC1392]
- Voice Compression** The conversion of an analog voice signal into a digital signal using minimum bandwidth (16 Mbps or less).

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Voice Digitization	(Voice Encoding). The conversion of an analog voice signal into digital symbols for storage or for transmission (examples ADPCM, CVSD, or PCM)
World Wide Web	(WWW or W3) A Hypertext-based, distributed information system created by researchers at CERN in Switzerland. Users may create, edit or browse Hypertext documents. The clients and servers are freely available. [Source: RFC1392]
workstation	A networked personal computing device with more power than a standard IBM PC or Macintosh. Typically, a workstation has an operating system such as unix that is capable of running several tasks at the same time. It has several megabytes of memory and a large, high-resolution display. Examples are Sun workstations and Digital DEC stations. [Source: ZEN]
worm	A computer program which replicates itself and is self-propagating. Worms, as opposed to viruses, are meant to spawn in network environments. Network worms were first defined by Shoch & Hupp of Xerox in ACM Communications (March 1982). The Internet worm of November 1988 is perhaps the most famous; it successfully propagated itself on over 6,000 systems across the Internet. See also: Trojan Horse, virus.
WRT	With Respect To
WWW	See: World Wide Web
WYSIWYG	What You See is What You Get

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**X**

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- X is the name for TCP/IP based network-oriented window systems. Network window systems allow a program to use a display on a different computer. The most widely-implemented window system is X11 - a X/Open component of MIT's Project Athena.
- X/Open A group of computer manufacturers that promotes the development of portable applications based on UNIX. They publish a document called the X/Open Portability Guide.
- X ON/X OFF (Transmitter On/ Transmitter Off). Control character used for flow control, instructing a terminal to start transmission (X-ON) and end transmission ix-OFF).
- X Recommendations: The CCITT documents that describe data communication network standards. Well-known ones include: X.25 Packet Switching standard, X.400 Message Handling System, and X.500 Directory X Services.
- X.25 A data communications interface specification developed to describe how data passes into and out of public data communications networks. The CCITT and ISO approved protocol suite defines protocol layers 1 through 3. [Source: RFC1392]
- X.400 The CCITT and ISO standard for electronic mail. It is widely used in Europe and Canada. [Source: RFC1392]
- X.500 The CCITT and ISO standard for electronic directory services. See also: white pages, Knowbot, WHOIS. [Source: RFC1392]
- XBM X BitMap, a black-and-white image format
- XDR (eXternal Data Representation). A standard for machine independent data structures developed by Sun Microsystems and defined in RFC1014. It is similar to ASN.1. See also: Abstract Syntax Notation One. [Source: RFC1208]
- Xerox Network System (XNS) A network developed by Xerox corporation. Implementations exist for both 4.3BSD derived systems, as well as the Xerox Star computers. [Source: RFC1392]
- XI X.25 SNA Interconnect. OSI/SNA - IBM software for 37XX controllers with NCP provides DCE interface to X.25 compatible computers.

X

XNS

See: Xerox Network System

Y

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YP

(Yellow Pages). A service used by UNIX administrators to manage databases distributed across a network. [Source: RFC1392]





**Z**

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zone

A logical group of network devices (AppleTalk).

