GLOSSARY

Numerics

10BaseT
A 10-Mbps Ethernet specification defined by IEEE 802.3 that uses Category 3 or Category 5 twisted pair wiring.

100BaseT
A 100-Mbps Ethernet specification defined by IEEE 802.3 that uses Category 3 or Category 5 twisted pair wiring. Designed to integrate with existing networks with minimal disruption. Generically called *Fast Ethernet*.

802.1 P
Networking protocol and IEEE specification for the prioritization of traffic.

802.1 Q
Networking protocol and IEEE specification for the implementation of VLANs in Layer 2 LAN switches.

A

AAA
authentication, authorization, and accounting. Systems implemented to securely determine the identity and privileges of a user and track that user's activities.

access class
The class of service a customer chooses when subscribing to DS-3 based Switched MultiMegabit Data Services (SMDS). The access class is defined as 4, 10, 16, 25, or 34 Mbps. For users who subscribe to an access class lower than 34 Mbps, a 34 Mbps bandwidth is available for burst transmissions; However, the duration of user bursts is limited so that the average throughput does not exceed the specified access class. See also *SMDS*.

access code
A sequence of dialed digits that allows a user to gain access to a facility, service, feature, or function of a network or system.

A

access coordination	The design, ordering, installation, testing, and maintenance of local access services.
access delay	The time interval from the last digit of a dialed number until the call is delivered by the local exchange carrier (LEC) to the appropriate interexchange carrier (IXC). Also known as call setup time. See also *LEC*, *IXC*.
access device	The hardware component used in a signaling controller system, access server, or multiplexer.
access digit	On a PBX, an outside line is normally accessed by dialing an access digit, such as 9.
access gateway	A gateway that allows the IP PBX to communicate with the PSTN or traditional PBX systems. See also *IP*, *PBX*, and *PSTN*.
access layer	Part of ISO-OSI layered protocol model.
access line	1. A transmission line that provides access to a larger system or network.
access link	The local access connection between a customer's premises and a carrier's point of presence (POP), which is the carrier's central switching office or closest point of local termination. See also *POP*.
access method	1. The technique for moving data, voice, or video between storage and input/output devices.
	2. The technique and/or program code used in local area networks (LANs) to grant selective access to individual stations.
access node	See *AN*.
access port	Connects a network device to an IP device. For example, a computer can be connected to an IP phone through an access port.
access protocol	A set of specific procedures that enable a user to obtain services from a telephone company or network.

A

access server
1. Communications processor that connects asynchronous devices to a LAN or WAN through network and terminal emulation software. Performs both synchronous and asynchronous routing of supported protocols. Sometimes called a network access server. Access servers for the Cisco signaling controller are the Cisco AS5200, Cisco AS5300, and Cisco AS5800.

account code
A numeric code that identifies the calling party for internal billing or accounting purposes. Account codes are often used by service companies such as accountants and lawyers to bill specific clients for telephone expenses. Also known as a project code or bill-back code.

ACD
automatic call distributor. A device that handles a large number or incoming calls. An ACD performs four functions: first, it recognizes and answers incoming calls; second, it looks in a database to decide how to route the call; third, based on these instructions, it sends the call to an answering position based on a pre-determined, logical answering pattern. (Or, if all positions are busy, the ACD plays a recorded message and places the call in a queue until an answering position becomes available); finally, the ACD connects the call to an agent, once that agent has completed the previous call.

ACL
access control list. A roster of users and groups of users, along with their access rights.

ACP
automatic call processing. A system in which calls are processed entirely by computer.

additional call offering
An Integrated Services Digital Network (ISDN) feature that allows multiple calls to be placed simultaneously to the same telephone number. A serving switch is programmed with the number of lines on the receiving telephone equipment. The switch will offer an additional call if there is a line available to accept it. See also *ISDN*.

A

address	1. In a communications network, the identifying designation of an entity that is physically and/or logically distinct.
	2. The destination of a message.
	3. In software, any location that can be specifically referred to in a program storage location, terminal, peripheral device, cursor location or any other component.
Ad-Hoc conference	A Cisco CallManager feature that allows a conference controller to build a conference that has not been previously arranged. In an Ad-Hoc conference, the conference controller individually calls and adds each participant to the conference. Compare to *Meet-Me Conference*.
Administrative Reporting Tool	See *ART*.
Administrative VLAN	Used in non-Cisco switched networks in conjunction with Cisco IP Phones to indicate the virtual local area network (VLAN) of which the phone is a member. Assigns the phone to an auxiliary VLAN. See also *Operational VLAN*.
ADPCM	adaptive differential pulse code modulation. A speech coding method that uses fewer bits than the traditional pulse code modulation (PCM).
ADU	automatic dialing unit. A device that automatically generates a predetermined telephone number when a specific button is pressed
AEC	automatic echo cancellation.
agent	Individuals or companies that market the services of a carrier, but are not directly employed by the carrier.
AIM	Advanced Interface Module. The data compression AIM provides hardware-based compression and decompression of packet data transmitted and received on the serial network interfaces of the Cisco 2600 series router without occupying the Port Module Slot that might otherwise be used for additional customer network ports. Designed to plug directly into a header on the Cisco 2600 series router motherboard.

A

a-law
ITU-T companding standard used in the conversion between analog and digital signals in pulse code modulation (PCM) systems. In contrast to the North American mu-law, a-law provides a constant signal-to-distortion ratio over a broader dynamic range of analog input signals at the expense of a poorer signal-to-distortion ratio for low-level signals. See also *companding* and *-law*

ALB
analog loop back. A method of testing modems in which the telephone line is disconnected and the transmitted signal is looped back to the receiver.

alerting
The process a switch uses to inform customer premises equipment (CPE) that an incoming call is present and waiting for an answer. For analog lines, alerting consists of applying a ringing voltage; for hybrid telephones, alerting consists of sending signaling bits; and for digital telephones, cellular telephones, or personal communications service (PCS) handsets, it consists of sending a message to the CPE that alerts the user. Alerting of the end user is a function of the CPE (e.g., audible ring, flashing lamp, voice announcement). On some CPE, additional incoming calls for busy lines may be indicated via messages, lamps or call waiting tones. See also *CPE* and *PCS*.

ambient noise
The background noise that is present on a non-digital communications line at all times.

AMIS
Audio Messaging Interchange Specification. A series of standards aimed at addressing the problem of how voice messaging systems produced by different vendors can network or inter-network. Before AMIS, systems from different vendors could not exchange voice messages. AMIS deals only with the interaction between two systems for the purpose of exchanging voice messages. It does not describe the user interface to a voice messaging system, specify how to implement AMIS in a particular system, or limit the features a vendor may implement. See also *AMIS-A*.

AMIS-A
Audio Messaging Interchange Specification-Analog. See AMIS.

A

amplifier	An electronic device used to increase the amplitude or power level of a signal. Amplifiers are used in telecommunications on analog transmission lines to offset the signal loss that occurs as the signal is propagated along the line.
AN	access node. A broadband Integrated Services Digital Network (ISDN) remote switch that performs grooming, concentration, and switching functions.
analog bridge	A device for connecting multiple analog circuits to a common circuit.
analog channel compression	A technique for fitting more than one program into a single channel using analog processes.
analog loop back	See *ALB*.
analog signal	A continuous signal that is infinitely and continuously variable in amplitude and/or frequency.
analog transmission	The transmission of continuously variable (analog) signals. As a signal is transmitted along an analog network, the signal strength eventually weakens or attenuates. Amplifiers may be installed in the network to amplify the signal, but because there is no way to differentiate between an analog signal and noise, both are amplified. Therefore, noise tends to accumulate in an analog network.
ANC	Answer, Charge.
ANI	automatic number identification. A PSTN system that transmits the billing number of the calling party for accounting and billing purposes.
ANM	answer message. An off-hook signal sent in the reverse direction that indicates when the called party answers. Billing starts when the answer message is received.
ANN	Answer, No Charge.

A

ANSI
American National Standards Institute. A U.S. organization chartered to accredit standards developed by a wide variety of industry groups while avoiding improper influence from any one company or organization. ANSI does not develop standards, but reviews and implements those developed by other organizations. For example, ANSI accredits standards for telephony developed by the Alliance for Telecommunications Industry Standards (ATIS) under the auspices of the T1 Committee, and standards for cellular radio developed by the Electronics Industry Association (EIA) and the Telecommunications Industry Association (TIA). ANSI is a member of the International Organization for Standardization (ISO). See also *ATIS*, *EIA*, *TIA*, *ISO*.

answerback
A signal sent by a data receiver to a data transmitter indicating that it is ready to receive data or to acknowledge the receipt of data.

answering machine
A CPE device that, in the absence of the called party, automatically answers incoming calls with a prerecorded message and records messages from callers.

ANU
Answer, Unqualified.

a-number
A cellular term referring to the number of the calling party. The originating switch analyzes the a-number in order to route a call to the b-number, the number of the called party. The a-number can be analyzed by configuring dial plans created with the dial plan provisioning (DPP) utility. See also *dial plan*, *DPP*, and *b-number*.

AOS
alternative operator service. A non-telephone company operator service. Users of AOS include hotels and non-telco public telephones where a commission is paid to the establishment for allowing the AOS to bill for the call. Many AOS operations have billing agreements with local exchange companies (LECs) which will pass the billed charges back to the customer's hotel room or home telephone number. See *LEC*.

API
application programming interface. Software that an application program uses to request and carry out lower-level services.

A

application
A software program that performs a function directly for a user. Examples include the Cisco CallManager administrative reporting tool (ART) and Bulk Administration Tool (BAT), as well as Microsoft Word. A web browser is a network application.

application sharing
A form of data collaboration that allows a participant to select one or more of the applications resident on his/her PC and make it available to the other participants. All participants may then manipulate the application as if it were executing on their PCs.

area code
The first three digits of a 10-digit telephone number in the North American Numbering Plan. See also *NANP*.

ARP
Address Resolution Protocol. Internet protocol used to map an IP address to a MAC address. Defined in RFC 826. Allows host computers and routers to determine the data link layer address corresponding to the IP address in a packet routed through the LAN. Although the packet is addressed to an IP address, the LAN hardware responds only to data link layer addresses. The host or router with the destination IP address replies with its own data link layer address in an ARP response, which the forwarding host or router will use to construct a data link layer frame. The result is stored in cache memory so subsequent packets addressed to the same destination can be routed without an explicit ARP process.

ARPA
Advanced Research Projects Agency of the U.S. Department of Defense. ARPA funded research and experimentation with ARPANET, the predecessor to the Internet. See also *TCP/IP*.

ARQ
automatic retransmission request (ARQ). A method of checking transmitted data on high speed data communications systems in which the sender encodes an error detection field based on the contents of the message. The receiver recalculates the check field and compares it with the received field. If the fields match, a positive acknowledgment ("ACK" or "PAK") is returned to the sender. If the fields do not match, a negative acknowledgment (NAK) is returned to the sender.

A

ART	1. audible ringing tone. A signal sent back to the calling party to indicate the called number is ringing. 2. administrative reporting tool. A web-based application for Cisco CallManager that generates reports on performance and service details. See also *CDR* and *CMR*.
ARU	audio response unit. An output device that provides a spoken response to digital inquiries from a telephone or other device (For example, "Press 1 to hear this information again; Press 2 to hear more options.") Also known by the generic name audiotex.
ASIC	application specific integrated circuit. Circuit designs used by manufacturers to consolidate many chips into a single package, reducing board size and power consumption.
AST	automatic spanning tree. Function that supports the automatic resolution of spanning trees in source-route bridging networks, providing a single path for spanning explorer frames to traverse from a given node in the network to another. AST is based on the IEEE 802.1 standard. See also *802.1* and *SRB*.
AT	Analog Access Trunk. Expressed as AT-2, AT-4, or AT-8 to correspond to 2-, 4-, and 8-port gateways.
ATB	all trunks busy. A single tone repeated at a 120 impulse per minute (ipm) rate to indicate that all trunks in a routing group are in use.
ATIS	Alliance for Telecommunications Industry Standards, a Washington D.C. trade group heavily involved in standards issues, including interconnection and interoperability issues.
ATM	Asynchronous Transfer Mode. International standard for cell relay in which multiple service types (such as voice, video, or data) are conveyed in fixed-length (53-byte) cells. Fixed-length cells allow cell processing to occur in hardware, thereby reducing transit delays. ATM is designed to take advantage of high-speed transmission media such as E3, SONET, and T3.
attendant console	A large, specialized telephone set used by the operator to answer incoming calls and send those calls to the proper extension.

A

audio stream RTP packets Capable of conducting real-time voice data over connectionless networks such as TCP/IP. See also *RTP*.

audio switch A remote controlled device for switching conference room audio circuits that are used to deliver compressed video transmission service. An audio switch can switch room audio connections to either a coder/decoder or a separate return required for multipoint conferences. See *codec*.

audiotex Generic term for interactive voice response equipment and services. See *ARU*.

authentication The process of determining the identity of a user attempting to access a system.

authorization The process of granting a user access to a system.

automatic callback A feature of a telecommunications system or an IP telephony device that records, and can dial, the originating phone number of the last incoming call.

automatic dialing The ability of a terminal, modem, computer or similar device to place a call and establish a connection over a switched telephone network without operator intervention. Also known as Autodial.

auto registration Process by which Cisco CallManager automatically detects and adds new IP telephony devices to its database, such as Cisco IP Phones and Cisco DPA 7630 devices. Auto registration assigns the next available directory number designated for the device type at the time that each new device is plugged into the network.

availability The degree to which a system or resource is operable and not in a state of congestion or failure at any given point in time.

AVD alternate voice data. A single transmission facility used for either voice or data.

AVVID See *Cisco AVVID*.

B

back end
Functions and procedures of a database server, such as a node or software application, designed to manipulate data on a network. See also *client*, *FRF.11*, and *server*.

back haul
A method of call routing in which the call is taken beyond its destination and then back to that destination. Usually used to attain cheaper rates.

backup
1. The logical or physical provisioning of facilities to speed the process of restart and recovery following network failures.

2. Redundant facilities, including duplicated transaction files, duplicated processors, storage devices, terminal, telecommunications hardware or switches.

band
1. The range of frequencies between two defined limits.

2. One of the six specific wide-area telephone service (WATS) geographic service areas.

bandwidth
1. Difference between the highest and lowest frequencies available for network signals.

2. Amount of data that can be transmitted in a fixed amount of time, or the rated throughput capacity of a given network medium or protocol.

baseband
A network technology in which only one carrier frequency is used (for example, Ethernet).

bastion server
A server that is accessible from a public network (such as the Internet) without protection from a firewall.

BAT
bulk administration tool. A web-based application for Cisco CallManager that enables bulk system modifications, including adding and deleting phones, modifying phones, and adding users and mailboxes.

BGP
Border Gateway Protocol. The routing protocol used between separate administrative domains (for example, between an enterprise corporation and its ISP).

B

BH busy hour. The peak 60-minute period during a business day when the largest volume of traffic is handled by a network.

B-ISDN Broadband Integrated Services Digital Network. A network that employs switching techniques independent of transmission speeds, and that allows a network to expand its capacity without major equipment overhauls. B-lSDNs support gigabit speed circuits in the public network and high speed switching of all traffic types in public and private networks. B-lSDNs also provide bandwidth-on-demand capabilities. Contrast with *N-ISDN*. See also *BRI*, *ISDN*, and *PRI*.

blind transfer Passing a call without notifying the recipient. Also known as unsupervised transfer or cold transfer.

blocked call 1. An attempted call that cannot be connected. The two most common reasons for blocked calls are all lines or trunks to the central office are in use, or all paths through a private branch exchange (PBX) or switch are in use.

2. A service offered by 900 providers that permits users to request that their local carrier blocks all 900 calls in order to avoid incurring charges.

blocking The inability to establish a new call because of restrictions or inaccessibility of facilities in the system being called.

b-number A cellular term for the number of the called party. The originating switch analyzes the a-number, the number of the calling party, in order to route the call to the b-number. See also *a-number*.

BOOTP Bootstrap Protocol. A TCP/IP protocol that enables a network device to discover certain startup information, such as its IP address.

BPDU Bridge Protocol Data Unit. Spanning-Tree Protocol hello packet that is sent out at configurable intervals to exchange information among bridges in the network. See also *PDU*.

break 1. To interrupt the sending of a message and take control of the circuit at the receiving end.

2. An interruption of a transmission or process.

B

BRF	Bridge Relay Function. As defined by the IEEE, an internal bridge function on a Token Ring switch that is responsible for forwarding frames between port groupings with the same logical ring number. Within a BRF, source-route bridging or source-route transparent bridging can be used to forward frames. See also *CRF*.
BRI	Basic Rate Interface. ISDN interface composed of two B-channels and one D-channel for circuit-switched communication of voice, video, and data. Compare with *PRI*. See also *B-ISDN*, *ISDN*, and *N-ISDN*.
bridge	1. A device that passes information between two network segments. Operates at layer 2 of the Open Systems Interconnection (OSI) reference model (the data link layer). See *OSI*.
	2. A device used to match circuits to each other to ensure minimum transmission impairment. Bridging is normally required on multipoint data channels where several local loops or channels are interconnected.
Bridged Telnet	Offers Cisco Service Engineers (CSEs) transparent firewall access to the Cisco CallManager server on a customer site for diagnostic and troubleshooting purposes. It enables a telnet client inside the Cisco Systems firewall to connect to a telnet process behind a customer firewall.
broadband	1. A type of communications channel capable of carrying a large portion of the electromagnetic spectrum. A broadband channel can accommodate the following media: audio, digital, and television.
	2. A transmission facility having a bandwidth greater than 20 kHz capable of high speed data transmission.
	3. An analog transmission technique used with data and video transmissions that provides multiple user channels through frequency-division multiplexing (FDM). See *FDM*.
broadcast	Data packet that is sent to all nodes on a network. Broadcasts are identified by a broadcast address. Compare with *multicast* and *unicast*. See also *broadcast address*.

B

broadcast address	Special address reserved for sending a message to all stations. Generally, a broadcast address is a MAC destination address of all ones. Compare with *multicast address* and *unicast address*. See also *broadcast*.
broadcast packet	A data packet transmitted simultaneously to all network devices.
broadcast storm	An undesirable network event in which many broadcasts are sent at once. Broadcast storms use substantial network bandwidth and may cause network time-outs.
browser	GUI-based hypertext client application, such as Internet Explorer, Mosaic, and Netscape Navigator, used to access hypertext documents and other services located on innumerable remote servers throughout the World Wide Web and Internet. See also *GUI*.
BSI	Basic Rate Interface. ISDN interface composed of two B-channels and one D-channel for circuit-switched communication of voice, video, and data.
Bulk Administration Tool	See *BAT*.
busy	A call condition in which transmission facilities are already in use. A line is considered busy when the caller goes off-hook.
busy tone	A single tone that is repeated at a 60 impulse per minute (ipm) rate to indicate that a call's terminating location is already in use.

C

CAC	call admission control. In Cisco CallManager, CAC maintains a desired level of voice quality over a WAN link by regulating bandwidth consumption used by calls over the link. Limits the number of simultaneous active calls over the link. See also *locations* and *gatekeeper*.
call admission control	See *CAC*.

C

callback	Callback allows remote clients to dial into a central site, and then have the central site immediately call back the remote site.
call control	Telephone industry term used to describe the setting up, monitoring, and tearing down of phone calls.
call detail recording	See *CDR*.
caller ID	A display, available to the called party before the party answers a telephone call, that identifies the originating telephone number and the subscriber's name associated with that number. See also *CLID*.
call forward all calls	Configurable feature that re-routes all incoming calls destined for one telephony device to another phone or device.
call forward busy	Configurable feature that re-routes incoming calls to an alternate line when the first line is in use.
call forwarding	Configurable feature that sends incoming calls routed to a particular directory number to another number.
call forward no answer	Configurable feature that re-routes incoming calls from one phone to another phone when the first phone is not answered after a certain number of rings.
Calling Line Identification	See *CLID*.
calling party transformation settings	Allows the user to manipulate the appearance of the calling party's number for outgoing calls.
calling search space	Determines which partitions a calling device searches when attempting to complete a call.
Call Management Record	See *CMR*.

C

call park	Configurable feature that allows the user to deposit a stable call at a specified directory number, then go to another phone and dial the park number to retrieve the call. (Call park differs from a "hold" feature by allowing the user to retrieve the call from any phone on the same system. A system administrator must configure a call park number, or range of numbers, for this feature to work).
call pickup	Configurable feature that allows a user to redirect an incoming call that routed to another destination in order to retrieve the call on the user's own phone or directory number. See also *group call pickup*.
call processing	See *distributed call processing* and *centralized call processing*.
call waiting	Feature of telephony systems that notifies a caller when another call is coming in during an active call.
camp on	A technique in which an incoming call is stored on hold until an attendant, trunk, trunk group, or station is available to accept it, at which time the call is completed.
CAS	1. centralized attendant service. One group of switchboard operators answers all incoming calls for several telephone systems located throughout one city or region. 2. channel associated signaling. In-band signaling used to provide emergency signaling information along with a wireless 911 call to the Public Safety Answering Point (PSAP).
CBQ	class-based queuing. A queuing algorithm used in routers to manage congestion. Through user-definable class definitions, incoming packet traffic is divided into classes. These divisions might fall along the lines of traffic from a given interface, associated with a particular application, intended for a particular network or device destination, and all traffic of a specific priority classification. Each class of traffic is assigned to a specific first-in-first-out (FIFO) queue, each of which is guaranteed some portion of the total bandwidth of the router. See also *WFQ*.

C

CBWFQ   class-based weighted fair queuing. Allows you to define traffic classes that are based on certain match criteria, such as access control lists, input interface names, protocols, and Quality of Service (QoS) labels.

CC   1. common carrier. A government regulated private company that furnishes the general public with telecommunications services and facilities.

2. country code. Part of a numbering plan.

CCAPI   Call Control Applications Programming Interface.

CCIS   Common Channel Interoffice Signaling. A way of carrying telephone signaling information along a path different from the path used to carry voice. CCIS occurs over a separate packet-switched digital network. Accelerates the setting up and tearing down of phone calls and increases the amount of information compared to what can be carried by in-band signaling. See *SS7*.

CCITT   Consultative Committee for International Telegraph and Telephone. A telecommunications organization that recommended worldwide standards for common carrier communications services. This organization was superseded by the International Telecommunications Union, now called the ITU-T. See *ITU-T*.

CCS   Common Channel Signaling. Signaling system used in telephone networks that separates signaling information from user data. A specified channel is exclusively designated to carry signaling information for all other channels in the system. See *CCIS*.

CDB   call detail blocking.

CDP   Cisco Discovery Protocol. A device-discovery protocol that runs on all Cisco-manufactured equipment. Enables a device to advertise its existence to other devices and receive information about other devices in the network. Cisco IP devices use CDP to communicate information such as auxiliary VLAN ID, per port power management details, and quality of service (QoS) configuration information with the Cisco Catalyst switch. See also *VLAN* and *QOS*.

C

CDR	call detail recording. A stored database record containing data about a specific call. Processed as a unit and used to create billing records, a CDR contains details such as the called and calling parties, originating switch, terminating switch, call length, and time of day.
cell	Basic data unit for ATM switching and multiplexing. Cells contain identifiers that specify the data stream to which they belong. Each cell consists of a 5-byte header and 48 bytes of payload. See also *cell relay* and *ATM*.
cell relay	Network technology based on the use of small, fixed-size packets, or cells. Because cells are fixed-length, they can be processed and switched in hardware at high speeds. Cell relay is the basis for many high-speed network protocols including ATM, 802.6, and SMDS. See also *cell*, *ATM*, and *SMDS*.
centralized call processing	Refers to a processing construct where all call processing is performed at a central site, or hub, and no call processing is performed at branch sites.
central office	see *CO*.
channel service unit	see *CSU*.
CHAP	Challenge/Handshake Authentication Protocol. A system for determining if a user has the correct password without openly revealing that password. CHAP does not itself prevent unauthorized access, it merely identifies the remote end. The router or access server then determines whether that user is allowed access.
checksum	Method for checking the integrity of transmitted data. A checksum is an integer value computed from a sequence of octets taken through a series of arithmetic operations. The value is recomputed at the receiving end and compared for verification.
CIR	committed information rate. A Frame Relay term identifying a certain average maximum data transmission rate.
circuit-switched gateways	Gateways that require an open circuit for communications until the connection is released. See also *gateway*.

C

circuit switching	Switching system in which a dedicated physical circuit path must exist between sender and receiver for the duration of the "call." Used heavily in the public switched telephone network.
Cisco AVVID	Cisco Architecture for Voice, Video, and Integrated Data.
Cisco CallManager	Software-based call processing component of the Cisco IP telephony solution, which extends enterprise telephony features and functions to packet telephony network devices such as IP phones, media processing devices, voice-over-IP (VoIP) gateways, and multimedia applications. See also *Cisco CallManager Administration*.
Cisco CallManager Administration	Graphical user interface used to configure and maintain the Cisco CallManager.
Cisco CallManager Directory	An LDAP directory that stores authentication and authorization information about telephony application users. See also *LDAP*.
Cisco CallManager group	A set of Cisco CallManagers that provide a failover scheme for the devices associated with that group. Defined and maintained through Cisco CallManager Administration. See also *primary Cisco CallManager, default* and *device pool*.
Cisco CallManager server	Cisco's high-availability server platform on which Cisco CallManager software comes preinstalled. See also *media convergence server*.
Cisco Discovery Protocol	See *CDP*.
Cisco IP Phone	A full-feature telephone that provides voice communication over an IP network while functioning much like a traditional analog phone. Allows you to place and receive telephone calls, and supports features such as call forwarding, redial, speed dialing, call transfer, and conference calling. Also allows you to access voice mail, providing connectivity to Cisco IP Telephony Solutions.
Cisco IP Telephony Solutions	A software and hardware product suite offering an IP alternative to traditional PBXs. Includes Cisco IP Phones, H.323-compatible gateway clients, and server software enabling voice and data over an existing LAN or WAN infrastructure. See also *Cisco IP Phone*, *Cisco CallManager*.

C

Cisco Media Convergence Servers The Cisco MCS-7800 series server family, which includes the high-availability MCS-7830 and the Cisco AVVID IP telephony starter kits. Comes with Cisco CallManager preloaded.

TFTP Trivial File Transfer Protocol. A simplified version of the FTP, TFTP is an application that transfers device configuration files (.cnf files) to devices from a TFTP server.

CLID caller line ID. Information about the billing telephone number from which a call originated. The CLID value might be the entire phone number, the area code, or the area code plus local exchange. Also know as called Caller ID.

client Node or software program (front-end device) that requests services from a server. The Cisco IP Phone is an example of a client.

client-server model The process of workload sharing between the client, the server, and the network. Examples include the nameserver/nameresolver paradigm of the domain name system (DNS), as well as fileserver/file-client relationships, such as network file system (NFS) and diskless hosts. See also *DNS* and *NFS*.

client/server computing Term used to describe distributed computing (processing) network systems in which transaction responsibilities are divided into two parts: client (front end) and server (back end). Both terms (client and server) can be applied to software programs or actual computing devices. Also called distributed computing (processing). See also *back end*, *front end*, *client*.

closest-match routing The process of matching the narrowest range of numbers in a given route pattern.

CMR call management record. Contains the count of bytes sent, packets sent, jitter, latency, dropped packets, etc. Also called diagnostic records.

CNF A configuration file.

CO central office. Local telephone company office to which all local loops in a given area connect and in which circuit switching of subscriber lines occurs. Central office can also refer to a single telephone switch, or what is known as a "public exchange" in Europe.

C

codec	coder-decoder.
	1. A device that typically uses pulse code modulation to transform analog signals into a digital bit stream, and digital signals back to analog. See also *G.711, G.729, and H.323*.
	2. In Voice over IP, Voice over Frame Relay, and Voice over ATM, a software algorithm used to compress/decompress speech or audio signals.
community strings	Passwords used by Simple Network Management Protocol to remotely manage network devices. See also *SNMP*.
companding	Contraction derived from the opposite processes of compression and expansion. Part of the pulse code modulation process, whereby analog signal values are logically rounded to discrete scale-step values on a nonlinear scale. The decimal step number is then coded in its binary equivalent prior to transmission. The process is reversed at the receiving terminal using the same nonlinear scale. Compare with *compression* and *expansion*. See also *a-law* and *-law*
companding law	See *a-law* and *-law*
compression	Reducing the representation of the information, but not the information itself. Compression is accomplished by running a data set through an algorithm that reduces the space required to store or the bandwidth required to transmit the data set. See also *expansion*.
compression types	One of the key factors that determines the amount of bandwidth used per call. Compression types available in Cisco CallManager are G.711 (default), G.723, and G.729.
conference bridge	A network used to interconnect three or more lines or trunks to allow simultaneous conversations.
conference call	A connection established between three or more stations that allows each station to communicate with all others simultaneously.

C

configuration file   An unformatted ASCII file that stores initialization information for an application. For Cisco CallManager, files in the .cnf format that define the parameters for Cisco IP Phone connection.

CoS   class of service.

1. Indication of how an upper-layer protocol requires a lower-layer protocol to treat its messages. In SNA sub-area routing, CoS definitions are used by sub-area nodes to determine the optimal route to establish a given session. A CoS definition contains a virtual route number and a transmission priority field. Also called type of service (ToS).

2. A collection of features, privileges, and services that are easily assignable to a group or "class" of telephones. Class of service is used to simplify administration and maintenance tasks in complex telephony networks.

country code   A one-, two-, or three-digit number used to specify the destination country for international calls. See also *route filter tags*.

CPE   customer premises equipment. Telephone equipment, such as key systems, PBXs, answering machines, etc., that reside on the customer's premises (e.g., office building, home office, or factory). Also called customer provided equipment.

CPU   Central Processing Unit. The computing part, or "brain," of the computer. The CPU manipulates data and processes instructions coming from software or manual operations.

CRF   1. cell relay function. The basic function that an ATM network performs in order to provide a cell relay service to ATM end-stations.

2. connection related function. A term used by Traffic Management to reference a point in a network or a network element where per connection functions are occurring. This is the point where policing at the virtual channel connection or virtual path connection level may occur.

cRTP   compressed Real-time Transport Protocol. See *RTP*.

C

CSU
1. channel service unit. Digital interface device that connects end-user equipment to the local digital telephone loop. Often referred to together with DSU as CSU/DSU. See also *DSU*.

2. channel status unit. A device used in conjunction with a T-1 multiplexor that monitors each channel of the T-1 to ensure it is functioning properly.

CTI ports
Computer Telephony Interface ports. Virtual devices that are used by Cisco CallManager applications such as Cisco SoftPhone, Cisco IP AutoAttendant, and Cisco IP Interactive Voice Response System (IVR) to create virtual lines. CTI ports are configured through the same Cisco CallManager Administration area as phones, but require different configuration settings.

CTI route point
Computer Telephony Interface route point. Virtual device that can receive multiple simultaneous calls for the purpose of application-controlled redirection. Once a CTI route point has been created, lines (directory numbers) can be added and configured. Applications that use CTI route points include Cisco IP Auto Attendant, Cisco IP Interactive Voice Response System (IVR), and Cisco TAPI/JTAPI.

D

database redundancy
See *redundancy.*

data channel
See *D-channel*.

datagram
Logical grouping of information sent as a network layer unit over a transmission medium without prior establishment of a virtual circuit. IP datagrams are the primary information units in the Internet. The terms *cell*, *frame*, *message*, *packet*, and *segment* are also used to describe logical information groupings at various layers of the OSI reference model and in various technology circles.

data service unit
See *DSU*.

D

D-channel   data channel. Full-duplex, 16-kbps (BRI) or 64-kbps (PRI) ISDN channel used to carry control signals and customer call data in a packet switched mode. Provides the signaling information for each of the voice channels (or B-channels).

DCOM   Distributed Component Object Model. Protocol that enables software components to communicate directly over a network. Developed by Microsoft and previously called Network OLE, DCOM is designed for use across multiple network transports, including Internet protocols such as HTTP.

DDI   discard digits instruction. Removes a portion of the dialed digit string before passing the number on to the adjacent system. For example, DDI can remove an external access code from the dialed digit string for calls placed to a PSTN.

default router   For IP devices, identifies the default gateway used by the device. Also called default gateway.

device loads   Files that contain updated application software for phones or gateways. Provided automatically during installation or upgrades. See also *patch*.

device pool   In Cisco CallManager, a collection of commonly configured devices (such as phones, computers and gateways,) that belong to a common database, cluster and group. Use device pools to define common characteristics for devices, including region, Date/Time Group, Cisco CallManager group, and calling search space for auto-registration. See also *cluster* and *Call Manager group*.

D

DHCP	Dynamic Host Configuration Protocol. A TCP/IP protocol that enables PCs and workstations to get temporary or permanent IP addresses out of a pool from centrally-administered servers. Like its predecessor, BOOTP, DHCP provides a mechanism for allocating IP addresses manually, automatically and dynamically, so that addresses can be reused when hosts no longer need them.
	For Cisco CallManager, a DHC server is queried by a telephone or gateway device upon booting to determine network configuration information. The DHCP server provides the device with an IP address, subnet mask, default gateway, DNS server, and a TFTP server name or address. With Cisco IP Phones, DHCP is enabled by default. If disabled, you must manually enter the IP address and other specifications manually on each phone locally.
dial pad	Buttons on a phone that are used to dial a phone number. The dial pad on a Cisco IP Phone operates like the dial pad on a traditional telephone.
dialing sequence	Used to enable and disable the message waiting indicator. See also *MWI*.
Dialogic voice board	Printed circuit board containing digital signal processor (DSP) chips to digitize voice.
dial plan	A system that allows one telephone or Cisco IP device to connect to another telephone or Cisco IP device by using dialed digits. In North America and many Caribbean nations, the dial plan is called the North American Numbering Plan. See also *NANP*.
dial tone	An audible signal that indicates automatic switching equipment is ready to receive DTMF or dial pulse signals required for a connection. See also *DTMF*.
dial-up	The use of a rotary or dual tone multiple frequency (DTMF) telephone to initiate a call over the public switched telephone network. See also *DTMF*.
dial-up line	1. A communications circuit established by a switched connection.
	2. Any circuit available over the public switched telephone network. See also *PSTN*.

D

DID	direct inward dialing. A method of directly dialing the directory number of a Cisco IP Phone or a telephone attached to a PBX without routing calls through an attendant or an automated attendant console, such as Cisco WebAttendant. Compare to *DOD*.
direct inward dialing	See *DID*.
directory number	See *DN*.
directory services	A service that provides information about network objects and helps network devices locate service providers.
direct outward dialing	See *DOD*.
distributed call processing	A processing construct in which each central site and branch office contains its own call processing resources. In terms of the Cisco CallManager, distributed call processing means that each central site and branch site contains its own Cisco CallManager or Cisco CallManager cluster.
DOD	direct outward dialing. The ability to dial directly from Cisco CallManager or PBX extension without routing calls through an operator, attendant or automated attendant functions. Compare to *DID*.
domain name	In the Internet, a World Wide Web site consisting of a hierarchical sequence of names (labels) separated by periods (dots) that you can visit with your browser. See also *browser*.
domain name server	Server that maintains a database for resolving host names and IP addresses. Network devices query the DNS server to specify remote computers by host names rather than IP addresses.
domain name system	See *DNS*.
DN	directory number. The telephone number or internal extension assigned to a Cisco IP Phone. The directory number is assigned to the phone itself, not a location or a user, so if the phone is moved, it still retains the same directory number. Also called subscriber number.
DNIS	dialed number identification service.

D

DNS   domain name system. System used in the Internet for translating names of network nodes into IP addresses.

DoS   Denial of Service. Type of attack that prevents access to or operation of a device or network.

DSCP   differentiated services code point, or DiffServe CodePoint. A marker in the header of each IP packet that prompts network routers to apply differentiated grades of service to various packet streams, forwarding them according to different Per-Hop Behaviors (PHBs). Part of DiffServe, a set of technologies proposed by the IETF that allows Internet and other IP-based network service providers to offer differentiated levels of service to customers and their information streams.

DSP   digital signal processor. Specialized computer chip designed to perform speedy and complex operations on digitized waveforms. Useful in processing sound, such as voice phone calls, and video.

DSU   data service unit. Device used in digital transmission that adapts the physical interface on a DTE device to a transmission facility such as T1 or E1. The DSU is also responsible for such functions as signal timing. Often referred to together with CSU, as CSU/DSU. See also *CSU*.

DTMF   Dual Tone Multi-Frequency. System used by touch tone telephones where one high and one low frequency, or tone, is assigned to each touch tone button on a phone.

Dynamic Host   See DHCP.
Configuration Protocol

E

E&M   recEieve and transMit (or ear and mouth). Trunking arrangement generally used for two-way switch-to-switch or switch-to-network connections. Cisco's analog E&M interface is an RJ-48 connector that allows connections to PBX trunk lines (tie lines). E&M is also available on E1 and T1 digital interfaces.

E1   Wide-area digital transmission scheme used predominantly in Europe that carries data at a rate of 2.048 Mbps. E1 lines can be leased for private use from common carriers. E1 is the European equivalent of a T1 line. See also *T1*.

echo   A type of distortion that occurs when a signal is reflected or otherwise returned with sufficient magnitude and delay to be perceived by the speaker.

echo canceller   A device or system that reduces or eliminates echoes in voice transmission systems.

EEPROM   electrically erasable programmable read-only memory. Basically, EPROM that can be erased using electrical signals applied to specific pins. See also *EPROM*.

EIA   Electronics Industries Alliance. Group that specifies electrical transmission standards.

EIGRP   Enhanced Interior Gateway Routing Protocol. Advanced version of IGRP developed by Cisco. Provides superior convergence properties and operating efficiency, and combines the advantages of link state protocols with those of distance vector protocols.

end-of-dialing character   A single character used to identify the end of the dialed digit string. For international numbers dialed within the NANP, this is usually the # character. See also *route filter tags*.

endpoint   Device at which a virtual circuit or virtual path begins or ends.

enterprise parameters   Default settings that apply to all devices and services in the same cluster.

E

EPROM	erasable programmable read-only memory. Nonvolatile memory chips that are programmed after they are manufactured, and, if necessary, can be erased by some means and reprogrammed. Compare with *EEPROM* and *PROM*.
Ethernet	Baseband LAN specification invented by Xerox Corporation and developed jointly by Xerox, Intel, and Digital Equipment Corporation. Used to connect computers, workstations, terminals, printers, and other devices located in the same building or campus.
event type	In error traces, specifies one or more of the following types of error events: debug, information, notice, warning, error, critical alert, and emergency.
Event Viewer	A Windows NT server application that graphically displays a log of NT server events.
expansion	The switching of a number of input channels, such as telephone lines, onto a larger number of output channels. Compare to *compression*.

F

Fast Ethernet	Any of a number of 100-Mbps Ethernet specifications. Fast Ethernet offers a speed increase 10 times that of the 10BaseT Ethernet specification, while preserving such qualities as frame format, MAC mechanisms, and MTU. Such similarities allow the use of existing 10BaseT applications and network management tools on Fast Ethernet networks. Based on an extension to the IEEE 802.3 specification. Compare with *Ethernet*. See also *100BaseT*.
fax relay	Also known as demod/remod. One of the methods for IP fax transmission as defined by ITU-T. Fax relay defines the specification for the demodulation of standard analog fax transmission from originating machines equipped with modems, and their remodulation for presentation to a matching destination device, with the long-haul portion of the transmission being supported over an IP-based network.

F

FCC	Federal Communications Commission. U.S. government agency that supervises, licenses, and controls electronic and electromagnetic transmission standards.
FDM	frequency-division multiplexing. Technique in which the available transmission bandwidth of a circuit is divided by frequency into narrower bands, each used for a separate voice or data transmission channel. FDM means many conversations can be carried on one circuit. Compare to *TDM*.
FIFO	first-in, first-out.
File Transfer Protocol	See *FTP*.
Flash memory	A special kind of EEPROM that can be erased and reprogrammed in blocks instead of one byte at a time. Provides nonvolatile storage so that software images can be stored, booted, and rewritten as necessary. Flash memory resides in a chip when the power is turned off. See also *EEPROM*.
frame	Logical grouping of information sent as a data link layer unit over a transmission medium. Often refers to the header and trailer, used for synchronization and error control, that surround the user data contained in the unit. The terms *cell*, *datagram*, *message*, *packet*, and *segment* are also used to describe logical information groupings at various layers of the OSI reference model and in various technology circles.
Frame Relay	ITU-T-defined access standard. Frame Relay services, as delivered by the telecommunications carriers, employ a form of packet switching analogous to a streamlined version of X.25 networks. Packets are in the form of frames that are variable in length with the payload being anywhere between zero and 4,096 octets. Frame Relay networks are able to accommodate data packets of various sizes associated with virtually any native data protocol.
FRF.11	Frame Relay Forum implementation agreement for Voice over Frame Relay (v1.0 May 1997). This specification defines multiplexed data, voice, fax, DTMF digit-relay, and CAS/Robbed-bit signaling frame formats, but does not include call setup, routing, or administration facilities. See also *VoFR*.

F

FTP File Transfer Protocol. Application protocol, part of the TCP/IP protocol stack, used for transferring files between network nodes. Defined in RFC 959.

full-duplex Capability for simultaneous data transmission between a sending station and a receiving station. Compare to *half-duplex*.

FXO foreign exchange office. A connection between a POTS telephone and a digital telephony switching system.

FXS foreign exchange station. A connection between a digital telephony switching system and a POTS telephone.

G

G.711 An audio compression standard used for digital telephones on a digital PBX/ISDN. In G.711, encoded voice is already in the correct format for digital voice delivery in the PSTN or through PBXes. G.711 uses a bandwidth of 64 Kbps. G.711-compliant devices can communicate with other G.711 devices, but not with G.723 devices. Described in the ITU-T standard in its G-series recommendations.

G.723.1 Describes a compression technique that can be used for compressing speech or audio signal components at a very low bit rate as part of the H.324 family of standards. This codec allows dissimilar communication devices to communicate with each other using a standardized communications protocol. Used for digital telephones on a digital PBX/ISDN that produces digital audio at either 6.4 or 5.3 Kbps. The higher bit rate provides a somewhat higher quality of sound. The lower bit rate provides system designers with additional flexibility. Described in the ITU-T standard in its G-series recommendations.

G.729 ITU-T's standard voice algorithm. Describes the coding of encoding/decoding of speech at 8 kbps using CS-ACELP methods.

G

gatekeeper	1. Component of an H.323 conferencing system that performs call address resolution, admission control, and subnet bandwidth management.
	2. Telecommunications: H.323 entity on a LAN that provides address translation and control access to the LAN for H.323 terminals and gateways. The gatekeeper can provide other services to the H.323 terminals and gateways, such as bandwidth management and locating gateways. A gatekeeper maintains a registry of devices in the multimedia network. The devices register with the gatekeeper at startup and request admission to a call from the gatekeeper.
	In the Cisco CallManager, for example, the gatekeeper is a device that supports the H.225 RAS message set used for call admission control (CAC), bandwidth allocation, and dial pattern resolution. There is one gatekeeper device per Cisco CallManager cluster.
gateway	The point at which a circuit-switched call is encoded and repackaged into IP packets. A gateway is an optional element in an H.323 conference and bridge H.323 conferences to other networks, communications protocols, and multimedia formats.
gateway loads	See *device loads*.
group call pickup	A feature that allows users to pick up incoming calls within their own group or within other call pickup groups by dialing the group call pickup number for that group. See also *call pickup*.
GUI	graphical user interface. User environment that uses pictorial as well as textual representations of the input and output of applications and the hierarchical or other data structure in which information is stored. Conventions such as buttons, icons, and windows are typical, and many actions are performed using a pointing device (such as a mouse).

H

H.320   Suite of ITU-T standard specifications for video conferencing over circuit-switched media such as ISDN, fractional T-1, and switched-56 lines.

H.323   ITU-T standard that describes packet-based video, audio, and data conferencing. Allows dissimilar communication devices to communicate with each other using a standardized communications protocol. H.323 is an umbrella standard that describes the architecture of the conferencing system, and refers to a set of other standards (H.245, H.225.0, and Q.931) to describe its actual protocol. For example, the Cisco IOS integrated router gateways use H.323 to communicate with Cisco CallManager. See also *gateway*.

H.323 clients   Conferencing and collaboration tools designed for the Internet or intranet, including Microsoft NetMeeting devices and symbol phones. See also *Microsoft NetMeeting*.

H.323 RAS   registration, admission, and status. The RAS signaling protocol performs registration, admissions, bandwidth changes, and status and disengage procedures between the VoIP gateway and the gatekeeper. See also *VoIP* and *gatekeeper*.

half duplex   A method of alternating the direction of signals between two terminals but not transmitting in both directions simultaneously. Compare to *full duplex*.

handset   The portion of a telephone set containing the transmitter and receiver, usually designed to be hand-held when the telephone is in use. For example, lift the handset of a Cisco IP Phone to press the dial pad numbers to place a call, review voice mail messages, answer a call, and so on.

hookflash   A form of telecommunications signalling that works by briefly depressing the hookswitch on a telephone. Commonly used for call waiting. Some phones have a "flash" button for this purpose.

hookflash duration   The hookflash interval. A configurable setting used to determine the length of the hookflash generated by pressing the flash button on a phone.

hookswitch   The switch in a telephone that activates or deactivates the device when the handset is picked up or replaced.

H

host name
Name that identifies network devices on the network, enabling you to access the device using this name rather than the IP address.

HSRP
Hot Standby Routing Protocol. A Cisco proprietary protocol used to increase availability of default gateways used by end hosts.

HTTP
HyperText Transfer Protocol. Used by the web server and the client browser to communicate over the internet.

hub
1. A device that serves as the center of a star topology network

2. A device that contains a number of independent interconnected network modules. Hubs may be active (repeaters) or passive (splitters).

3. A common connection point for devices in a network.

hunt group
A series of directory numbers organized to share the load in such a way that if the first line is busy or unavailable, the next line is "hunted" until an available number is found. In Cisco CallManager, for example, the hunt group is a list of destinations that determine the call forwarding order of a call once it has arrived at a pilot point. Hunt groups and pilot points must be established for call routing by the Cisco Telephony Call Dispatcher (TCD).

hunting
1. The automatic routing of calls to an idle circuit in a prearranged group when the circuit being called is busy or unavailable.

2. The movement of a call as it progresses through a group of lines. The call will try to connect to the first line of the group. If that line is busy or unavailable, it will try the second line, and then the third line, etc.

I

IEEE	Institute of Electrical and Electronics Engineers. Professional organization whose activities include the development of communications and network standards. IEEE LAN standards are the predominant LAN standards today.
IETF	Internet Engineering Task Force. Task force consisting of over 80 working groups responsible for developing Internet standards. The IETF operates under the auspices of ISOC.
IMAP	Internet Message Access Protocol. Method of accessing e-mail or bulletin board messages kept on a mail server that can be shared. IMAP permits client electronic mail applications to access remote message stores as if they were local without actually transferring the message.
information (*i*) button	On a Cisco IP Phone, provides online help for selected keys or features and network statistics about the active call.
inter-LATA	Services, traffic or facilities that originate in one local access and transport area (LATA), crossing over and terminating in another LATA, both interstate and intrastate. See also *LATA*.
internal extension	See *DN*.
international-access	A two-digit code necessary for international dialing. For calls originating in the U.S., the international-access code is 01. See also *route filter tags*.
Internet address	See *IP address*.
Intra-LATA	Services, traffic or facilities that originate and terminate in the same LATA, both interstate and intrastate. See also *LATA*.
IP	Internet Protocol. Messaging protocol that addresses and sends packets across the network in the TCP/IP stack, offering a connectionless internetwork service. To communicate using IP, network devices must have an IP address, subnet, and gateway assigned to them. IP provides features for addressing, type-of-service specification, fragmentation and reassembly, and security. Standardized in RFC 791.

I

IP address
Internet protocol address. A 32-bit address assigned to hosts using TCP/IP. An IP address belongs to one of five classes (A, B, C, D, or E) and is written as 4 octets separated by periods (dotted decimal format). Each address consists of a network number, an optional subnetwork number, and a host number. The network and subnetwork numbers together are used for routing, while the host number is used to address an individual host within the network or subnetwork. A subnet mask is used to extract network and subnetwork information from the IP address. Also known as an Internet address. See also *subnet mask*.

IP phone
IP telephone. A phone that transports voice over a network using data packets instead of circuit switched connections over voice only networks. Full-featured IP phones can be plugged directly into an IP network and used very much like a standard private branch exchange (PBX) telephone.

IPv6
IP version 6. Replacement for the current version of IP (version 4). IPv6 includes support for flow ID in the packet header, which can be used to identify flows. Formerly called IPng (next generation). See also *RSVP*.

IPX
Internetwork Packet Exchange. NetWare network layer (Layer 3) protocol used for transferring data from servers to workstations. IPX is similar to IP and XNS.

ISDN
Integrated Services Digital Network. Communication protocol, offered by telephone companies, that permits telephone networks to carry data, voice, and other source traffic. See also *B-ISDN, BRI, N-ISDN,* and *PRI*.

IS-IS
Intermediate System to Intermediate System Protocol. A standards-based routing protocol used mainly in large ISP networks.

ISO
International Organization for Standardization. International organization that is responsible for a wide range of standards, including those relevant to networking. ISO developed the OSI reference model, a popular networking reference model. See also *OSI*.

ISP
Internet service provider. Company that provides Internet access to other companies and individuals.

I

ITU
International Telecommunication Union. The telecommunications agency of the United Nations established to provide worldwide standard communications practices and procedures. Formerly known as the *Comite Consultatif Internationale de Telegraphique et Telephonique* (CCITT).

ITU-T
Telecommunication standardization sector of ITU. International body that develops worldwide standards for telecommunications technologies. See also *ITU*.

IVR
interactive voice response. Term used to describe systems that provide information in the form of recorded messages over telephone lines in response to user input in the form of spoken words or more commonly DTMF signaling. Examples include banks that allow you to check your balance from any telephone and automated stock quote systems. Also known as interactive voice response.

IXC
Inter exchange carrier. Also known as IEC and IC. Long-haul long distance carriers, including all facilities-based inter-LATA carriers. The term generally applies to voice and data carriers, but not to Internet carriers. Although large IXCs can provide intraLATA toll service and may also operate as competitive local exchange carriers in several states, an IXC is understood to be in contrast to a LEC (local exchange carrier) in terms of scope and service.

J

Java
Programming language from Sun Microsystems designed primarily for writing software to leave on World Wide Web sites. Downloadable over the Internet to a PC. It has the ability to bring motion to static Web pages.

jitter
A type of distortion caused by the variation of a signal from its reference that can cause data transmission errors, particularly at high speeds.

JTAPI
Java Telephony Application Programming Interface. See also *API* and *TAPI*.

K

keepalive message
A message sent by one network device to another that the circuit between the two is still active.

keypad template
See *phone button template*.

kill message
A message played at the beginning of a call to a 900 or other pay-per-call number that warns callers of the charges and allows the caller hang up before costs are incurred.

KTS
key telephone system. A small telephone system in which the telephones have multiple buttons requiring the user to directly select central office phone lines and intercom lines. Key telephone systems are similar to PBX systems, but differ in that they do not provide their own switching capabilities, routing and trunking capabilities, dial plans, or feature sets. Most key telephone systems support from 10 to 50 telephones.

L

LAN
Local-area network. High-speed, low-error data network covering a relatively small geographic area (up to a few thousand meters). LANs connect workstations, peripherals, terminals, and other devices in a single building or other geographically limited area. LAN standards specify cabling and signaling at the physical and data link layers of the OSI model. Ethernet, FDDI, and Token Ring are widely used LAN technologies. Compare with *MAN, VLAN* and *WAN*.

LATA
local access and transport area.

LBR
low bit rate.

LDAP
Lightweight Directory Access Protocol. Emerging standard offered as an Internet solution to the intricacies of DAP for disparate legacy e-mail directories, network operating system directories, and databases.

LDIF
LDAP Interchange Format.

L

LFI	link fragmentation and interleaving.
Lightweight Directory Access Protocol	See *LDAP*.
line	Any communications path between two or more points, including satellite or microwave channels.
line button	A button on a telephone set that is used to access the associated line. On Cisco IP Phones, a button you press to access a new line.
line conditioning	The adjustment and control of the properties of a leased line to bring its characteristics within specified tariff limits. Line conditioning generally improves the frequency response and delay characteristics of the line.
line driver	1. A device to amplify signals and reshape distorted pulses.
	2. An alternative to a modem when transmitting via cable over short distances (up to several hundred feet).
line loading	The use of electrical components to improve the response characteristics of a communications line.
line side	A connection that extends from an end office (EO), central office (CO), or private branch exchange (PBX) to the subscriber's telephone or extension. See also *trunk side*.
LLQ	low latency queuing.
local dial peer	A software object that ties together a voice port and the telephone number of a device attached to the port. Also called POTS dial peer.
local loop	1. The communication line between a telephone subscriber and the local exchange carrier (LEC) switching center.
	2. A local connection between an end user and a central office (CO) or end office (EO).

L

locations
A feature that regulates voice quality by limiting bandwidth availability over shared links.

For example, Cisco CallManager uses locations in conjunction with a single, primary Cisco CallManager in a centralized (non-distributed) call processing system that includes multiple remote devices, such as phones or gateways. Under this scheme, locations are created with a geographical correspondence, such as a branch office. A maximum bandwidth to be used by inter-location voice calls is then specified for the location and devices within that location are designated as belonging to that location. See also *distributed call processing*, *CAC* and *regions*.

logical connection
A connection between two or more end points in which no contiguous, physical connection exists. The opposite of a *physical connection*.

loop
1. A closed circuit.

2. A single connection from a switching center to an individual communications device.

loop back
A method of performing transmission tests on a circuit that does not require the assistance of personnel at the far end.

loop start
A method of calling a central office (CO) by applying a closed direct current loop across the line.

loop-start trunk
a two-wire central-office trunk or dial-tone link that recognizes an off-hook situation by putting a 1000-ohm short across the tip and ring leads when the handset is lifted. The most common type of line, also called a *POTS* line. See also *off-hook*.

M

MAC	media access control. Lower of the two sublayers of the data link layer defined by the IEEE. The MAC sublayer handles access to shared media. See also *MAC address*.
MAC address	Standardized data link layer address that is required for every port or device that connects to a LAN. Other devices in the network use these addresses to locate specific ports in the network and to create and update routing tables and data structures. MAC addresses are 6 bytes long and are controlled by the IEEE. Also known as a hardware address, MAC-layer address, and physical address. Compare with *network address*.
MAN	metropolitan-area network. Network that spans a metropolitan area. Generally, a MAN spans a larger geographic area than a LAN, but a smaller geographic area than a WAN. Compare with *LAN* and *WAN*.
MAPI	Messaging Application Programming Interface. A system built into Microsoft Windows that enables different e-mail applications to work together to distribute mail. As long as both applications are MAPI-compliant, they can share mail messages with each other.
mapping	The logical association of one set of values (e.g., addresses in one network) with other quantities or values (e.g., devices on a second network).
MCS	Media Convergence Server. Refers to the Cisco MCS-7800 series server family, which includes the Cisco AVVID IP telephony starter kits. Comes with Cisco CallManager preloaded.
MCU	multipoint control unit. The combination of a multipoint controller and a multipoint processor.
MD5	Message Digest 5. A cryptographic algorithm that can be used to securely verify who sent a specific packet.
media termination point	See *MTP*.
Media Access Control	See *MAC*.

M

media stream	The information content carried on a call. Refers to what is actually transmitted and received over the line, and can be read or written by a media stream API.
Meet-Me Conference	A Cisco CallManager feature that allows users to dial in to specific conference directory number. Requires allocation of exclusive range of directory numbers. When a Meet-Me conference is set up, the conference controller selects a directory number and advertises it to members of the group. The users call the directory number to join the conference. Anyone who calls the directory number while the conference is active, joins the conference. Compare to *Ad-Hoc conference*.
message layer	Application layer (Layer 7 of the OSI model). A logical grouping of information, often composed of a number of lower-layer logical groupings such as packets. The terms *datagram*, *frame*, *packet*, and *segment* are also used to describe logical information groupings at various layers of the OSI reference model and in various technology circles.
message waiting indicator	See *MWI*.
MGCP	Media Gateway Control Protocol. Enables external control and management of data communications equipment operating at the edge of multi-service packet networks (known as media gateways) by software programs, which are known as "call agents" or "media gateway controllers."
MIB	Management Information Base. Database of network management information that is used and maintained by a network management protocol such as SNMP or CMIP. The value of a MIB object can be changed or retrieved using SNMP or CMIP commands, usually through a GUI network management system. MIB objects are organized in a tree structure that includes public (standard) and private (proprietary) branches.
Microsoft NetMeeting	A virtual meeting application from Microsoft. NetMeeting allows you to share applications and a virtual whiteboard, transfer files, and chat with other NetMeeting users through real-time, point-to-point audio conferencing over the Internet or corporate intranet.

M

MIME	Multipurpose Internet Mail Extension. The standard format for including non-text information in Internet mail, thereby supporting a transmission of mixed-media messages across TCP/IP networks.
MLPPP	Multilink Point-to-Point Protocol. Method of splitting, recombining, and sequencing datagrams across multiple, logical data links.
modem	modulator-demodulator. Device that converts digital and analog signals. At the source, a modem converts digital signals to a form suitable for transmission over analog communication facilities. At the destination, the analog signals are returned to their digital form. Modems allow data to be transmitted over voice-grade telephone lines.
MPPC	Microsoft Point-to-Point Compression (PPC) compression algorithm, used to exchange compressed information with a Microsoft NT remote access server.
MTP	1. media termination point. A virtual device that allows transfer, forward, conference, and hold features on any G.711 -law call between an IP Phone and any H.323 gateway, gatekeeper, or client. A call using MTP will automatically convert A-law to -law (and vice versa), if required. As a Cisco software application, MTP installs on a server during the software installation process. 2. Message Transfer Part. Part of SS7 protocol that provides functions for basic routing of signaling messages between signaling points.
-law	North American companding standard used in conversion between analog and digital signals in PCM systems. Similar to the European a-law. See also *a-law* and *companding*.
multicast	Single packets copied by the network and sent to a specific subset of network addresses. A process of transmitting messages from one source to many destinations. Compare with *broadcast* and *unicast*.
multicast address	Single address that refers to multiple network devices. Synonymous with group address. Compare with *broadcast address* and *unicast address*. See also *multicast*.

M

multilink PPP	See *MLPPP.*
multipoint controller	The component of a conferencing engine that manages the participants' access into a conference and the multipoint processors.
multipoint control unit	See *MCU.*
multipoint processor	The component of a conferencing engine that redistributes the group's shared media to other participants outside the group.
multipoint-unicast	A process of transferring PDUs (Protocol Data Units) where an end point sends more than one copy of a media stream to different end points. This may be necessary in networks which do not support multicast.
MWI	message waiting indicator. Method of indicating that a voice mail message was left for a particular directory number. For example, Cisco IP Phones indicate this by lighting an LED on the handset. The Cisco 7630 Digital PBX Adapter works with Cisco CallManager, Octel, and Lucent systems to ensure that the MWI is set properly.

N

name server	A user directory in a local or wide area network.
NANP	North American Numbering Plan. The North American Numbering Plan (NANP) was invented in 1947 by AT&T and Bell Laboratories. It conforms to the International Telecommunications Union Recommendation E.164, the international standard for numbering plans. The NANP is the numbering plan for the Public Switched Telephone Network (PSTN) in the United States and its territories, Canada, Bermuda, and many Caribbean nations. NANP numbers are 10 digits in length, and they are in the format: NXX-NXX-XXXX, where N is any digit 2-9 and X is any digit 0-9. The first three digits are called the numbering plan area (NPA) code, often called simply the area code. The second three digits are called the central office code or prefix. The final four digits are called the line number.

N

NAT network address translation. Changing the IP address of a packet in transit to allow an enterprise to appear to use fewer addresses than are actually necessary.

network Collection of computers, printers, routers, switches, and other devices that are able to communicate with each other over some transmission medium. Examples include LANs and WANs.

network address Network layer address referring to a logical, rather than a physical, network device. Also called a protocol address. Compare with *MAC address*.

network port Connects an IP device to the network.

NFS Network File System. As commonly used, a distributed file system protocol suite developed by Sun Microsystems that allows remote file access across a network. In actuality, NFS is simply one protocol in the suite. NFS protocols include NFS, RPC, XDR, and others. These protocols are part of a larger architecture that Sun refers to as ONC.

NIC 1. network interface card. Board that provides network communication capabilities to and from a computer system. Also called an adapter.

2. network interface controller. An intelligent device that connects a workstation to a network.

N-ISDN Narrowband Integrated Services Digital Network. Communication standards developed by the ITU-T for baseband networks. Based on 64-kbps B channels and 16- or 64-kbps D channels. Contrast with *BISDN*. See also *BRI*, *ISDN*, and *PRI*.

NMS network management system. System responsible for managing at least part of a network. Generally, a reasonably powerful and well-equipped computer, such as an engineering workstation. NMSs communicate with agents to help keep track of network statistics and resources. See also agent.

N

node

1. Computers on a network, or any endpoint of a network connection or a junction common to two or more lines in a network. Nodes can be processors, controllers, or workstations. Nodes, which vary in routing and other functional capabilities, can be interconnected by links, and serve as control points in the network. Sometimes used generically to refer to any entity that can access a network. Used interchangeably with *device*. See also *host*.

2. H.323 entity that uses RAS to communicate with the gatekeeper (for example, an endpoint such as a terminal, proxy, or gateway).

3. In SNA, the basic component of a network and the point at which one or more functional units connect channels or data circuits. See also *SNA*.

North American Numbering Plan

See *NANP*.

NTP

Network Time Protocol. Protocol that ensures that device clocks are set to the same time, relative to Greenwich Mean Time.

NTP server

Used by network devices to synchronize date and time settings to ensure proper recording in log files. See also *NTP*.

O

object code

The output obtained by processing a source program through an assembler or compiler.

object program

A fully compiled software program that is ready to be loaded into a computer.

off-hook

1. A change in line voltage caused when the receiver or handset is lifted from the hookswitch. A traditional PBX or local telephone company recognizes this line voltage change as a request for dial tone.

2. A call condition in which transmission facilities are already in use. Also known as busy.

O

office code	The first three digits of your seven-digit local telephone number. See also *route filter tags*.
off-line	A device that is not permanently connected to a network.
on-hook	1. The condition that exists when a receiver or handset is resting on the hookswitch.
	2. The idle state (open loop) of a single telephone or private branch exchange (PBX) line loop.
online	A signal that indicates a communications link has been established and transmission can begin.
on-screen mode keys	On a Cisco IP Phone, retrieves information about current settings, recent calls, available services, and voice mail messages.
Operational VLAN	A type of VLAN that is obtained through Cisco Discovery Protocol (CDP). Used to indicate the VLAN of which a Cisco IP Phone is a member. Cannot be configured locally. Compare to *Administrative VLAN*.
OPX	off premises extension. A peripheral private branch exchange (PBX) device located in a building other than the one housing the PBX system itself. See also *PBX*.
OSI	Open Systems Interconnection. The only internationally accepted framework of standards for communication between different systems made by different vendors. Developed by the International Organization for Standardization, OSI is a model, not an active protocol. OSI organizes the communication process into seven different categories and places these in a layered sequence based on their relation to the user. The seven layers are: physical, data link, network, transport, session, presentation and applications. See also *IOS*.
OSPF	open shortest path first.

P

packet
Logical grouping of information that includes a header containing control information and (usually) user data. Packets are most often used to refer to network layer units of data. The terms *datagram*, *frame*, *message*, and *segment* are also used to describe logical information groupings at various layers of the OSI reference model and in various technology circles. See also *PDU*.

PAD
packet assembler/disassembler.

partitions
Divides a route plan into subsets. Partitions include organization, location, and type of call.

password
A word or string of characters recognized by automatic means that permits a user access to a place or to protected storage, files, or input/output devices.

patch
A small addition to the original software code, written to bypass or correct a problem, and also provided between software releases.

PBX
private branch exchange. Digital or analog telephone switchboard located on the subscriber premises, typically with an attendant console, and used to connect private and public telephone networks. A PBX is a small, privately owned version of the phone company's larger central switching office. It is connected to one or more central offices by trunks, and provides service to a number of individual phones, such as in a hotel, business, or government office. On a PBX, an outside line is normally accessed by dialing an access digit, such as 9.

PCM
pulse code modulation. Transmission of analog information in digital form through sampling and encoding the samples with a fixed number of bits.

PCS
Personal Communications Service. A lower-powered, higher-frequency competitive technology to cellular. Whereas cellular typically operates in the 800-900 MHz range, PCS operates in the 1.5-1.8 Ghz range.

PDU
protocol data unit. OSI term for packet. See also *BPDU*, *OSI* and *packet*.

performance monitor
a Windows NT server application that displays NT server and CCN activities in real time.

P

PGP
Pretty Good Privacy. Powerful public-key encryption application that allows secure file and message exchanges. There is some controversy over the development and use of this application due, in part, to U.S. national security concerns.

phone button templates
Defines which keys on a phone or IP device perform which functions. Use templates to customize individual IP phones and to assign common button configurations to a large number of phones. Cisco CallManager includes several default phone button templates, all of which can be modified.

phone loads
See *device loads*.

pilot point
Directory number that receives and forwards calls based on a list of hunt group members. In Cisco Call Manager, a directory number necessary for call routing by the Cisco Telephony Call Dispatcher (TCD). See also *hunt group*.

PIN
personal identification number. A multiple digit number, generally known only to the user, that allows access to networks or other systems.

POP
1. point of presence. The IXC equivalent of a local phone company's central office. In other words, a long distance carrier's office in the local community (defined as the LATA). Also refers to the point of presence at which Internet service providers exchange traffic and roots at Layer 2 (Link Layer) of the OSI model.

2. Short for population. One pop equals one person.

3. Post Office Protocol. An e-mail server protocol used in the Internet.

port
An input/output connection for a computer or for communications equipment.

POTS
plain old telephone service. Standard telephone service used by most residential locations. For example, POTS line connections are used to join a Cisco Analog Station gateway and an SMDI-compliant voice mail system. See *PSTN*, *SMDI*.

P

PPP
Point-to-Point Protocol. A link-layer encapsulation method for dialup or dedicated circuits. Successor to SLIP that provides router-to-router and host-to-network connections over synchronous and asynchronous circuits. Whereas SLIP was designed to work with IP, PPP was designed to work with several network layer protocols, such as IP, IPX, and ARA.

PQ
priority queueing.

PRI
Primary Rate Interface. A type of ISDN service designed for large organizations. Includes B-channels (bearer channels) for voice or data, and one D-channel (data channel). PRI comprises 23 B-channels in North America and 30 B-channels in Europe. Compare with *BRI*. See also *B-ISDN*, *ISDN*, and *N-ISDN*.

PROM
programmable read only memory. A type of nonvolatile memory that is electrically programmed by an equipment manufacturer and can only be changed with special equipment that erases the previous program. Compare with *EPROM* and *EEPROM*.

protocol
A set of rules or conventions that govern the format and relative timing of data in a communications network. There are three basic types of protocols: character-oriented, byte-oriented, and bit-oriented. The protocols for data communications cover such things as framing, error handling, transparency, and line control. Ethernet is an example of a LAN protocol.

proxy
A device that relays network connections for other devices that usually lack their own network access.

PSTN
Public Switched Telephone Network. General term referring to the variety of telephone networks and services in place worldwide.

PTM
1. point-to-multipoint. A network configuration that connects one point to multiple points on the network. A main source to many destination connections. Also called PTMPT.

2. pulse time modulation. A type of modulation in which the duration of the modulating pulse varies according to some characteristic of the original analog signal while the pulse amplitude remains constant. More commonly known as pulse duration modulation.

P

Public Switched Telephone Network	See *PSTN*.
pulse code modulation	See *PCM*.
PVID	port VLAN ID.

Q

QoS	quality of service. Measure of performance for a transmission system that reflects its transmission quality and service availability.
query	A request from a master station asking a slave station to identify itself and indicate its status (e.g., busy, alive, waiting, etc.).
queue	A temporary delay in service caused by the inability of a particular system to handle the number of calls attempted. For example, a call may be queued (essentially, waiting in line) for the least expensive route.
queuing	A technique in which incoming calls are stored on hold until an attendant, trunk, trunk group, or station is available to accept them. Also known as *camp on*.

R

RADIUS	Remote Authentication Dial In User Service. A standards-based protocol for AAA. See also *AAA*.
RAS	Registration, Admission, and Status Protocol. Used in the H.323 protocol suite for discovering and interacting with a gatekeeper. See also *H.323* and *gatekeeper*.
Real-Time Transport	See *RTP*.

R

redial	A button on many modern phones used to redial the most recently dialed number.
redialer	Interface hardware device that interconnects between a fax device and a Public Switched Telephone Network (PSTN) network. A redialer is used to forward a dialed number to another destination. Redialers contain a database of referral telephone numbers. When the user dials a specific number, the redialer collects the dialed digits and matches them to a listing in its database. If there is a match, the redialer dials the referral number (transparent to the user) and forwards the call to the referral number.
redundancy	1. Having one or more back up systems available in case of failure of the main system.

2. Backup Cisco CallManagers that handle call processing for a disabled Cisco CallManager within the same group. Also known as *call processing redundancy.*

3. Backup copies of a database shared by a cluster of Cisco CallManagers. Also known as *database redundancy.* |
relay	OSI terminology for a device that connects two or more networks or network systems. A data link layer (Layer 2) relay is a bridge; a network layer (Layer 3) relay is a router. See also *bridge* and *router.*
relay server	A node on the public internet that is configured as a multiuser system. The relay server may be a dedicated device or, during a pilot period, it may be attached on an *ad hoc* basis when the need arises. The relay server is located outside of the Cisco Systems firewall, but it is a secure and controlled system. Although it is a node on the public internet, it is owned, managed and operated by Cisco Systems.
repeater	Device that regenerates and propagates electrical signals between two network segments. Used by transmission systems to regenerate analog or digital signals that were distorted by transmission loss. See also *segment* and *amplifier.*

R

ringback
1. The tone heard at the calling party's end when the called party's phone rings.

2. A signal used by an operator at the receiving end of an established connection to recall an operator at the originating end.

ringdown
A signaling method in which the incoming signal is actuated by alternating current (AC) over the circuit.

RJ-45 port
The 8-pin connector used for data transmission over standard telephone wire. RJ-45 connectors come in two varieties: keyed and non-keyed and accommodate flat or twisted wire. See also *console port*.

route
1. The process of directing a call to the appropriate destination based on the dialed digits, translation patterns, transformation masks, and other route plan considerations.

2. The process of directing a message to the appropriate line and terminal based on information contained in the message header.

route filter
Allows or restricts access to specified routing patterns, such as 1+900, etc. Only applicable in conjunction with routing patterns that use the North American Numbering Plan (NANP).

route filter tags
Applies a name to a subset of the dailed digit string. For example, the phone number 972-555-1234 contains three route filter tags: the local-area-code (972), the office-code (555), and the subscriber (1234). Other route filter tags include the *country code*, *end-of-dialing character*, and *international-access code*.

route group
A route group determines the order of preference for gateway and port usage. All members of a route group must have the same route pattern. Route groups are optional. For example, if two Cisco Access Digital Gateways accept only long distance calls and one carrier is priced below the other, a route group could be created so that calls are first routed to the least expensive carrier. In this case, calls would route to the more expensive carrier only if the first trunk is unavailable.

R

route list	Determines the order of preference for route group usage. If a route list is configured, at least one route group must be configured. See also *route group*.
route pattern	Route patterns range from the very simple to the very complex. For example, a routing pattern of "0" assigned to a gateway would route all calls to the operator through that gateway. Route patterns are used by Cisco CallManager Administration to route inbound and outbound calls. For a Cisco IP Phone, the assigned directory number. Cisco Access Analog Trunk Gateways, Cisco Access Digital Trunk Gateways, and H.323-compliant gateways also use route patterns.
route plan report	In Cisco CallManager, a listing of all call park, call pickup and conference numbers, plus route patterns and translation patterns in the system.
router	1. An interface device between two networks that selects the best route even if there are several networks between the originating network and the destination.
	2. A device that provides network management capabilities (e.g., load balancing, network partitioning, usage statistics, communications priority and troubleshooting tools) that allow network managers to detect and correct problems.
	3. An intelligent device that forwards data packets from one local area network (LAN) to another and that selects the most expedient route based on traffic load, line speeds, costs, or network failures.
routing	The process of finding a path to the destination host. Routing can be very complex in large networks because of the many potential intermediate destinations a packet might traverse before reaching its destination host.
routing bridge	A device that uses network layer methods to determine a network's topology.
routing table	A database stored in a router or other internetworking device that keeps track of routes (and in some cases, the metrics associated with those routes) to particular network destinations.

R

RSVP   Resource Reservation Protocol. Protocol that supports the reservation of resources across an IP network. Applications running on IP end systems can use RSVP to indicate to other nodes the nature (bandwidth, jitter, maximum burst, and so forth) of the packet streams they want to receive. RSVP depends on IPv6. Also known as Resource Reservation Setup Protocol. See also *IPv6*.

RTCP   Real-Time Control Protocol. Monitors the QoS of an IPv6 RTP connection and conveys information about the on-going session. See also *RTP*, *IPv6* and *QoS*.

RTP   Real-Time Transport Protocol. A network protocol used to carry packetized audio and video traffic over an IP network.

S

SA/DA   sending address/destination address.

scalable   Indicates that a software application or a hardware device has the ability to migrate from small operations to large operations.

segment   1. Section of a network that is bounded by bridges, routers, or switches.

2. In a local area network (LAN) that uses a bus topology, a continuous electrical circuit that is often connected to other such segments with repeaters.

3. Term used in the TCP specification to describe a single transport layer unit of information. The terms *datagram*, *frame*, *message*, and *packet* are also used to describe logical information groupings at various layers of the OSI reference model and in various technology circles.

S

server
1. Node or software program that provides services to clients. See also *back end*, *client*, and *FRF.11*.

2. In network addressing, a concentrator, data switch, or host computer being accessed.

3. In a synchronous packet assembler/disassembler (PAD), a device that assigns remote devices to a logical multipoint host line.

signal transfer point
See *STP*.

Simple Network Management Protocol
See *SNMP*.

Skinny Station Protocol
See *SSP*.

SLIP
Serial Line Internet Protocol. Standard protocol for point-to-point serial connections using a variation of TCP/IP. Predecessor of *PPP*.

SMDI
simplified message desk interface. Analog data line from the central office containing information and instructions to your on-premises voice mail box. A required interface for voice mail systems used with Cisco CallManager. SMDI was designed to enable voice mail integration services to multiple clients. However, to use SMDI, the voice mail system must meet several qualifications, including providing database support for two PBX systems simultaneously and IP network connectivity to the voice messaging system while maintaining the existing link to the PBX. SMDI-compliant voice mail systems must be accessible with a null-modem RS-232 cable and available serial port. See also *POTS line*.

SMDS
Switched Multimegabit Data Service. A connectionless high-speed data transmission service intended for application in a Metropolitan Area Network (MAN) environment. A public network service designed primarily for LAN-to-LAN interconnection. See also *cell relay*.

SMTP
Simple Mail Transfer Protocol. Internet protocol providing e-mail services.

S

SNA	Systems Network Architecture. Large, complex, feature-rich network architecture developed in the 1970s by IBM. Similar in some respects to the OSI reference model, but with a number of differences. SNA is essentially composed of seven layers.
SNMP	Simple Network Management Protocol. The protocol governing network management and monitoring of network devices and their functions.
soft keys	On a Cisco IP Phone, buttons that activates features described by a text message. The text message is displayed directly above the soft key button on the LCD screen.
SoftPhone	Application that enables you to use a desktop PC to place and receive software telephone calls and to control an IP telephone. Also allows for audio, video, and desktop collaboration with multiple parties on a call. Cisco IP SoftPhone can be used as a standalone application or as a computer telephony integration (CTI) control device for a physical Cisco IP phone. All features are functional in both modes of operation. See also *Cisco IP phone*.
SPAN	Switched Port Analyzer. Feature of the Cisco Catalyst 5000 switch that extends the monitoring abilities of existing network analyzers into a switched Ethernet environment. SPAN mirrors the traffic at one switched segment onto a predefined SPAN port. A network analyzer attached to the SPAN port can monitor traffic from any of the other Catalyst switched ports.
speakerphone	A telephone equipped with a speaker and a microphone that allows hands-free conversation.
speed dialing	A system that allows a telephone user to reach frequently called numbers by dialing less than seven digits. Also known as Abbreviated Dialing.
speed dial number	A one to four-digit number that replaces a seven- or ten-digit number for speed dialing.
SRB	source-route bridging. Method of bridging originated by IBM and popular in Token Ring networks. In an SRB network, the entire route to a destination is predetermined, in real time, prior to the sending of data to the destination. Contrast with transparent bridging.

S

SS7
Signaling System 7. A telephone signaling system with three basic functions: supervising (monitoring the status of a line or circuit to see if it is busy, idle, or requesting service); alerting (indicating the arrival of an incoming call); addressing (transmission of routing and destination signals over the network). See also *CCIS*.

SSP
Skinny Station Protocol. A Cisco protocol using low bandwidth messages that communicate between IP devices and the Cisco CallManager.

STP
1. shielded twisted-pair. Two-pair wiring medium used in a variety of network implementations. STP cabling has a layer of shielded insulation to reduce EMI.

2. Spanning Tree Protocol. Inactivation of links between networks so that information packets are channeled along one route and will not search endlessly for a destination.

3. signal transfer point. The packet switch in the Common Channel Interoffice Signaling (CCIS) system. See *CCIS* and *SS7*.

subnet mask
A 32-bit address mask used in IP to indicate the bits of an IP address that are being used for the subnet address. See also *IP address*.

switch
Network device that filters, forwards, and floods pieces of a message (packets) based on the destination address of each frame. Switches operate at the data link layer of the OSI model. See also *OSI*.

SYN attack
A particular type of DoS attack that exploits a common flaw in host TCP implementations. See also *TCP*, *DoS*.

T

T1   Trunk Level 1. Digital transmission link with a total signaling speed of 1.544 Mbps. Transmits through the telephone-switching network using AMI or B8ZS coding. The standard in North America, a T1 device combines the output of up to 24 regular telephone lines for transmission over a digital network. Also known as T-1.

TACACS+   Terminal Access Controller Access Control System Plus. A Cisco proprietary protocol for authentication, authorization, and accounting. See also *AAA*.

TAPI   Telephony Application Programming Interface TCP/IP. A set of functions that allow Windows applications to program telephone line-based devices such as single and multi-line phones (including Cisco IP Phones), modems, and fax machines in a device-independent manner. See also *JTAPI*.

TCAP   Transaction Capabilities Application Part. An ISDN application protocol that provides the signaling function for network data bases.

TCD   Cisco Telephony Call Dispatcher. A Cisco CallManager service that handles requests by the Cisco WebAttendant for call control, call dispatching, line status, and user directory information.

TCP   Transmission Control Protocol. Connection-oriented transport layer protocol that provides reliable full-duplex data transmission. TCP is part of the TCP/IP protocol stack. See also *TCP/IP*.

TCP/IP   Transmission Control Protocol/Internet Protocol. The two best-known internet protocols, often erroneously thought of as one protocol. The transmission control protocol (TCP), which corresponds to Layer 4 (the transport layer) of the open systems interconnection (OSI) reference model, provides reliable transmission of data. The internet protocol (IP) corresponds to Layer 3 (the network layer) of the OSI model and provides connectionless datagram service. TCP/IP was developed by the U.S. Department of Defense in the 1970s to support the construction of worldwide internetworks. See also *ARPA, IP* and *TCAP*.

T

TDM	time division multiplexing. A technique for transmitting a number of separate data, voice, and video signals simultaneously over one communications medium by quickly interleaving a piece of each signal one after the other.
telco connector	In LAN terms, a 25-pair polarized connector used to consolidate multiple voice or data lines.
teleconference	A system in which three or more people can be connected by telephone and maintain a continuous connection and conversation. See also *Ad-Hoc conference* and *Meet-Me conference*.
telephone	A device that converts acoustic energy into electrical energy for transmission to a distant point.
telephony	Science of converting sound to electrical signals and transmitting it between widely removed points.
Telephony Call Dispatcher	See *TCD*.
Telnet	A program that lets you connect to other computers on the Internet. The terminal-remote host protocol developed for ARPA that allows you to work from your PC as if it were a terminal attached to another machine by a hardwire line. See *ARPA*.
Telnet proxy	Provides a connection from the customer side to the external application residing on the relay server. When initiating this connector program, the customer is required to specify certain command line parameters, while others are optional.
Telnet proxy program tndconnect	Links the Telnet server at the customer site to the relay server. When started by the customer, it initiates a "Telnet tunnel", establishing a TCP connection from inside the customer firewall out to the relay server on the public internet. Then it establishes another connection to the local Telnet server, creating a two-way link between the entities.

T

TFTP Trivial File Transfer Protocol. Builds and serves files consistent with the TFTP protocol for transfer over the network. A simplified version of the FTP protocol, TFTP requires a TFTP server in your network, which can be automatically identified from the DHCP server. Cisco TFTP serves both Embedded Component Executable and configuration (.cnf) files. See also *DHCP*.

third party call control If an audio stream terminates at some location or physical device other than your application or device, you have third party call control. For example, the Cisco SoftPhone can control the Cisco IP Phones. Used in TAPI development.

toll bypass A toll-free telephony call in which the relative locations of the two ends of the connection would cause toll charges to be applied if the call was made over the PSTN.

ToS type of service.

trace log Collects and stores trace information, according to specifications set in the trace log components. See also *traces*.

traffic The load on a communications device or system.

transcoder A transcoder is a device that takes the output stream of one codec and transcodes (converts) it from one compression type to another compression type. A transcoder also provides MTP capabilities. See also *codec*.

transit network three- or four-digit number that identifies a long distance carrier.

Trivial File Transfer Protocol See *TFTP*.

trunk Physical and logical connection between two switches across which network traffic travels. A trunk is a voice and data path that simultaneously handles multiple voice and data connections between switches. A backbone is composed of a number of trunks. See also *CO*.

T

trunk group	A group of essentially alike trunks (shared electronic characteristics) that go between the same two geographical points. A trunk group performs the same function as a single trunk, but carries multiple conversations.
TSP	Telecommunications Service Priority. The regulatory, administrative, and operational system that authorizes and provides priority treatment for initiating and restoring telecommunication services.

U

UDP	User Datagram Protocol. A connectionless messaging protocol for delivery of data packets. A simple protocol that exchanges datagrams without acknowledgements or guaranteed delivery, requiring that error processing and retransmission be handled by other protocols.
unattended operation	A transmission that is controlled automatically and does not require operator intervention.
unicast	A process of transmitting messages from one source to one destination. Compare with *broadcast* and *multicast*.
unicast address	Address specifying a single network device. See also *unicast*.
unicode	Standard 16-bit system for encoding letters and characters of all the world's languages. In contrast, ASCII uses 8 bits to represent a character.
up/down button	
UPS	uninterruptible power supply. A continuous on-line UPS is one in which the load is continually drawing power through the batteries, battery charger, and inverter, and not directly from the AC supply.
User Datagram Protocol	See *UDP*.
user mask	A series of flags, or bits, that enable and disable specific types of trace information.

V

VAC voice activity compression. A method of conserving transmission capacity by not transmitting pauses in speech.

VAD voice activity detection. When enabled on voice port or a dial peer, silence is not transmitted over the network, only audible speech. When VAD is enabled, the sound quality is slightly degraded, but the connection monopolizes much less bandwidth.

VIC voice interface card.

virtual connection A communications channel between two stations in which information or data transmitted by one station is automatically routed through the network via the most expeditious path to the other station. No long-haul circuit capacity is preassigned to a virtual connection, but capacity is made available as data is transmitted by the stations.

VLAN virtual LAN. Group of devices on one or more LANs that are configured (using management software) so that they can communicate as if they were attached to the same wire, when in fact they are located on a number of different LAN segments. Because VLANs are based on logical instead of physical connections, they are extremely flexible. See also *LAN*.

VoFR Voice Over Frame Relay. Enables a router to carry voice traffic (for example, telephone calls and faxes) over a Frame Relay network.When sending voice traffic over Frame Relay, the voice traffic is segmented and encapsulated for transit across the Frame Relay network using FRF.12 encapsulation.

voiceband A transmission service with a bandwidth considered suitable for transmission of audio signals. Generally 300 or 500 (hertz) to 3,400 (hertz).

voice compression See *compression type*.

voice mail (or messaging) system A device to record, store, and retrieve voice messages. A stand alone system is similar to a collection of individual answering machines; an integrated version provides a higher level of call processing services and features.

V

Voice Over Frame Relay   See *VoFR*.

VoIP   Voice over IP. Enables users to transfer voice communications over a data network using the Internet Protocol (IP).

W

WAN   wide-area network. Data communications network that serves users across a broad geographic area and often uses transmission devices provided by common carriers. Frame Relay, SMDS, and X.25 are examples of WANs. Compare with *LAN* and *MAN*.

WATS   wide area telecommunications service. A discounted toll service provided by long distance and local phone companies in which the owner of the WATS line is charged a flat-rate monthly fee for long distance services.

wave devices   Any device that uses a wave driver, such as a voice modem.

wave driver   Software that plays a proprietary file by Microsoft Windows called a Wave File. Wave files are often used to encode music, rather than voice.

WebAttendant   Client-server application that provides attendant console capabilities and uses a web-based GUI interface to answer and handle inbound and outbound calls that are not serviced by direct inward dialing (DID).

Web interface   A software application that runs on the World Wide Web, and is usually accessed by entering an address starting with www. The Cisco CallManager Administration uses a Web interface.

WFQ   weighted fair queuing. A variation on the class-based queuing (CBQ) technique used in routers. Like CBQ, WFQ divides queues traffic according to traffic class definition, guaranteeing each queue some portion of the total available bandwidth. WFQ goes further to portion out available bandwidth on the basis of individual information flows according to message parameters. See also *CBQ*.

W

whiteboarding	A form of data collaboration that recreates the effect of sharing a common drawing surface viewable by all participants.
wide area telecommunications service	See *WATS*.
wink start	A short off-hook signal.
WOSA	Windows Open Service Architecture. Microsoft's single system level interface for connecting front-end applications with back-end services. Windows Telephony is part of WOSA.
WRED	weighted random early detection. A congestion-avoidance and QoS mechanism for IP-based networks.
WRR	weighted round-robin.

X

XNS	Xerox Network System. Five-layer architecture of protocols that served as the foundation of the OSI seven-layer model.

Y

Z

This is Comment.