A

AAA authentication, authorization, and accounting (pronounced "triple a").

AAL ATM adaptation layer. Service-dependent sublayer of the data link layer. The AAL accepts data from different applications and presents it to the ATM layer in the form of 48-byte ATM payload segments. AALs consist of two sublayers, CS and SAR. AALs differ on the basis of the source-destination timing used, whether they use CBR or BVR, and whether they are used for connection-oriented or connectionless mode data transfer. See AAL5.

AAL5 ATM adaptation layer 5. One of four AALs recommended by the ITU-T. AAL5 is used predominantly for the transfer of packet-based traffic.

ABR available bit rate. QoS class defined by the ATM Forum for ATM networks. ABR is used for connections that do not require timing relationships between source and destination. ABR provides no guarantees in terms of cell loss or delay, providing only best-effort service. Traffic sources adjust their transmission rate in response to information they receive describing the status of the network and its capability to successfully deliver data. Compare with CBR, UBR, and VBR.

ACR allowed cell rate. Parameter defined by the ATM Forum for ATM traffic management. ACR varies between the MCR and the PCR, and is dynamically controlled using congestion control mechanisms.

address mask Bit combination used to describe which portion of an address refers to the network or subnet and which part refers to the host.

ADM add drop multiplexer. In an operations support system, a multiplexer that allows a signal to be added into or dropped out of a Synchronous Optical Network (SONET) span.

ADSL asymmetric digital subscriber line. One type of DSL technology. ADSL is designed to deliver more bandwidth downstream (from the central office to the customer site) than upstream. Downstream rates range from 1.5 to 9 Mbps, while upstream bandwidth ranges from 16 to 640 kbps. ADSL transmissions work at distances up to 18,000 feet (5488 meters) over a single copper twisted pair.

AFI authority and format identifier. Portion of an NSAP-format ATM address that identifies the type and format of the IDI portion of an ATM address. See also IDI and NSAP.

AIS alarm indication signal. In a T1 transmission, an all-ones signal transmitted in lieu of the normal signal to maintain transmission continuity and to indicate to the receiving terminal that there is a transmission fault that is located either at, or upstream from, the transmitting terminal.

APS   automatic protection switching. SONET switching mechanism that routes traffic from working lines to protect them in case of a line card failure or fiber cut.

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 used in high-speed transmission media such as E3, SONET, and T3.

B

bandwidth   The difference between the highest and lowest frequencies available for network signals. The term is also used to describe the rated throughput capacity of a given network medium or protocol.

Bellcore   Bell Communications Research, Inc., now known as Telcordia Technologies, Inc. Organization that performs research and development on behalf of the RBOCs and sets telephony standards (in the United States).

BER   bit error rate. Ratio of received bits that contain errors.

BITS   Building Integrated Timing Supply. A single building master timing supply that supplies DS1 and DS0 level timing throughout an office.

boot flash   Separate Flash memory device used primarily to store the Cisco IOS boot helper image, operational Cisco IOS images, and system configuration information.

boot helper   Minimum-function Cisco IOS image that serves only to boot the full-function, operational Cisco IOS image. Also referred to as "rxboot."

BOOTP   Bootstrap protocol. Protocol used by a network node to determine the IP address of its Ethernet interfaces, so that network booting can proceed.

BPE   Backplane Ethernet.

bps   bits per second.

bridge-group   A group of interfaces bridged together to emulate a multiport bridge.

buffer   Storage area used for handling data in transit. Buffers are used in internetworking to compensate for differences in processing speed between network devices. Bursts of data can be stored in buffers until they can be handled by slower processing devices. Sometimes referred to as a packet buffer.

BVI   Bridge Group Virtual Interface. The logical Layer 3-only interface associated with a bridge group when IRB is configured.

C

CBOS   Cisco Broadband Operating System. The common operating system for DSL CPE, including the Cisco 675, the Cisco 675e, the Cisco 676, and the Cisco 677.

CBR	constant bit rate. QoS class defined by the ATM Forum for ATM networks. CBR is used for connections that depend on precise clocking to ensure undistorted delivery. Compare with ABR, UBR, and VBR.
CEF	Cisco Express Forwarding. Advanced Layer 3 IP switching technology that optimizes network performance and scalability for networks with large and dynamic traffic patterns, such as the Internet, on networks characterized by intensive Web-based applications, or interactive sessions.
CEMF	Cisco Element Management Framework.
CHAP	Challenge Handshake Authentication Protocol. Security feature supported on lines using PPP encapsulation that prevents unauthorized access. 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. Compare to PAP.
CiscoFusion	Cisco internetworking architecture that "fuses" together the scalability, stability, and security advantages of the latest routing technologies with the performance benefits of ATM and LAN switching, and the management benefits of VLANs. See also Cisco IOS.
Cisco IOS	Cisco system software that provides common functionality, scalability, and security for all products under the CiscoFusion architecture. Cisco IOS allows centralized, integrated, and automated installation and management of internetworks, while ensuring support for a wide variety of protocols, media, services, and platforms. See also CiscoFusion.
CLEC	competitive local exchange carrier. Company that builds and operates communication networks in metropolitan areas and provides its customers with an alternative to the local telephone company.
CLI	command-line interface. An interface that allows you to interact with the operating system by entering commands and optional arguments. Compare with GUI.
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.
CPE	customer premises equipment. Terminating equipment, such as terminals, telephones, and modems, supplied by the telephone company, installed at customer sites, and connected to the telephone company network.
CRC	cyclic redundancy check. Error-checking technique in which the frame recipient calculates a remainder by dividing frame contents by a prime binary divisor and compares the calculated remainder to a value stored in the frame by the sending node.

D

DCC	Data Country Code. One of two ATM address formats developed by the ATM Forum for use by private networks. Adapted from the subnetwork model of addressing in which the ATM layer is responsible for mapping network layer addresses to ATM addresses. Compare with ICD.
DHCP	Dynamic Host Configuration Protocol. Provides a mechanism for allocating IP addresses dynamically so that addresses can be reused when hosts no longer need them.
DMA	direct memory access. DMA transfers data into memory at high speeds with no processor overhead.

DNIS	dialed number identification service. Method for delivery of automatic number identification that uses out-of-band signaling
DNS	Domain Name Server. The part of the distributed database system for resolving a fully qualified domain name into the four-part IP (Internet Protocol) number used to route communications across the Internet.
downlink	A network connection between the Cisco 6400 chassis and an aggregated modem shelf.
DRAM	dynamic random-access (read/write) memory.
DS0	digital signal level 0. Framing specification used in transmitting digital signals at 64 kbps. Twenty-four DS0s equal one DS1.
DS1	digital signal level 1. Framing specification used in transmitting digital signals at 1.544 Mbps on a T1 facility.
DS3	digital signal level 3. Framing specification used for transmitting digital signals at 44.736 Mbps on a T3 facility.
DSL	digital subscriber line. A public network technology that delivers high bandwidth over conventional copper wiring at limited distances. There are various types of DSL, including ADSL, HDSL, SDSL, and VDSL. All are provisioned via modem pairs, with one modem located at a central office and the other at the customer site. Because most DSL technologies don't use the whole bandwidth of the twisted pair, there is room left for a voice channel.
DSLAM	DSL access multiplexer.
DTE	data terminal equipment. Device at the user end of a user-network interface that serves as a data source, destination, or both. DTE includes such devices as computers, protocol translators, and multiplexers.

E

EHSA	enhanced high system availability. This processor redundancy scheme reduces switchover time by requiring that the redundant processor be running in hot standby mode.
EIA	Electronic Industries Association. Group that specifies electrical transmission standards. The EIA and TIA have developed numerous well-known communications standards, including EIA/TIA-232 and EIA/TIA-449. See also TIA.
Ethernet	Baseband LAN specification originated by Xerox Corporation and developed jointly by Xerox, Intel, and Digital Equipment Corporation. Ethernet networks use CSMA/CD and run over a variety of cable types at 10 Mbps. Ethernet is similar to the IEEE 802.3 series of standards. See also 10BaseT and Fast Ethernet.
ETSI	European Telecommunications Standards Institute.
EXEC	Interactive command processor of Cisco IOS.

F

Fast Ethernet	Any of a number of 100-Mbps Ethernet specifications. Fast Ethernet offers a speed ten times that of the 10BaseT Ethernet specification, while preserving frame format, MAC mechanisms, and MTU. Based on an extension of the IEEE 802.3 specification. See also 100BaseT.
FERF	far-end receive failure.
FTP	File Transfer Protocol. Application protocol, part of the TCP/IP protocol stack, used for transferring files between network nodes. FTP is defined in RFC 959.
FRU	field-replaceable unit. Term applied to the Cisco 6400 components that can be replaced in the field, including the NLC, NSP, NRP, and PEM units, plus the blower fans.

G

GBIC	gigabit interface converter.
GCRA	generic cell rate algorithm. In ATM, an algorithm that defines conformance with respect to the traffic contract of the connection. For each cell arrival, the GCRA determines whether the cell conforms to the traffic contract.
GE	gigabit Ethernet.
GUI	graphical user interface. User environment that uses pictorial as well as textual representation of the input and output of applications and the data structure in which information is stored. Conventions such as buttons, icons, and windows are typical, and many actions are performed by means of a pointing device (such as a mouse).

H

home gateway	A router or access server that terminates tunnels and PPP sessions.
HTML	Hypertext Markup Language. Simple hypertext document formatting language that uses tags to indicate how a given part of a document should be interpreted by a viewing application, such as a Web browser.
HTTP	Hypertext Transfer Protocol. The protocol used by Web browsers and Web servers to transfer files, such as text and graphic files.

I

ICD	International Code Designator. One of two ATM address formats developed by the ATM Forum for use by private networks. Adapted from the subnetwork model of addressing in which the ATM layer is responsible for mapping network layer addresses to ATM addresses. Compare with DCC.
ICMP	Internet Control Message Protocol. Network layer Internet protocol that reports errors and provides other information relevant to IP packet processing. Documented in RFC 792.

IDI	initial domain identifier. Portion of an NSAP or NSAP-format ATM address that specifies the address allocation and administration authority. See also NSAP.
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. See also ISOC.
IFS	integrated file system, such as PCMCIA disks, TFTP, FTP, or rcp servers.
IISP	Interim Interswitch Signaling Protocol. Formerly known as PNNI Phase 0, IISP is an ATM signaling protocol for interswitch communication by means of manually configured prefix tables. In the Cisco 6400, the software image can be configured to use IISP (C6400-WI-M) or PNNI (C6400-WP-M) for signaling connections.
ILEC	Incumbent Local Exchange Carrier. The traditional local telephone service provider in the United States.
ILMI	Interim Local Management Interface. ATM specification for incorporating network-management capabilities into the ATM UNI.
I/O	input/output.
IOS	See Cisco IOS.
IP	Internet Protocol. Network layer protocol in the TCP/IP stack offering a connectionless internetwork service. IP provides features for addressing, type-of-service specification, fragmentation and reassembly, and security. Documented in RFC 791.
IP over ATM	Suite used to send IP datagram packets between nodes on the Internet.
IPCP	IP Control Protocol. Protocol that establishes and configures IP over PPP.
IRB	integrated routing and bridging. The process of routing between a number of bridge-groups.
ISOC	Internet Society. International nonprofit organization, founded in 1992, that coordinates the evolution and use of the Internet. In addition, ISOC delegates authority to other groups related to the Internet, such as the IAB. ISOC is headquartered in Reston, Virginia (United States).
ITT	Input Translation Table. Data structure used in MMC chipsets for the Cisco 6400 NSP.
ITU-T	International Telecommunications Union Telecommunication Standardization Sector. International body that develops worldwide standards for telecommunications technologies. The ITU-T carries out the functions of the former CCITT.

K

kbps	kilobits per second.

L

L2F Layer 2 Forwarding. Protocol that supports the creation of secure virtual private dial-up networks over the Internet.

L2TP Layer 2 Tunneling Protocol. An Internet Engineering Task Force (IETF) standards track protocol defined in RFC 2661 that provides tunneling of PPP. Based upon the best features of L2F and PPTP, L2TP provides an industry-wide interoperable method of implementing VPDN.

LAC L2TP access concentrator. A node that acts as one side of an L2TP tunnel endpoint and is a peer to the L2TP network server (LNS). The LAC sits between an LNS and a remote system and forwards packets to and from each. Packets sent from the LAC to the LNS requires tunneling with the L2TP protocol as defined in this document. The connection from the LAC to the remote system is either local or a PPP link.

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.

LATA local access and transport area. A geographic territory used primarily by local telephone companies to determine charges for intrastate calls. As a result of the Bell divestiture, switched calls that both begin and end at points within the LATA (intraLATA) are generally the sole responsibility of the local telephone company, while calls that cross outside the LATA (interLATA) are passed on to an Inter eXchange Carrier (IXC).

LED light emitting diode. Semiconductor device that emits light produced by converting electrical energy. Status lights on hardware devices are typically LEDs.

leg The endpoint of an internal connection. A cross-connect connects two legs together. For SVCs and soft PVCs, a leg can be a source leg or a destination leg. Also referred to as a "connection leg" or "half-leg."

LEC local exchange carrier. Local or regional telephone company that owns and operates a telephone network and the customer lines that connect to it.

LNS L2TP network server. A node that acts as one side of an L2TP tunnel endpoint and is a peer to the L2TP access concentrator (LAC). The LNS is the logical termination point of a PPP session that is being tunneled from the remote system by the LAC. Analogous to the Layer 2 Forwarding (L2F) home gateway (HGW).

M

M23 A method of multiplexing four DS1 signals into a DS2 signal, then multiplexing seven DS2 signals into a DS3 signal.

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.

Mbps megabits per second.

MBS maximum burst size. In an ATM signaling message, burst tolerance is conveyed through the MBS, which is coded as a number of cells. The burst tolerance together with the SCR and the GCRA determine the MBS that can be transmitted at the peak rate and still be in conformance with the GCRA. See also SCP and GCRA.

MCR minimum cell rate. Parameter defined by the ATM Forum for ATM traffic management. MCR is defined only for ABR transmissions, and specifies the minimum value for the ACR.

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.

MTU maximum transmission unit. Maximum packet size, in bytes, that a particular interface can handle.

multimode fiber Optical fiber supporting propagation of multiple frequencies of light. See also single-mode fiber.

mux multiplexing device. Combines multiple signals for transmission over a single line. The signals are demultiplexed, or separated, at the receiving end.

N

NAS network access server. A device providing local network access to users across a remote access network such as the PSTN.

NCP Network Control Protocol. Series of protocols for establishing and configuring different network layer protocols, such as for AppleTalk over PPP.

NEBS Network Equipment Building Systems. A standard set of physical and electrical requirements for telecommunications equipment intended for installation in the telephone company central office environment. NEBS requirements are specified in various Bellcore documents.

NLC node line card. One of the component cards used in the Cisco 6400. These cards provide the interfaces for moving data into and out of the Cisco 6400 system. They can be used as either uplink or downlink interfaces. Different types of node line cards support different transmission protocols and data rates.

NME network management Ethernet. The local area network used to control and manage equipment in a central office and branch locations. The NME connection on the Cisco 6400 is an RJ-45 connector for a 10BaseT port on the NSP module.

NMS network management system. System responsible for managing at least part of a network. An NMS is 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.

NNI Network-to-Network Interface. ATM Forum standard that defines the interface between two ATM switches that are both located in a private network or are both located in a public network. The interface between a public switch and private one is defined by the UNI standard.

NRP node route processor. One of the component modules used in the Cisco 6400. This module is the Layer 3 element for the Cisco 6400 responsible for implementing the routing function.

NRP-1　　　Node route processor that incorporates a 100-Mbps Fast Ethernet interface for connecting into an IP network and has processing capability for OC-3 rate of user traffic. Compare with NRP-2.

NRP-2　　　Node route processor that provides a Gigabit Ethernet interface and sufficient processing capability for handling OC-12 rate of user traffic. Compare with NRP-1.

NSNAP　　　network service access point. Network addresses, as specified by ISO. An NSAP is the point at which OSI Network Service is made available to a transport layer (Layer 4) entity.

NSP　　　node switch processor. One of the component modules used in the Cisco 6400. This module is responsible for all ATM switching and control functions within the Cisco 6400.

NVRAM　　　Nonvolatile RAM. RAM that retains its contents when a unit is powered off.

O

OC　　　optical carrier. A series of physical protocols (OC-3, OC-12, and so on), defined for SONET optical signal transmissions.

OIR　　　online insertion and removal. Feature that permits the addition, replacement, or removal of cards without interrupting the system power, entering console commands, or causing other software or interfaces to shut down. Sometimes called hot swapping or power-on servicing.

P

PAM mailbox serial interface　　　Backplane interface that connects the NSP and the NRP-2. Used for internal communication only, the PAM mailbox serial interface is not intended to carry user data.

PAP　　　Password Authentication Protocol. Authentication protocol that allows PPP peers to authenticate one another. The remote router attempting to connect to the local router is required to send an authentication request. Unlike CHAP, PAP passes the password and host name or username in the clear (unencrypted). PAP does not itself prevent unauthorized access, but merely identifies the remote end. The router or access server then determines if that user is allowed access. PAP is supported only on PPP lines. Compare with CHAP.

PCMCIA　　　Personal Computer Memory Card International Association. Refers to a standard used for credit-card-sized computer peripherals. Type I devices are very thin memory cards: Type 2 devices include most modems and interfaces; and Type 3 devices are used for disk drives and thicker components.

PCR　　　peak cell rate. Parameter defined by the ATM Forum for ATM traffic management. In CBR transmissions, PCR determines how often data samples are sent. In ABR transmissions, PCR determines the maximum value of the ACR.

PEM　　　power entry module. The PEM converts the -48 VDC power voltage into the voltages used internally by the Cisco 6400. The Cisco 6400 is designed to operate on one or two PEM units.

ping　　　packet internet groper. ICMP echo message and its reply. Often used in IP networks to test whether a network device destination can be reached from the source.

PLCP   physical layer convergence procedure. Specification that maps ATM cells into physical media, such as T3 or E3, and defines certain management information.

PNNI   1. Private Network-Network Interface. ATM Forum specification for distributing topology information between switches and clusters of switches that is used to compute paths through the network. The specification is based on well-known link-state routing techniques and includes a mechanism for automatic configuration in networks in which the address structure reflects the topology.

                   2. Private Network Node Interface. ATM Forum specification for signaling to establish point-to-point and point-to-multipoint connections across an ATM network. The protocol is based on the ATM Forum UNI specification with additional mechanisms for source routing, crankback, and alternate routing of call setup requests.

point-to-multipoint connection   One of two fundamental connection types. In ATM, a point-to-multipoint connection is a unidirectional connection in which a single-source end system (known as a root node) connects to multiple destination end systems (known as leaves). Compare with point-to-point connection.

point-to-point connection   One of two fundamental connection types. In ATM, a point-to-point connection is a connection between two endpoints. Compare with point-to-multipoint connection.

POP   point of presence. Physical location within a LATA where a long distance carrier or cellular provider interfaces with the network of the local exchange carrier (LEC), also called the local telephone company.

POTS   plain old telephone service. See PSTN.

power-on servicing   Feature that allows faulty components to be diagnosed, removed, and replaced while the rest of the device continues to operate normally. Sometimes abbreviated POS. Sometimes called hot swapping. See also OIR.

PPP   Point-to-Point Protocol. A protocol that encapsulates network layer protocol information over point-to-point links. PPP is defined in RFC 1661.

PPPoA   PPP over ATM.

PPPoE   PPP over Ethernet.

PPTP   Point-to-Point Tunneling Protocol. Microsoft's Point-to-Point Tunneling Protocol. Some of the features in L2TP were derived from PPTP.

precloning   Cloning a specified number of virtual access interfaces from a virtual template at system startup or when the command is configured.

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

PTA   PPP Termination Aggregation.

PVC   permanent virtual circuit or connection. Virtual circuit that is permanently established. PVCs save bandwidth associated with circuit establishment and tear down in situations where certain virtual circuits must exist all the time. In ATM terminology, called a permanent virtual connection. Compare with SVC. See also virtual circuit (VC).

PVP   permanent virtual path. Virtual path that consists of PVCs. See also PVC and virtual path.

Q

QoS   quality of service. Measure of performance for a transmission system that reflects its transmission quality and service availability.

R

RADIUS   Remote Authentication Dial-In User Service. Database for authenticating dial-in connections and for tracking connection time.

RBE   routed bridge encapsulation. The process by which a stub-bridged segment is terminated on a point-to-point routed interface. Specifically, the router is routing on an IEEE 802.3 or Ethernet header carried over a point-to-point protocol such as PPP, RFC 1483 ATM, or RFC 1490 Frame Relay.

RBOC   regional Bell operating company. One of the regional phone companies that resulted from the breakup of the old AT&T. The RBOCs are still primarily limited to providing local access, although this is changing.

rcp   remote copy protocol. Protocol that allows users to copy files to and from a file system residing on a remote host or server on the network. The rcp protocol uses TCP to ensure the reliable delivery of data.

RFC   Request For Comments. Document series used as the primary means for communicating information about the Internet. Some RFCs are designated by the IAB as Internet standards. Most RFCs document protocol specifications such as Telnet and FTP, but some are humorous or historical. RFCs are available online from numerous sources.

RISC   reduced instruction set computing.

RMON   Remote Monitoring. MIB agent specification described in RFC 1271 that defines functions for the remote monitoring of networked devices. The RMON specification provides numerous monitoring, problem detection, and reporting capabilities.

ROMMON   ROM monitor.

S

SAR   segmentation and reassembly.

SCM   Service Connection Manager.

SCR   sustainable cell rate. Parameter defined by the ATM Forum for ATM traffic management. For VBR connections, SCR determines the long-term average cell rate that can be transmitted. See also VBR.

SDH   Synchronous Digital Hierarchy. European standard that defines a set of rate and format standards that are transmitted using optical signals over fiber. SDH is similar to SONET, with a basic SDH rate of 155.52 Mbps, designated at STM-1. See also SONET and STM-1.

SIMM   single in-line memory module. Used for Flash internal memory in the Cisco 6400.

single-mode fiber　Fiber-optic cabling with a narrow core that allows light to enter only at a single angle. Such cabling has higher bandwidth than multimode fiber, but requires a light source with a narrow spectral width (for example, a laser). Also called monomode fiber. See also multimode fiber.

SNAP　Subnetwork Access Protocol. Internet protocol that operates between a network entity in the subnetwork and a network entity in the end system. SNAP specifies a standard method of encapsulating IP datagrams and ARP messages on IEEE networks.

SNMP　Simple Network Management Protocol. Network management protocol used almost exclusively in TCP/IP networks. SNMP provides a means to monitor and control network devices, and to manage configurations, statistics collection, performance, and security.

soft PVC　A PVC-SVC hybrid in which only the two terminating virtual connection links (VCLs) at either end are permanent and the rest of the VCLs are switched (SVC). Like the PVC, a soft PVC is permanent and the called party cannot drop the connection. Like the SVC, a soft PVC is automatically rerouted if a switch or link in the path fails.

SONET　Synchronous Optical Network. High-speed (up to 2.5 Gbps) synchronous network specification developed by Bellcore and designed to run on optical fiber. STS-1 is the basic building block of SONET. Approved as an international standard in 1988. See also SDH, STS-1, and STS-3c.

SSD　The Service Selection Dashboard (SSD) server is a customizable Web-based application that works with the Cisco SSG to allow end customers to log on to and disconnect from proxy and passthrough services through a standard Web browser. After the customer logs in to the service provider's network, an HTML Dashboard is populated with the services authorized for that user.

SSG　Service Selection Gateway. The Cisco SSG offers service providers a means for menu-based service selection. End users can select services from the Dashboard menu, and the Cisco SSG will set up and tear down proxy and passthrough network connections based on a user's selection. The Cisco SSG will account for the services selected so that service providers can bill for individual services.

Stratum 3　A precision timing reference that provides a free-run accuracy of +/- 4.6 PPM (parts per million), pull-in capability of 4.6 PPM, and holdover stability of less than 255 slips during first day. Thorough descriptions can be found in ANSI T1.101-1994 and the Bellcore document GR-1244-CORE.

STS-1　Synchronous Transport Signal level 1. Basic building block signal of SONET, operating at 51.84 Mbps. Faster SONET rates are defined as STS-n, where n is a multiple of 51.84 Mbps. See also SONET.

STS-3c　Synchronous Transport Signal level 3, concatenated. SONET format that specifies the frame structure for the 155.52-Mbps lines used to carry ATM cells. See also SONET.

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

SVC　switched virtual circuit. Virtual circuit that is dynamically established on demand and is torn down when transmission is complete. SVCs are used in situations where data transmission is sporadic. Called a switched virtual connection in ATM terminology. Compare with PVC.

T

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. Common name for the suite of protocols developed by the U.S. Department of Defense (DoD) in the 1970s to support the construction of worldwide internetworks. TCP and IP are the two best-known protocols in the suite.

telco Abbreviation for telephone company.

Telnet Standard terminal emulation protocol in the TCP/IP protocol stack. Telnet is used for remote terminal connections, enabling users to log into remote systems and use resources as if they were connected to a local system.

TFTP Trivial File Transfer Protocol. Simplified version of FTP that allows files to be transferred from one computer to another over a network.

TIA Telecommunications Industry Association. Organization that develops standards relating to telecommunications technologies. See also EIA.

trunk Physical and logical connection between two switches across which network traffic travels. A backbone is composed of a number of trunks.

TTY teletype.

tunneling Architecture providing the services necessary to implement any standard point-to-point data encapsulation scheme.

U

UAC universal access concentrator.

UBR unspecified bit rate. QoS class defined by the ATM Forum for ATM networks. UBR allows any amount of data up to a specified maximum to be sent across the network, but there are no guarantees in terms of cell loss rate and delay. Compare with ABR, CBR, and VBR.

UDP User Datagram Protocol. Connectionless transport layer protocol in the TCP/IP protocol stack. UDP is a simple protocol that exchanges datagrams without acknowledgments or guaranteed delivery, requiring that error processing and retransmission be handled by other protocols. UDP is defined in RFC 768.

UNI User-to-Network Interface. ATM Forum specification that defines an interoperability standard for the interface between ATM-based products (a router or an ATM switch) located in a private network and the ATM switches located within the public carrier networks.

uplink A network connection between the Cisco 6400 system chassis and a WAN. Also known as a trunk.

V

VBR variable bit rate. QoS class defined by the ATM Forum for ATM networks. VBR is subdivided into a real time (RT) class and nonreal time (NRT) class. VBR-RT is used for connections in which there is a fixed timing relationship between samples. VBR-NRT is used for connections in which there is no fixed timing relationship between samples, but that still need a guaranteed QoS. Compare with ABR, CBR, and UBR.

VC virtual circuit. Logical circuit created to ensure reliable communication between two network devices. A VC is defined by a VPI/VCI pair and can be either permanent (PVC) or switched (SVC). In ATM, a virtual circuit is called a virtual channel.

VCC virtual channel connection. Logical circuit, made up of VCLs, that carries data between two end points in an ATM network. Sometimes called a virtual circuit connection. See also VCD, VCL, and VPI.

VCD virtual circuit descriptor. When you create a PVC, you create a VCD and attach it to the VPI and VCI. A VCD identifies which VPI/VCI to use for a particular packet. The number chosen for the VCD is independent of the VPI/VCI used.

VCI virtual channel identifier. A 16-bit field in the header of an ATM cell. The VCI, together with the VPI, is used to identify the next destination of a cell as it passes through a series of ATM switches on its way to its destination. The Cisco 6400 supports VCIs as large as 14 bits (0 to 16383).

VCL virtual channel link. Connection between two ATM devices. A VCC is made up of one or more VCLs. See also VCC.

virtual access interface Instance of a unique virtual interface that is created dynamically and exists temporarily. Virtual access interfaces can be created and configured differently by different applications, such as virtual profiles and virtual private dialup networks. Virtual access interfaces are cloned from virtual template interfaces.

virtual circuit Logical circuit created to ensure reliable communication between two network devices. A virtual circuit is defined by a VPI/VCI pair, and can be either permanent (PVC) or switched (SVC). Virtual circuits are used in Frame Relay and X.25. In ATM, a virtual circuit is called a virtual channel. Sometimes abbreviated VC.

virtual path Logical grouping of virtual circuits that connect two sites. See also virtual circuit.

virtual template interface A logical interface configured with generic configuration information for a specific purpose or configuration common to specific users, plus router-dependent information. The template takes the form of a list of Cisco IOS interface commands that are applied to virtual access interfaces, as needed.

VP virtual path. One of two types of ATM circuits identified by a VPI. A virtual path is a bundle of virtual channels, all of which are switched transparently across an ATM network based on a common VPI. See also VPI.

VPI virtual path identifier. An 8-bit field in the header of an ATM cell.

VPDN Virtual Private Dial-Up Networking. A system that permits dial-in networks to exist remotely to home networks, while giving the appearance of being directly connected. VPDNs use L2TP and L2F to terminate the Layer 2 and higher parts of the network connection at the home gateway, instead of the NAS.

VPN virtual private network. A secure IP-based network that shares resources with one or more physical networks. A VPN can contain one or more geographically dispersed sites that can communicate securely over a shared backbone.

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.

Web Console
A graphical user interface (GUI) application that communicates with the system by translating HTML pages into Cisco IOS commands.

X

xDSL
Various types of digital subscriber lines. Examples include ADSL, HDSL, and VDSL.