NOTE: Refer to the Cisco Dictionary of Internetworking Terms and Acronyms for terms not included in this glossary.

A

AAA Authentication, authorization, and accounting. The network security services that provide the primary framework through which you set up access control on your router or access server.

address resolution A method for resolving differences produced by the use of computer addressing schemes. Address resolution usually specifies a method for mapping network layer (Layer 3) addresses to data link layer (Layer 2) addresses.

agent An object or application that can be a server, a client, or both.


awk A pattern-scanning and processing language.

B

bash Bourne-again shell. Interactive UNIX shell based on the traditional Bourne shell, but with increased functionality.

C

call Voice or data connection between two endpoints.

CBC Cipher block chaining. Encryption algorithm that combines an encrypted block with the previous block so that identical patterns in different messages are encrypted differently, depending upon the difference in the previous data.

CDR Call detail record. A record written to a database for use in postprocessing activities. This includes information such as where the call originated, start time, to whom the call was made, and when the call ended.


cipher Cryptographic algorithm for encryption and decryption.

CMIP Common Management Information Protocol. OSI network management protocol created and standardized by ISO for the monitoring and control of heterogeneous networks.

codec Coder-decoder. Device that transforms analog voice into digital bit stream and vice-versa.
cron
Clock daemon that starts a process that executes commands at a certain date and time.

crypto
Encrypted information.

D

DES

DHCP
Dynamic Host Control Protocol. A protocol used to dynamically allocate and assign IP addresses. DHCP allows you to move network devices from one subnet to another without administrative attention.

dial peer
An addressable call endpoint. Voice over IP allows two types of dial peer: POTS and VoIP.

dial plan
Description of the dialing arrangements for customer use on a network.

directive
Configuration command that controls one or more aspects of system behavior. Directives reside in the system’s configuration file.

DNIS
Dialed number identification service (the called number). Feature of trunk lines where the called number is identified; this called-number information is used to route the call to the appropriate service. DNIS is a service used with toll-free dedicated services whereby calls placed to specific toll-free numbers are routed to the appropriate area within a company to be answered.

DNS
Domain Naming System. A system used in the Internet for translating names of network nodes into addresses.

DSL
Digital subscriber line. Public network technology that delivers high bandwidth over conventional copper wiring at limited distances. DSL is provisioned by means of modem pairs, with one modem located at a central office and the other at the customer site. Most DSL technologies do not use the whole bandwidth of the twisted pair, leaving room for a voice channel.

DTMF
Dual-tone multifrequency. Tones generated when a button is pressed on a telephone, primarily used in the U.S. and Canada.

E

E.164 number space
Global plan for telephone numbers wherein every device connected to the telephone network is assigned a unique numerical address.

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.

endpoint
SIP or H.323 terminal or gateway. An endpoint can call and be called. It generates and terminates the information stream.

ENUM
Informally, electronic number. DNS-based method for mapping phone numbers to IP addresses.
F
  forking  Splitting of an incoming call to more than one endpoint. The first endpoint to answer the call establishes the connection; the other endpoint drops the call.

  FQDN  Fully qualified domain name. Full name of a system, rather than just its host name. For example, aldebaran is a host name; aldebaran.interop.com is an FQDN.

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

  FXS  Foreign exchange station. An interface that connects directly to a standard telephone and supplies ring, voltage, and dial tone. Cisco’s FXS interface is an RJ-11 connector that allows connections to basic telephone service equipment, key sets, and PBXs.

G
  gateway  In the IP community, an older term referring to a routing device that connects a VoIP network with PBXs and PSTN devices. Today, the term router is used to describe nodes that perform this function, and gateway refers to a special-purpose device that performs an application-layer conversion of information from one protocol stack to another.

  GKTMP  GateKeeper Transaction Message Protocol. A text-based message protocol that is used as an interface between a gatekeeper and a back-end server such as Cisco NAM.

  GUI  Graphical user interface. A user environment that uses pictorial as well as textual representations of the input and the output of applications and the hierarchical or other data structure in which information is stored. Such conventions as buttons, icons, and windows are typical, and many actions are performed using a pointing device (such as a mouse). Microsoft Windows and the Apple Macintosh are prominent examples of platforms using a GUI.

H
  H.323  A standardized communication protocol for allowing dissimilar communication devices to communicate with each other. H.323 defines a common set of CODECs, call setup and negotiating procedures, and basic data transport methods. H.323 provides for the following types of network endpoints: H.323 terminals, gatekeepers, MCUs, and gateways.

  HMAC  Hash-Based Message Authentication Code. A mechanism for message authentication based on the use of cryptographic hash functions. HMAC can be used with any iterative cryptographic hash function in combination with a secret shared key. The cryptographic strength of HMAC depends on the properties of the underlying hash function.

  HTTP  Hypertext Transfer Protocol. The protocol used by web browsers and web servers to transfer files, such as text and graphic files.

  HTTP digest  Password-based authentication method supported by Lightweight Directory Access Protocol (LDAP) servers.
ICMP
Internet Control Message Protocol. A network-layer Internet protocol that governs the reporting of errors and provision of other information relevant to IP packet processing.

IETF
Internet Engineering Task Force. Task force consisting of over 80 working groups responsible for developing Internet standards.

IP
Internet Protocol. A network-layer protocol in the TCP/IP stack that offers a connectionless internetwork service. IP provides features for addressing, type-of-service (ToS) specification, fragmentation and reassembly, and security.

IPSec
IP security. A framework of open standards that provides data confidentiality, data integrity, and data authentication between participating peers. IPSec provides these security services at the IP layer.

ISDN
Integrated Services Digital Network. A communications protocol, offered by telephone companies, that permits telephone networks to carry data, voice, and other traffic.

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

ITU
International Telecommunications Union. An organization established by the United Nations to set international telecommunications standards and to allocate frequencies for specific uses.

Java
An object-oriented programming language developed at Sun Microsystems to solve a number of problems in modern programming practice. Java is used extensively on the World Wide Web, particularly for applets.

JRE
Java Runtime Environment. A subset of files included in the Java Development Kit (JDK) that provides the minimum runtime for Java technology-enabled applications.

LCF message
Location-confirm message. Message that contains the transport address of the destination endpoint that the gatekeeper sends in response to an LRQ message.

LDAP
Lightweight Directory Access Protocol. A protocol that provides access for management and browser applications that provide read/write interactive access to the X.500 Directory. LDAP enables anyone to locate organizations, individuals, and other resources such as files and devices in a network, whether on the Internet or on a corporate intranet. LDAP is a “lightweight” (smaller amount of code) version of DAP (Directory Access Protocol), which is part of X.500, a standard for directory services in a network.

LEC
Local exchange carrier. A telephone company that provides customer access to the world-wide public switched network through one of its central offices.

License manager. Cisco SIP proxy server software that is automatically installed when the provisioning server (pserver) is installed. It handles the storage of license keys.
| **LNP** | Local number portability. Before Signaling System 7 (SS7), 800 numbers were not portable. If a company moved, they had to get a new number. The Telecom Act of 1996 mandated that personal phone numbers should also be portable. Telcos are required to support the porting of telephone numbers within a geographic area, increasing the demands on the SS7 network. |
| **location server** | Device that processes requests (typically from a redirect or proxy server) to provide information about the possible location of a target end user. |
| **LRJ message** | Location-reject message. Message that a gatekeeper sends to reject an LRQ message. |
| **LRQ message** | Location-request message. Message that an endpoint sends to request that a gatekeeper provide address translation. |
| **M** | Media gateway controller. A device that provides control of media and signaling gateways. |
| **MGC** | Media Gateway Control Protocol. Protocol that helps bridge the gap between circuit-switched and IP networks. It combines Internet Protocol Device Control (IPDC) and Simple Gateway Control Protocol (SGCP), and allows software programs to exert external control and management of data communications devices or media gateways at the edges of multiservice packet networks. |
| **MIB** | Management Information Base. Database of network management information that is used and maintained by means of a network management protocol such as Simple Network Management Protocol (SNMP). The value of a MIB object can be changed or retrieved, usually through a GUI-based network-management system. MIB objects are organized in a tree structure that includes public (standard) and private (proprietary) branches. |
| **MySQL** | Database used to store and access provisioning system and subscriber feature data. |
| **N** | Network application manager. A NAM contains a small configuration that allows it to directly route a subset of calls and dispatch the other requests. |
| **NAM** | The process of associating a name with a network location. |
| **name mapping** | Naming-authority pointer record. Specifies a regular-expression-based rewrite rule that converts an existing string into a new domain label or uniform resource identifier (URI). This conversion enables the use of DNS to look up services for a variety of resource names that are not in domain-name syntax. |
| **NAT** | Network Address Translation. Internet standard for reducing the need for globally unique IP addresses. NAT allows an organization with addresses that are not globally unique to connect to the Internet by translating those addresses into globally routable address space. |
**next-hop routing**
Type of routing that relies on destination (next-hop) associations that tell a router that a particular destination can be reached optimally by sending the packet to a particular router representing the next hop on the way to the final destination. When a router receives an incoming packet, it checks the destination address and attempts to associate this address with a next hop.

**NTP**
Network Time Protocol. Protocol built on top of TCP that ensures accurate local time-keeping with reference to radio and atomic clocks located on the Internet. NTP is capable of synchronizing distributed clocks within milliseconds over long time periods.

**P**

**PBX**
Private branch exchange. Digital or analog telephone switchboard located on the subscriber premises and used to connect private and public telephone networks.

**PDU**
Protocol data unit. Another term for packet.

**PEM**
Privacy-enhanced mail. Internet e-mail that provides confidentiality, authentication, and message integrity by means of various encryption methods. Not widely deployed in the Internet.

**PID**
Protocol identifier. Field in a Call Request Packet message sent to an ISP host.

**POTS**
Plain old telephone service. Basic telephone service supplying standard single-line telephones, telephone lines, and access to the public switched telephone network (PSTN).

**proxy server**
Server that initiates requests on behalf of and receives requests from a client.

**pserver**
Provisioning server. The main server used by the Cisco SPS GUI-based provisioning system.

**PSTN**
Public switched telephone network. General term referring to the variety of telephone networks and services in place worldwide. Sometimes called POTS.

**Q**

**QoP**
Quality of protection: authentication only, authentication and integrity, or both.

**R**

**RADIUS**
Remote Authentication Dial-In User Service. An authentication and accounting system used by many internet service providers.

**RAS**
Registration, Admission, and Status Protocol. Protocol that is used between endpoints and the gatekeeper to perform management functions. RAS signaling performs registration, admissions, bandwidth changes, status, and disengage procedures between the VoIP gateway and the gatekeeper.

**redirect server**
Server that receives SIP requests from a client, strips out the address in the request, checks its address tables for any other addresses that might be mapped to the one in the request, and then returns the results of the address mapping to the client.

**registrar server**
Server that accepts REGISTER requests from user-agent clients (UACs) for registration of their current location. Registrar servers are often colocated with proxy or redirect servers.
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**SES**
Severely errored second. A second during which the bit error ratio is greater than a specified limit and transmission performance is significantly degraded.

**SHA-1**
Secure Hash Algorithm 1. An algorithm that takes a message of fewer than 264 bits in length and produces a 160-bit message digest. The large message digest provides security against brute-force collision and inversion attacks.

**signaling**
Process of sending a transmission signal for purposes of communication.

**SIP**
Session Initialization Protocol. A protocol that offers many of the same architectural features as H.323, but relies on IP-specific technologies such as DNS. It also incorporates the concept of fixed port numbers for all devices and allows for the use of proxy servers.

**sipd**
SIP proxy server. A server that handles all call processing and SIP messages.

**SNMP**

**spa**
SIP provisioning agent. Agent that resides on a Cisco SPS farm member and handles requests that the provisioning server gets from the GUI-based provisioning system. It receives requests from the provisioning server, accesses and updates (as needed) the SIP directives (sipd.conf) file, and provides feedback, by way of the provisioning server, to the GUI.

**SRV record**
Server record. Record that allows administrators to use several servers for a single domain, to move services from host to host with little difficulty, and to designate some hosts as primary servers for a service and others as backups. Clients ask for a specific service or protocol for a specific domain and receive the names of any available servers.

**SSL**
Secure Socket Layer. Encryption technology for the web used to provide secure transactions, such as the transmission of credit card numbers for e-commerce.

**T**

**T1**
Digital WAN carrier facility. T1 carries DS-1 formatted data at 1.544 Mbps through the telephone-switching network. T1 is the North American equivalent of an E1 line.

**TCB**
Transaction control block. A data structure in which Cisco SPS stores from which it accesses the state information associated with SIP transactions.

**TCL**
Toolkit Command Language. A scripting language used for gateway products both internally and externally to Cisco IOS software code.

**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.

**TFTP**
Trivial File Transfer Protocol. Simplified version of FTP that allows files to be transferred from one computer to another over a network, usually without the use of client authentication (for example, username and password).

**TLS**
Transport Layer Security Protocol. An IETF protocol that offers an alternative to SSL encryption technology.
Glossary

U

UA       User agent.

UAC    User-agent client. A client application that initiates a SIP request.

UAS    User-agent server. A server application that contacts the user when a SIP request is received and returns a response on behalf of the user. The response accepts, rejects, or redirects the request.

UDP    User Datagram Protocol. A connectionless transport layer protocol in the TCP/IP protocol stack. UDP is a simple protocol for the exchange of datagrams without acknowledgments or guaranteed delivery. It requires that error processing and retransmission be handled by other protocols.

URI    Uniform resource identifier. Type of formatted identifier that encapsulates the name of an Internet object and labels it with an identification of the name space, thus producing a member of the universal set of names in registered name spaces and of addresses referring to registered protocols or name spaces.

URL    Uniform resource locator. Type of formatted identifier that describes the access method and the location of an information resource object on the Internet.

V

VoIP    Voice over IP. Technology that makes it possible to carry normal telephony-style voice over an IP-based internet with POTS-like functionality, reliability, and voice quality. VoIP enables a router to carry voice traffic (for example, telephone calls and faxes) over an IP network.

VSA    Vendor-specific attribute. An attribute that has been implemented by a particular vendor. It uses the attribute Vendor-Specific to encapsulate the resulting AV pair: essentially, Vendor-Specific = protocol:attribute = value.

X

XML    Extensible Markup Language. A standard maintained by the World Wide Web Consortium (W3C). It defines a syntax that lets you create markup languages to specify information structures. Information structures define the type of information—for example, subscriber name or address—not how the information looks (bold, italic, and so on). External processes can manipulate these information structures and publish them in a variety of formats.