



GLOSSARY

A

- AAA** Authentication, Authorization and Accounting
- agent advertisement** An advertisement message which includes a router advertisement message along with special extensions that contain Mobile-IP-specific information.
- agent discovery** The method by which a mobile node (MN) determines whether it is currently connected to its home network or a foreign network. It is the mechanism by which mobile nodes query and discover mobility agents.
- agent solicitation** A request for an agent advertisement.
- APN** Access Point Name.
- ARP** Address Resolution Protocol. Internet protocol used to map an IP address to a MAC address.

B

- binding information** The entries in the mobility binding table.
- binding information reply** Active HA replies with all binding information to standby HA when request received.
- BSC** Base Station Controller. It provides the control functions and physical links between the MSC and BTS in a GSM mobile wireless network.
- BSS** Base Station Subsystem. Refers to the radio-related functions provided by the BTS and BSC in a GSM mobile wireless network.
- BTS** Base Transceiver Station. A land-based station in a GSM mobile wireless network that consists of transceivers and antennas, which handle the radio interface to a mobile station. A BSC controls one or more BTSs.

C

- CDMA** Code Division Multiple Access. A method of dividing a radio spectrum to be shared by multiple users through the assignment of unique codes. CDMA implements spread spectrum transmission.
- CHAP** Challenge Handshake Authentication Protocol. It is a security feature which periodically verifies the identity of the peer using a 3-way handshake.

CiscoView	GUI-based device-management software application that provides dynamic status, statistics, and comprehensive configuration information for Cisco internetworking devices. It also provides device monitoring functions and basic troubleshooting capabilities, and can be integrated with several leading SNMP-based network management platforms.
CM	CiscoWorks Campus Manager. It provides powerful tools for configuring, managing, understanding, and visualizing the complex physical and logical Layer 2 infrastructures.
CoA	Care-of address. The care-of address is a temporary IP address of the MN on a foreign or visited network. There are two types of care-of addresses: Foreign Agent CoA and Collocated CoA.
Collocated CoA	The temporary IP address assigned to the MN. This enables direct delivery of datagrams to the MN.
community string	Text string that acts as a password and is used to authenticate messages sent between a management station and a router containing an SNMP agent. The community string is sent in every packet between the manager and the agent.
correspondent node	A peer with which a mobile node communicates. A correspondent node may be either stationary or mobile.
CS	CiscoWorks Common Services. It represents a common set of management services that are shared by Cisco Works applications.

D

DCR	Device and Credential Repository. It is a common repository of devices, their attributes, and credentials, required to manage devices in a management domain.
De-activation	Process of disabling network access and privileges for a subscriber device, and reclaiming device attributes for other subscriber devices; de-activation occurs as part of subscriber account deprovisioning, or as part of activation of a replacement subscriber device; some device attributes (such as IP address leases) might not be reclaimable until the leases have expired.
DFM	CiscoWorks Device Fault Manager provides real-time, detailed fault analysis, designed specifically for Cisco® devices.
DFP	Dynamic Feedback Protocol. Allows host agents to report the change in status of the host systems dynamically. The status reported is a relative weight that specifies a host server's capacity to perform work.
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.
DNS	Domain Name System. System used on the Internet for translating names of network nodes into addresses.

E

EMS	Element Management System.
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F	
FA	Foreign Agent. A router on a foreign network that assists the MN in informing its HA of its current care-of address. The FA detunnels and delivers packets to the MN that are tunneled by the HA.
FCAPS	Fault-management, Configuration, Accounting, Performance, and Security.
Foreign Agent CoA	The static IP address of a FA. The MN uses this address and the datagrams to the MN are send via the FA.
foreign network	Any network excluding the home network of the mobile node.
FWLB	Firewall Load Balancing.
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G	
GUI	Graphical User Interface.
GRE	Generic Routing Encapsulation. Tunneling protocol developed by Cisco that can encapsulate a wide variety of protocol packet types inside IP tunnels, creating a virtual point-to-point link to Cisco routers at remote points over an IP internetwork.
GSM	Global System for Mobile Communications. A second generation (2G) mobile wireless networking standard defined by ETSI. It uses TDMA technology and operates in the 900-MHz radio band.
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H	
HA	Home Agent. A router on the home network of the MN that maintains information about the current location of the MN, as identified in its care-of address. The Home Agent redirects packets by tunneling them to the MN at its current location.
HA-SLB	Home Agent Server Load Balancing.
HDLC	High-Level Data Link Control. It is a bit-oriented synchronous data link layer protocol developed by ISO which specifies a data encapsulation method on synchronous serial links using frame characters and checksums.
HLR	Home Location Register. A database that contains information about subscribers to a mobile network. The HLR registers subscribers for a particular service provider.
HMAC	Hash-based Message Authentication Code. HMAC is a mechanism for message authentication using cryptographic hash functions. HMAC can be used with any iterative cryptographic hash function, for example, MD5, SHA-1, in combination with a secret shared key.
HMAC-MD5	Hashed Message Authentication Codes with MD5 (RFC 2104). A keyed version of MD5 that enables two parties to validate transmitted information using a shared secret.

home network	The network or virtual network which matches the subnet address of the mobile node.
HSRP	Hot Standby Router Protocol. A Cisco routing protocol for fault-tolerant IP routing that enables a set of routers to work together to present the appearance of a single virtual router to the hosts on a LAN; used in environments where critical applications are running and fault-tolerant networks have been designed.

I

IAB	Internet Architecture Board. Board of internetwork researchers who discuss issues pertinent to Internet architecture.
ICMP	Internet Control Message Protocol. A protocol that supports packets containing error, control, and informational messages.
IDU	Incremental Device Update.
IPSec	IP Security Protocol. A framework of open standards that provides data confidentiality, data integrity, and data authentication between participating peers.
IPM	Internetwork Performance Monitor. A Cisco product for measuring and monitoring network performance statistics such as network latency, jitter, availability, packet loss, and errors.
IRDP	ICMP Router Discovery Protocol. Protocol that enables a host to determine the address of a router that it can use as a default gateway.

L

LMS	LAN Management Solution. A software bundle of management applications for managing mobile wireless applications in a LAN.
loopback address	A special IP number that is designated for the software loopback interface of a machine. The loopback interface has no hardware associated with it, and it is not physically connected to a network. This allows testing of software even if a physical device goes down.

M

mobility agent	A router that facilitates Internet traffic forwarding for a MN when it moves from its home network. There are two different types of mobility agents: Home Agent and Foreign Agent.
mobility binding	The association of a home IP address and the current COA of the MN and the remaining lifetime.
mobility security association	A collection of security contexts, between a pair of nodes, which may be applied to Mobile IP protocol messages exchanged between them. Each context indicates an authentication algorithm and mode, a secret (a shared key or appropriate public or private key pair), and a style of replay protection in use.

MD5	Message Digest 5. A one-way hashing algorithm that verifies the integrity of the communication, authenticates the origin, and checks for timeliness. It takes the registration message and a key to compute the smaller chunk of data, called a message digest, plus a secret key.
MIB	Management Information Base. Database of network management information that is used and maintained by a network management protocol, such as SNMP.
MIP	Mobile IP.
MN	Mobile Node. A host or router that changes its point of attachment from one network or subnet to another.
MPLS	Multiprotocol Label Switching. Switching method that forwards IP traffic using a label. This label instructs the routers and the switches in the network where to forward the packets based on preestablished IP routing information.
MLPPP	Multilink Point-to-point Protocol.
MSC	Mobile Switching Center. Provides telephony switching services and controls calls between telephone and data systems.
MTU	Maximum Transmission Unit. Maximum packet size, in bytes, that a particular interface can handle.
MWC	Mobile Wireless Center. A Cisco domain management system that provides provisioning management, fault mediation, and performance mediation for mobile wireless networks.
MWAM	Multiprocessor WAN Application Module.
MWFM	Mobile Wireless Fault Mediator.
MWR	Mobile Wireless Router.

N

NAI	Network Access Identifier. The NAI is the user ID that the client submits during PPP authentication with the syntax <i>username@realm</i> . The NAI identifies the user as well as assists the routing of the authentication request.
NMS	Network Management System. An application or suite of applications designed to monitor and manage networks using SNMP.
Node	A host or router.

O

ODAP	On-Demand Address Pool. ODAP allows you to centralize the management of large pools of addresses and simplify the configuration of large networks.
OSI	Open System Interface.
OSS	Operations Support System.

P

PMIP	Proxy-Mobile IP.
PAP	Password Authentication Protocol. Authentication protocol that allows PPP peers to authenticate one another.
PDN	Packet Data Network.
PDSN	Packet Data Serving Node. A node that provides the primary wireless mobile data access to Internet and intranets using the CDMA2000 Radio Access Network environment.
PPP	Point-to-Point Protocol. A protocol that encapsulates network layer protocol information over point-to-point links.
PPTP	Point-to-Point Tunneling Protocol.
proxy ARP	Variation of the ARP protocol in which an intermediate device (for example, a router) sends an ARP response on behalf of an end node to the requesting host.

R

RADIUS	Remote Authentication Dial-in User Service. An authentication and accounting system used by many ISPs for user ID and password authentication.
RAN	Radio Access Network.
registration	The process by which the MN is associated with a COA on the HA while it is away from home. Registration may happen directly from the mobile node to the HA or through a FA.
replay attack	A form of network attack in which an individual records an authentic message that was previously transmitted and replays it at a later time.
RD	Route Distinguisher. It creates routing and forwarding tables for a VPN. It includes an autonomous system number and an arbitrary number, or it is IP-address-relative (includes an IP address and an arbitrary number).
RFC	Document series used as the primary means for communicating information about the Internet. Some RFCs are designated by the IAB as Internet standards.
RLB	RADIUS Load Balancing.
RME	CiscoWorks Resource Manager Essentials. A web-based management solution for managing inventory, configuration, and software updates in Cisco routers and switches.
RRP	Mobile IP Registration Reply.
RRQ	Mobile IP Registration Request.
RWAN	Routed WAN Management Solution. A software bundle of management applications for managing mobile wireless applications in a WAN.

S

security association	A collection of security contexts, between a pair of nodes, which may be applied to Mobile IP protocol messages exchanged between them. Each context indicates an authentication algorithm and mode, a secret (a shared key or appropriate public or private key pair), and a style of replay protection in use.
security context	An object that encapsulates the information regarding security between two entities. It establishes a context in which authentication and authorization actions are carried out.
SLB	Server Load Balancing. A Cisco feature that balances the user traffic across multiple TCP/IP-based servers.
SPI	Security Parameter Index. The index which uniquely identifies a particular security association.
Spread Spectrum	A radio transmission technology that spreads the user information over a much wider bandwidth than otherwise required in order to gain benefits such as improved interference tolerance and unlicensed operation.
SNMP	Simple Network Management Protocol. A common method by which network management applications can query a management agent using a supported management information base.

T

TAC	Technical Assistance Center.
TACACS	Terminal Access Controller Access Control System. Authentication protocol that provides access authentication and related services.
TACACS+	Terminal Access Controller Access Control System Plus. Proprietary Cisco enhancement to Terminal Access Controller Access Control System (TACACS). Provides additional support for authentication, authorization, and accounting.
TCP	Transmission Control Protocol. A protocol used in TCP/IP networks that enables two hosts to establish a connection and exchange streams of data.
TDM	Time-division Multiplexing. A multiplexing method that combines data streams by assigning each stream to a different time slot.
TDMA	Time Division Multiplex Access. Type of multiplexing where two or more channels of information are transmitted over the same link by allocating a different time interval (slot or slice) for the transmission of each channel, that is, the channels take turns to use the link.
Telnet	Standard terminal emulation protocol in the TCP/IP protocol stack.
TFTP	Trivial File Transfer Protocol. A simple form of File Transfer Protocol often used by servers to boot diskless work stations, X-terminals, and routers.
TID	Tunnel Identifier.
tunnel	The path followed by a datagram while it is encapsulated from the Home Agent to the mobile node.

U

UDP User Datagram Protocol. A layer 4 IP protocol that provides for exchange of datagrams without acknowledgements or guaranteed delivery.

V

visited network A network other than the home network of a mobile node, to which the mobile node is currently connected.

visitor list The list of mobile nodes visiting a Foreign Agent.

VPDN Virtual Packet Data Network.

VPN Virtual Private Network. Enables IP traffic to travel securely over a public TCP/IP network by encrypting all traffic from one network to another.

VRF A VPN routing or forwarding instance. A VRF consists of an IP routing table, a derived forwarding table, a set of interfaces that use the forwarding table, and a set of rules and routing protocols that determine what goes into the forwarding table.

W

WAN Wide Area Network.

WAP Wireless Application Protocol.

WLAN Wireless Local Area Network. A LAN that uses high-frequency radio waves rather than wires to communicate between nodes.