



Numerics

802.11b/g An IEEE specification for a wireless LAN airlink.

A

agent advertisement An advertisement message constructed by attachment of a special extension to a router advertisement message.

agent discovery The method by which a mobile node determines whether it is currently connected to its home network or a foreign network and detects whether it has moved and the way it has moved. It is the mechanism by which mobile nodes query and discover mobility agents. This is done through an extension of the ICMP router discovery protocol, IRDP (RFC 1256), which includes a mechanism to advertise mobility services to potential users.

agent solicitation A request for an agent advertisement.

B

binding information Binding information contains the entries in the mobility binding table.

binding information reply Active HA replies with all binding information to standby HA when request received.

binding information reply acknowledgement The peer home agent acknowledges that it has received the requested binding information.

binding information request The HA sends a binding information request to its peer to retrieve all mobility bindings for a specified HA address.

binding update A binding update contains the information in a mobile node's registration request. The HA sends the update to its peer after accepting a registration.

C

- care-of address** The termination point of the tunnel to a mobile node or Mobile Router. This can be a collocated care-of address, by which the mobile node or Mobile Router acquires a local address and detunnels its own packets, or a Foreign Agent care-of address, by which a Foreign Agent detunnels packets and forwards them to the mobile node or Mobile Router.
- collocated care-of address** An IP address temporarily assigned to the interface of the mobile node. A collocated care-of address represents the current position of the mobile node on the foreign network and can be used by only one mobile node at a time.
- correspondent node** A peer with which a mobile node is communicating. A correspondent node may be either stationary or mobile.

F

- foreign agent** A router on a mobile node's visited network that provides routing services to the mobile node while registered. The foreign agent detunnels and delivers datagrams to the mobile node that were tunneled by the mobile node's home agent. For datagrams sent by a mobile node, the foreign agent may serve as a default router for registered mobile nodes.
- foreign network** Any network other than the home network of the mobile node.

G

- Generic routing encapsulation (GRE)** A generic encapsulation procedure, defined in RFC 1701, that was developed prior to the development of Mobile IP.

H

- home address** An IP address that is assigned for an extended time to a mobile node. It remains unchanged regardless of where the node is attached to the Internet.
- home agent** A router on a mobile node's home network that tunnels packets to the mobile node while it is away from home. It keeps current location information for registered mobile nodes called a *mobility binding*.
- home network** The network, possibly virtual, whose network prefix equals the network prefix of the home address of a mobile node.
- HSRP group address** The virtual IP address of the HSRP group.

I

inform	An SNMP trap message that includes a delivery confirmation request. See “trap.”
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L

link	A facility or medium over which nodes communicate at the link layer. A link underlies the network layer.
link-layer address	The address used to identify an endpoint of some communication over a physical link. Typically, the link-layer address is a MAC address of an interface.
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.
loopback interface	A software function that emulates many of the functions of a real interface. The loopback interface has no hardware associated with it, and it is not physically connected to a network.
Internet Control Message Protocol (ICMP)	Network layer Internet protocol that reports errors and provides other information relevant to IP packet processing.

M

MIB	Management Information Base. Database of network management information that is used and maintained by a network management protocol such as SNMP. The value of a MIB object can be changed or retrieved using SNMP commands, usually through a Network Management System (NMS). MIB objects are organized in a tree structure that includes public (standard) and private (proprietary) branches.
mobile network	A network that moves with the Mobile Router. A mobile network is a collection of hosts and routes that are fixed with respect to each other but are mobile, as a unit, with respect to the rest of the Internet.
mobile node	A host or router that changes its point of attachment from one network or subnet to another. A mobile node can change its location without changing its IP address; it may continue to communicate with other Internet nodes at any location using its home IP address, assuming link-layer connectivity to a point of attachment is available.
mobile router	A mobile node that is a router. It provides for the mobility of one or more entire networks moving together, perhaps on an airplane, a ship, a train, an automobile, a bicycle, or a kayak. The nodes connected to a network served by the Mobile Router may themselves be fixed nodes or mobile nodes or routers.
mobility agent	A Home Agent or a Foreign Agent.
mobility binding	The association of a home address with a care-of address and the remaining lifetime.

mobility security association A collection of security contexts between a pair of nodes that 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/private key pair), and a style of replay protection in use.

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

N

NMS network management system. An application or suite of applications designed to monitor networks using SNMP. CiscoView is one example of an NMS.

node A host or router.

P

PC104+ A compact version of PC, PC/AT, and PCI bus.

peer HA Active HA and standby HA are peers to each other.

physical network Physical infrastructure of a network, for example, cables and wires.

R

registration The process by which the mobile node is associated with a care-of address on the Home Agent while it is away from home. Registration may happen directly from the mobile node to the Home Agent or through a Foreign Agent.

roaming interface An interface used by the Mobile Router to detect Foreign Agents and Home Agents while roaming. Registration and traffic occur on the interface.

RRP Mobile IP Registration Reply

RRQ Mobile IP Registration Request

S

SNMP Simple Network Management Protocol. 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, typically through the use of an NMS.

SPI security parameter index. The index identifying a security context between a pair of nodes.

T

- trap** Message sent by an SNMP agent to a network management station, console, or terminal to indicate the occurrence of a significant event, such as a specifically defined condition or a threshold that was reached.
- tunnel** The path followed by a packet while it is encapsulated from the Home Agent to the mobile node. The model is that, while it is encapsulated, a packet is routed to a knowledgeable decapsulating agent, which decapsulates the datagram and then correctly delivers it to its ultimate destination.

V

- virtual network** A network with no physical instantiation beyond a router (with a physical network interface on another network). The router (a Home Agent, for example) generally advertises reachability to the virtual network using conventional routing protocols.
- 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.

