

MOBILE IP

Mobile IP is an Internet Engineering task Force (IETF) standard communication protocol designed to allow mobile device users to move from one place to another while maintaining a permanent IP address. This protocol allows location independent routing of IP datagrams on the Internet.

Each mobile node is identified by its home address. When away from its home network, a mobile node is associated with a care-of-address which identifies its current location and its home address is associated with the local endpoint of a tunnel to its home agent. Mobile IP specifies how a mobile node registers with its home agent and the home agent routes datagram to the mobile node through the tunnel.

Mobile IP was designed to support seamless and continuous internet connectivity. The goal of IP mobility is to maintain the TCP connection between a mobile host and a static host reducing the effects of location changes while the mobile host is moving around without having to change the underlying TCP/IP protocol.

TERMINOLOGY ASSOCIATED WITH MOBILE IP

Mobile Agent

A home agent stores information about mobile nodes whose permanent home address is in home agent's network. The Home Agent acts as a router on a mobile host's home network which tunnels datagrams for delivery to the mobile host when it is away from home, maintains a location directory for the mobile host.

Home Network

The home network of a mobile device is the network within which the device receives its identifying IP address or home address.

Foreign Agent

A foreign agent stores information about mobile nodes visiting its network. Foreign agents advertise care-of-addresses which are used by Mobile IP. The foreign agent acts as a router on a Mobile host's visited network which provides routing services to the mobile host while registered. Foreign agent detunnels and delivers datagrams to the mobile host that were tunneled by the Mobile host's home agent.

Foreign Network

A foreign Network is the network in which mobile node is operating when away from its home network,

Home address

The home address of a mobile device is the IP address of

Care-of- address

The care-of address of a mobile device is the network native IP address of the device when operating in a foreign network.

Binding

A binding is the association of the home address with a care-of address.

WORKING

A node wanting to communicate with the mobile node uses the permanent home address of the mobile node as the destination address to send packets to. Normal routing mechanisms forward these packets to the home agent. The home agent redirects these packets towards the remote address through an IP tunnel by encapsulating the datagram with a new IP header using the care of address of the mobile node.