FACULTY OF ENGINEERING & TECHNOLOGY

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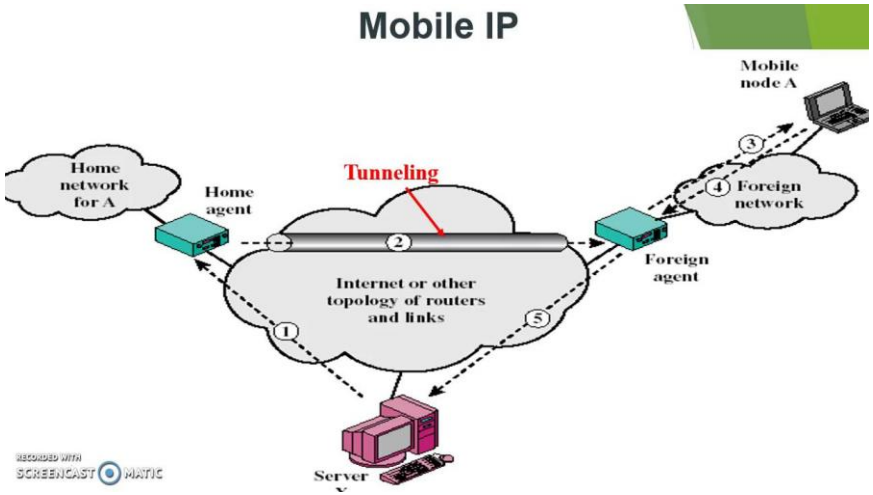
Topics Covered

Mobile Internet Protocol (or Mobile IP)
Terminologies of Mobile IP

Mobile Internet Protocol (or Mobile IP)

Mobile IP is a communication protocol (created by extending Internet Protocol, IP) that allows the users to move from one network to another with the same IP address. It ensures that the communication will continue without user's sessions or connections being dropped.



Terminologies of Mobile IP

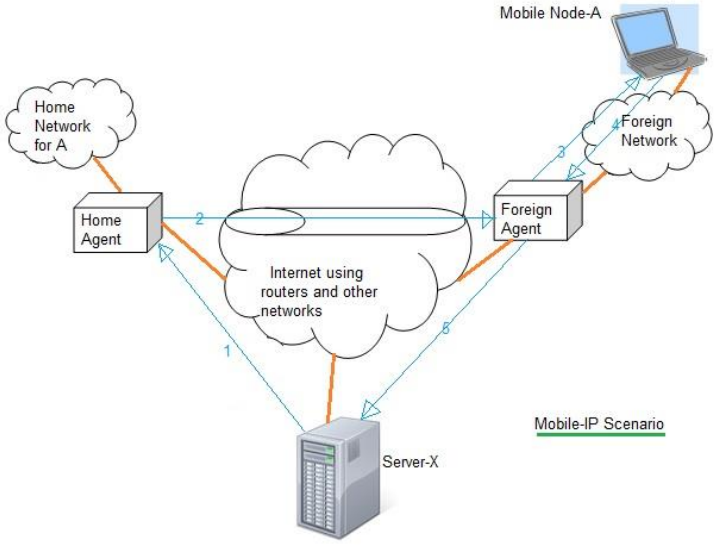
Mobile Node (MN):
It is the hand-held communication device that the user caries e.g. Cell phone.
Home Network:
It is a network to which the mobile node originally belongs to as per its assigned IP address (home address).
Home Agent (HA):
It is a router in home network to which the mobile node was originally connected
Home Address:
It is the permanent IP address assigned to the mobile node (within its home network).
Foreign Network:
It is the current network to which the mobile node is visiting (away from its home network).
Foreign Agent (FA):
It is a router in foreign network to which mobile node is currently connected. The packets from the home agent are sent to the foreign agent which delivers it to the mobile node.
Correspondent Node (CN):
It is a device on the internet communicating to the mobile node.
Care of Address (COA):
It is the temporary address used by a mobile node while it is moving away from its home network.

Working of Mobile IP

Correspondent node sends the data to the mobile node. Data packets contains correspondent node's address (Source) and home address (Destination). Packets reaches to the home agent. But now mobile node is not in the home network, it has moved into the foreign network

a tunnel will be established between the home agent and the foreign agent by the process of tunneling.

Tunneling establishes a virtual pipe for the packets available between a tunnel entry and an endpoint. It is the process of sending a packet via a tunnel and it is achieved by a mechanism called encapsulation

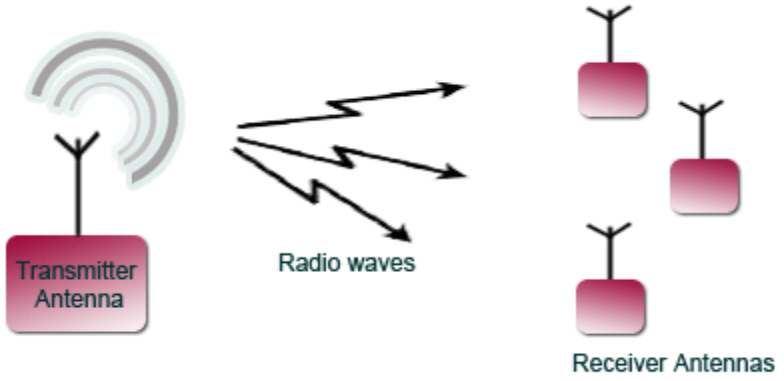


Key Mechanisms in Mobile IP

Agent Discovery:
Agents advertise their presence by periodically broadcasting their agent advertisement messages. The mobile node receiving the agent advertisement messages observes whether the message is from its own home agent and determines whether it is in the home network or foreign network.

Broadcast Radio

The first wireless communication technology is the open radio communication to seek out widespread use, and it still serves a purpose nowadays. Handy multichannel radios permit a user to speak over short distances, whereas citizen's band and maritime radios offer communication services for sailors. Ham radio enthusiasts share data and function emergency communication aids throughout disasters with their powerful broadcasting gear, and can even communicate digital information over the radio frequency spectrum.



Microwave Communication

Microwave wireless communication is an effective type of communication, mainly this transmission uses radio waves, and the wavelengths of radio waves are measured in centimeters. In this communication, the data or information can be transfers using two methods. One is satellite method and another one is terrestrial method.

In terrestrial method, in which two microwave towers with a clear line of sight between them are used, ensuring no obstacles to disrupt the line of sight. So it is used often for the purpose of privacy. The frequency range of the terrestrial system is typically 4GHz-6GHz and with a transmission speed is usually 1Mbps to 10Mbps.