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CSE-C

Assignment No. 3 Unit No. 3 Date :

1) Discuss in detail about agent discovery in mobile IP handling.

A mobile node uses a method known as agent discovery to determine the following information.

* When the node has moved from one network to another.
* Whether the network is the node's home (or) a foreign network.
* What is the foreign agent ~~on that~~ care-of address offered by each foreign agent on that network mobility agents transmit agent advertisements to advertise their services on a network. to advertise their services on a network.
* In the absence of agent advertisements, a mobile node can socialist advertisements. This is known as agent solicitation.

Agent advertisement :-

* Mobile nodes use agent advertisements to determine their current point of attachments to the internet or to an organization's networks.
* An agent advertisement is a internet control message protocol (ICMP) router advertisement that has been extended to also carry a mobility agent advertisement extension.

Agent Solicitation:-

Every mobile node should implement agent solicitation. The mobile node uses the same procedures, defaults, and constants for agent solicitation messages.

The rate at which a mobile node sends solicitations is limited by the mobile node. The mobile node can send three initial solicitations at a maximum rates of one per second with while searching for an agent, the rate at which Solicita-tions are sent is reduced to limit the overhead on the local networks.

2) Explain about different encapsulation methods?

* Encapsulation is the mechanism of taking a packet consisting of a packet header and a data and putting it into the datapart of a new packet.
* The reverse operation taking a packet out of the data part of another packet is called decapsulation.
* The HA takes the original packet with the MN as destination puts it into the data part of a new packet and sets the new IP header so that the packet is routed to the CoA.
* The new header is called Outer header.
* Three types of Encapsulation methods:-
* IP-in-IP Encapsulation:-
* It is required to be supported.

* Full IP header added to the original IP Packet
* The new header contains HA address as source and care of Address as destination.

2) Minimal encapsulation:-

* It requires less overhead but requires changes to the original header.
* Destination address is changed to care of a Address and source IP address is maintained as it is.

3) Generic Routing Encapsulation:-

* It allows packets of a different protocol suite to be encapsulated by another protocol suite.

3) Explain how DHCP works in wireless networks

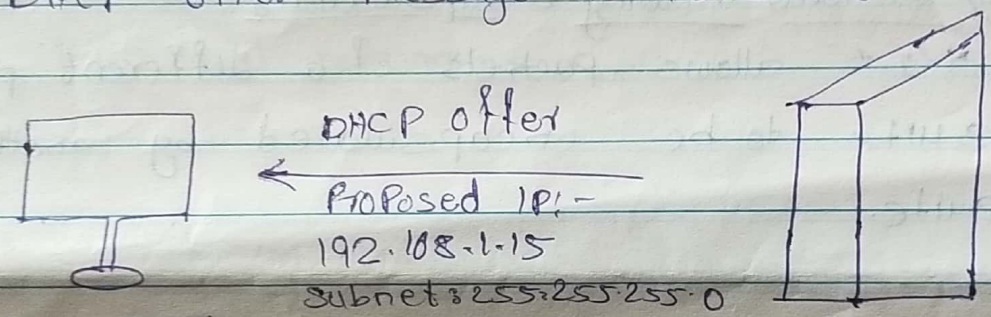
A) * Dynamic Host configuration protocol is a network management protocol that is used to dynamically assign the IP address and other information to each host on the network so that they can communicate efficiently.

DHCP works:-

* DHCP works at the application layer to dynamically assign the IP address to the client and this happens through exchange of a services of message called DHCP transactions (or) HTTP conversation.

* DHCP discovery:- The DHCP client broadcast messages to discover the DHCP servers. The client computer sends a packet with the default broadcast destination of 255.255.255.255 or the specific subnet broadcast address if any configured.

DHCP offer:- When the DHCP server receives the DHCP Discover message then it suggests (or) offers an IP address to the client by sending a DHCP offer message to the client.

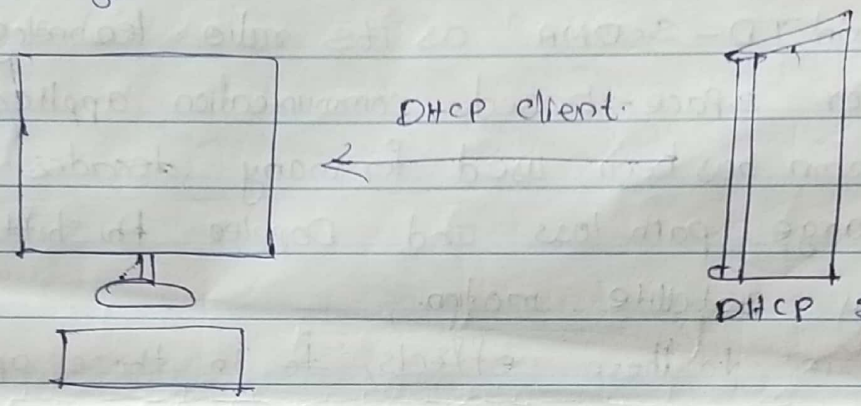


1. The proposed IP address for DHCP client (192.168.1.11)
2. Subnet mask to identify the network (255.255.255.0)
3. IP of the default gateway for the subnet (192.168.1.1)

DHCP Request:- In most cases, the client can receive multiple DHCP offer because in a network there are many DHCP servers.

* In response to the offer, the client sends a DHCP request requesting the offered address from one of the DHCP servers.

DHCP Acknowledgement:- The servers then send Acknowledgment to the client confirming the DHCP lease to the client. The server might send any other configuration that the client may have asked. At this step, IP configuration is completed and the client can use the new IP settings.



4) Explain about CDMA?

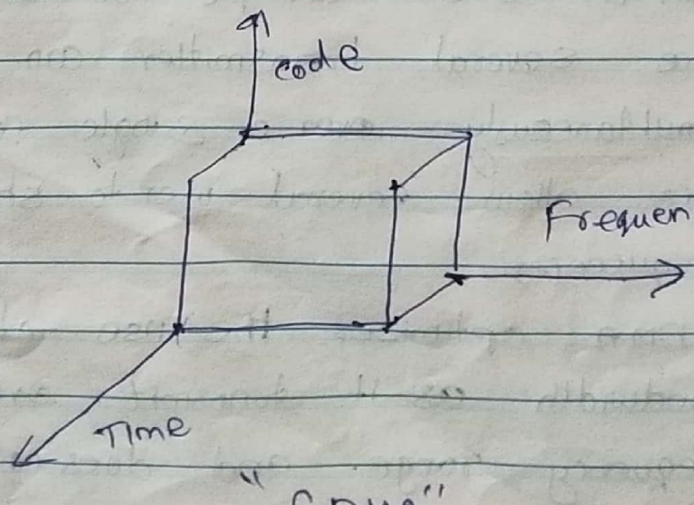
A) Code division multiple access is a channel access method used by various radio communication technologies.

→ CDMA is an example of multiple access; where several transmitter can send information simultaneously over a single communication channel.

→ This allow several user to share a band of frequencies.

→ CDMA optimizes the use of available bandwidth as it transmit over the entire frequency range. and does not limit the users frequency range.

→ It is used as the access method in many mobile phone standards.
→ IS-95 also called "cdmaone" and its 3G evolution CDMA 2000, are often simply referred to as "CDMA" but UMTS, the 3G standard used by GSM carriers also uses "wideband CDMA" or W-CDMA as well as TD-CDMA and TD-SCDMA as its radio technologies.
→ For space-based communication applications, CDMA has been used for many decades due to the large path loss and Doppler shift caused by satellite motion.
→ Due to these effects, in those applications, neither FDMA nor TDMA is typically used as a single modulation.
→ CDMA is often used with BPSK in its simplest form, but can be combined with any modulation scheme like QAM (∞) OFDM, which typically makes it very robust and efficient.



"CDMA"