01.05.20

CN - Revision Test - 1

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S6 CSE

Q1.) Give the importance of BootP.

Q2.) Explain the role of ICMP.

A2.) ICMP - Internet Control Message Protocol

- The default protocol IP (Internet Protocol) lacks certain desirable features in the network.
- The internet protocol cannot report or notify about errors that occurs in the network.
- Further the IP ~~address~~ protocol is unable to provide or requests any queries.
- ICMP over comes this using:
  (i) Error Repoting Messages
  (ii) Query Messages.
- ICMP supports this, hence it is more reliable than IP.

- ICMP supports 5 types of Error Reporting protocol/ Messages.

(i) Destination Unreadable – This message is sent back to the original sender when the network realizes that the destination cannot be reached. This can be due to multiple reasons.

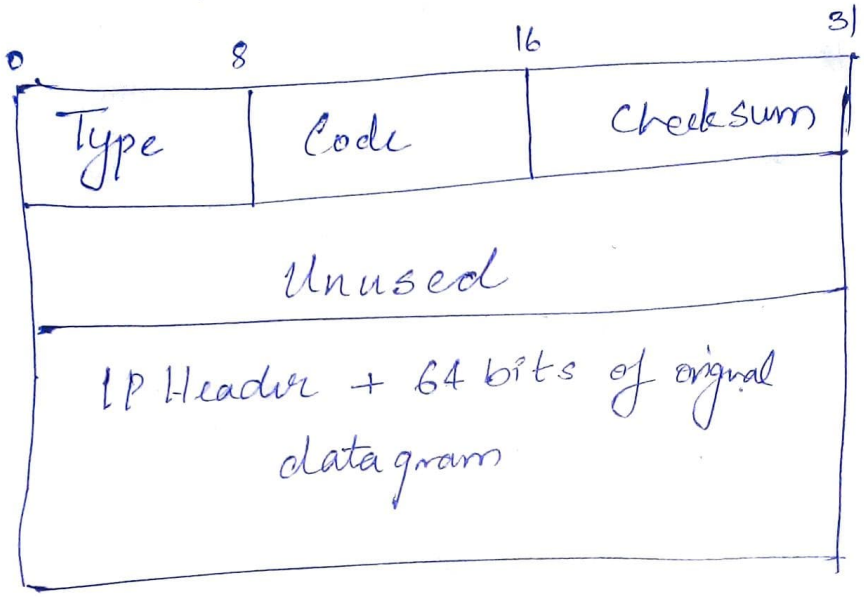
(ii) Source Quench – This message is generated when the sender has high rate of sending packets cam causing conjection (since the reciever is slow). This message indicates sender to slow down.

(iii) Time Exceeded – This error message is sent to the sender when the packet has reached the maximum of hops it can do.

(iv) Paramut Problem – It is message that will indicate the original sender the packet that has been sent got corrupted dave to some reason and its checksum failed.

(v) Redirect – This particulare message is used to bring to notice that the orgiakal path of the packes must be chaged. This can be due to variety of reasons – like shorter distence, lesser traffic ete.

- In each case the sender's ~~packet~~ ip address is identified from the dropped packet.
- The frame format is shown below:



A1) Boot P and its Importance

- Bootstrap Protocol (or Boot P) is a client-server protocol designed to obtain the network information
- This network infomation includes IP-address, subnet-mask, router address.
- This request original from a booted diskless computer.
- The protocol Boot P is significat, because overcome this overcomes alot of issues with RARP.
- When a diskless device is on a network and the server is on another network an agent is used.

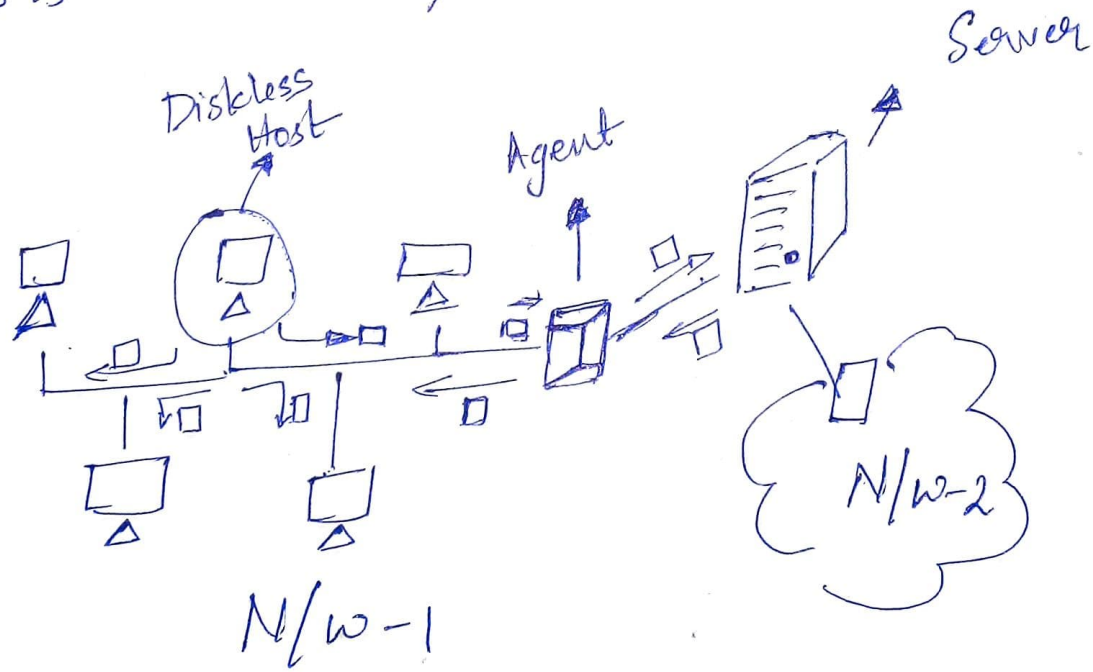
~ This agent has the logical address of the server.

~ Therefore, the diskless device will broadcast the message embedded with its own physical address requesting an available IP address.

~ The agent receives it and sends it to the Server which in return fills in available/assigned IP address and sends it back.

~ The agent then forwards this to requesting (unicasts) diskless device.

~ This is how bootP operates.



A2) Query Messages (continued)

* Echo Requests & Reply

~ This types of mesage helps to identify whether the devices is online or not

Type	Code	Check Sum
Identifier		Sequence Number
Optional data		

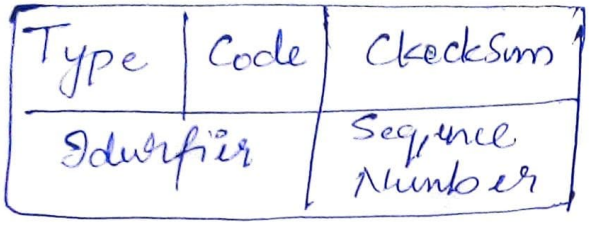
* Time stamp Request & Reply

~ It helps in determing the performance of the network and also helps to sync clocks between devices.

Type	Code	Checksum
Identifier		Sequence Number
Originate Time Stamp		
Recieve Time Stamp		
Transmin Time Stamp		

* Address Mask Request & Reply.

- It is used to find out the subnet address of the destination network where the packet has to sent.



Request