CS359: ASSIGNMENT-6

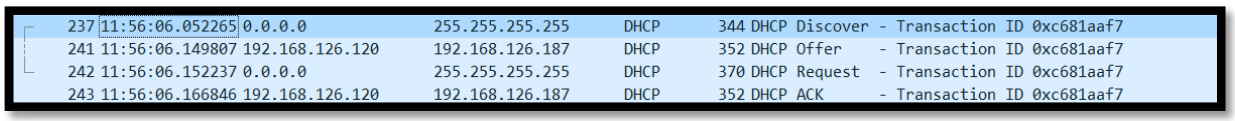
SIDDHARTH SANSKRITAYAN

1901CS75

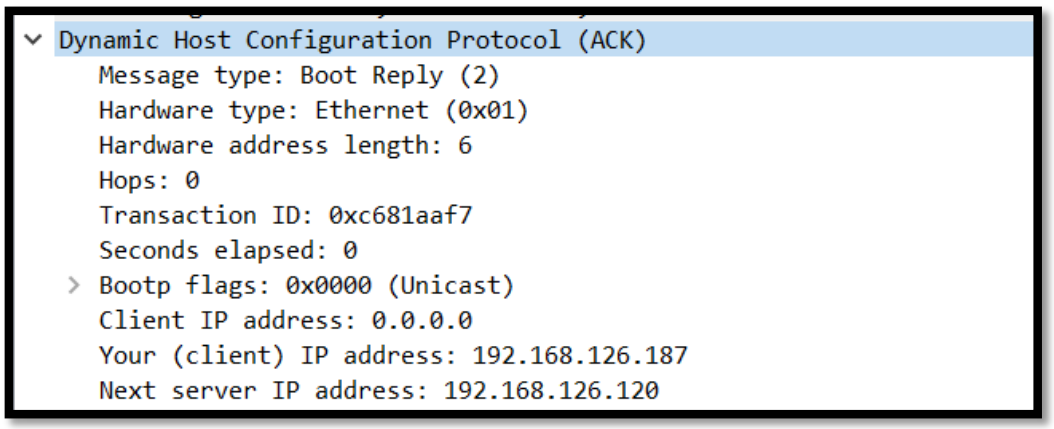
---

1)

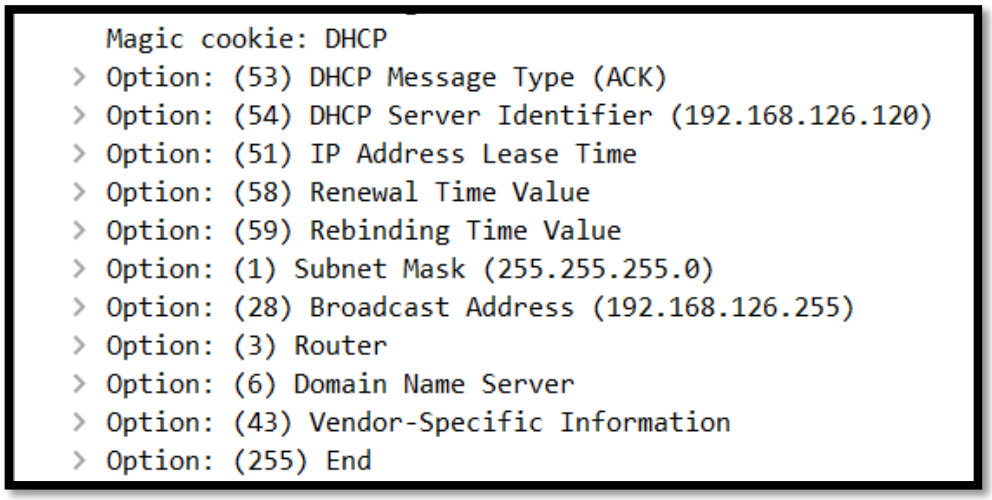
a) The Transaction ID is 4 bytes (32 bits) long. As a result, collisions in a relatively small number of concurrent DHCP processes are quite improbable.



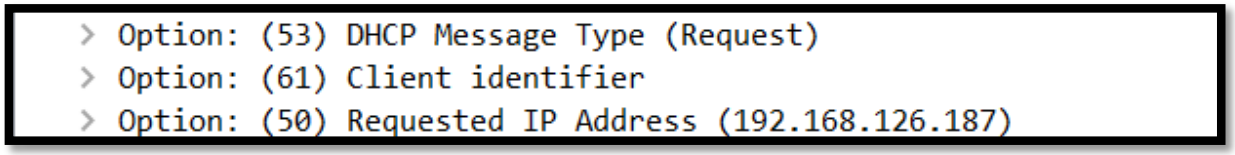
b) The "Your (client) IP address" field (in DHCP Ack) carries the IP address being leased to the client.



c) The option value of 53 stands for DHCP Message Type.



Client identifier option value: 61



It is typical for the Client Identifier to carry the Ethernet address of the client, however it is possible to use another type of identifier (e.g., hostname, serial number).

d) Client identifier option value: 54

It is typical for the Server Identifier to carry the IP address of the DHCP server, however it is possible to use some other kind of identifier.

e) The option value of 50 stands for Requested IP Address while the value of 51 stands for IP Address Lease Time.

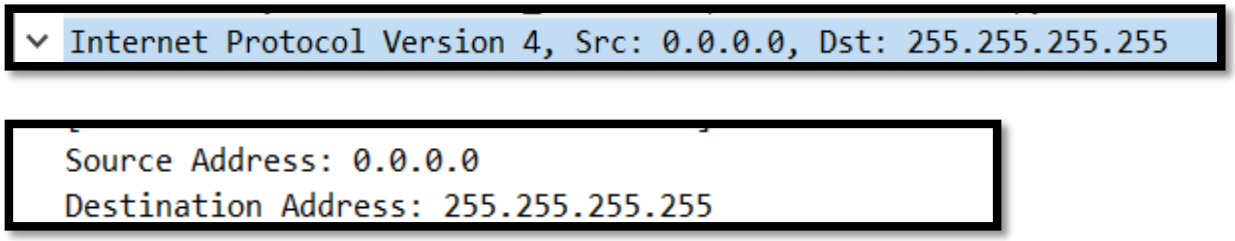
f) The end of the DHCP options is identified with a DHCP option called End having value 255.

2)

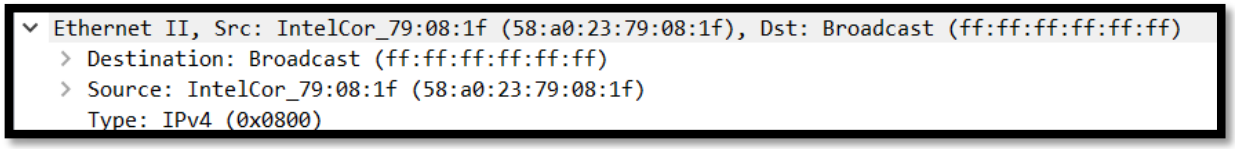
a) UDP port 68 is used by the DHCP client, while UDP port 67 is used by the DHCP server.

b) The source IP address is 0.0.0.0 which is a special address used during address initialization.

c) The destination IP address is 255.255.255.255. It's a broadcast address, which indicates the message is meant for everyone on the network.



d) The source Ethernet address is 58:a0:23:79:08:1f. The destination Ethernet address is ff:ff:ff:ff:ff:ff, the reserved broadcast Ethernet address, to ensure that the packet reaches all computers on the local network



e) The Transaction ID for all DHCP messages in a single exchange is the same. As a result, a computer looks for a DHCP reply such as Ack with a Transaction ID that matches the value it assigned to the earlier DHCP message, such as a Request.