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ELEC 5220 - Lab 8  
11/29/21

**Exercise 1**

**Host 1**

![Calendar

Description automatically generated with low confidence]()

![Table

Description automatically generated]()

**Host 2**

Text

Description automatically generated with medium confidence

Q1: Is there any new entries in the ARP tables from after Ping process? If yes, which network   
interfaces are they for?

**Yes. There are the IP’s that the host sent a ping request to.**

Q2: Is ARP request sent before or after the Ping request? Who sends the ARP request and whose   
MAC address is queried? Who is supposed to receive the ARP request?

**Ping is sent first followed by ARP request. The ARP then asks itself who is at the location and then answers.**

Q3: Who sends the ARP reply as a respond to the ARP request in Q2? Who is supposed to receive the ARP reply?

**After asking for ARP location of other. It then will ask itself to establish the ARP on the other side as well.**

Q4: List the source IP address, destination IP address, source MAC address, and destination MAC address of the ping request packet.

**Source IP: 128.238.66.101**

**Destination IP: 128.238.66.102**

**Source MAC: 98-ee-cb-57-52-98**

**Destination MAC: 98-ee-cb-57-51-06**

Q5: List the source IP address, destination IP address, source MAC address, and destination MAC address of the ping reply packet.

**Source IP: 128.238.66.102**

**Destination IP: 128.238.66.101**

**Source MAC: 98-ee-cb-57-51-06**

**Destination MAC: 98-ee-cb-57-52-98**

**Exercise 2**

**Host 1**

![Text

Description automatically generated]()

![A picture containing table

Description automatically generated]()

![Table

Description automatically generated]()

**Host 2**

Table

Description automatically generated with medium confidence

Q6: When host 1 pings host 2, is the Ping process successful? Do you observe any ARP packets and what is the purpose of them? Explain what has happened.

**Yes. I do see ARP packets because the subnet ID is correct for Host 1. This means Host 1 can see Host 2 and can successfully ping the Host.**

Q7: When host 2 pings host 1, is the Ping process successful? Do you observe any ARP packets and what is the purpose of them? Explain what has happened.

**No. The ping is unsuccessful due to a bad Subnet ID.**

**Exercise 3**

**Host 1**

![Table

Description automatically generated with medium confidence]()

![Table

Description automatically generated]()

**Host 2**

Graphical user interface

Description automatically generated

Q8: A new entry appeared in host 1’s ARP table after the ping process. Which network interface is it for?

**It is used in the ARP and is type dynamic. This is used to successfully connect the two hosts. This is in the ICMP protocols.**

Q9: A new entry appeared in host 2’s ARP table after the ping process. Which network interface is it for?

**It is used in the ARP and is type dynamic. This is used to successfully connect the two hosts. This is in the ICMP protocols.**

Q10: Whose MAC address is queried in the ARP Request from host 1? Which network interface   
sends the ARP Reply to host 1?

**Host 1 is connected to the WAN port so it is communicating with that interface.**

Q11: List the source IP address, destination IP address, source MAC address, and destination MAC address of

(1) the Ping Request packet captured on host 1

(2) the Ping Reply packet captured on host 1

**Request**

**Source IP: 192.168.10.1**

**Destination IP: 128.238.66.120**

**Source MAC: 2c-5a-0f-12-5b-90**

**Destination MAC: 2c-5a-0f-12-5b-8c**

**Reply**

**Source IP: 128.238.66.120**

**Destination IP: 192.168.10.1**

**Source MAC: 2c-5a-0f-12-5b-8c**

**Destination MAC: 2c-5a-0f-12-5b-90**

Q12: List the source IP address, destination IP address, source MAC address, and destination MAC address of

(1) the Ping Request packet captured on host 2

(2) the Ping Reply packet captured on host 2

**Request**

**Source IP: 128.238.66.1**

**Destination IP: 192.168.10.20**

**Source MAC: 2c-5a-0f-12-5b-90**

**Destination MAC: 2c-5a-0f-12-5b-8c**

**Reply**

**Source IP: 192.168.10.20**

**Destination IP: 128.238.66.1**

**Source MAC: 2c-5a-0f-12-5b-8c**

**Destination MAC: 2c-5a-0f-12-5b-90**

Q13: Do you get the same MAC address results for Q11 and Q12? Explain why it happens.

**Yes. Since they are going through a router, they simply see the directions as ‘go to the router’ and the router does its own routing from there.**