

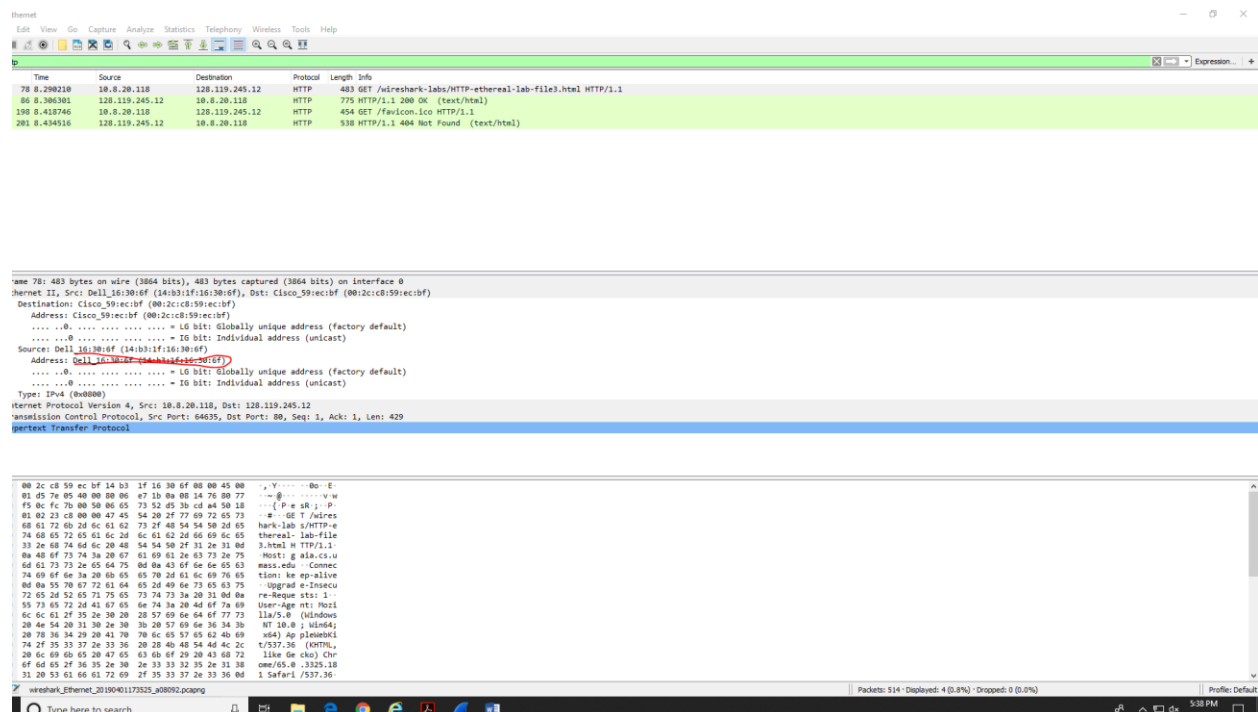
Lab 6 – MAC/ARP

Instructions:

- Clear your browser history, and visit: <http://gaia.cs.umass.edu/wireshark-labs/HTTP-ethereal-lab-file3.html> (your browser should display the US Bill of Rights)
- Using Wireshark, capture the packets. Remember to start, then visit webpage, and then stop.
- We are going to analyze Ethernet frames.
- (For each of these questions, take a screenshot of Wireshark, and attach it to your answer) - Questions without Full Screenshot will not be graded. A lab submission template is available on canvas. Your screenshot should indicate the time and date on your computer.
- Include a terminal screenshot showing your computer IP address on the front page before Question 1, and a full PRINT of the HTTP OK message as the last page.

Questions:

1. What is the MAC address from your computer?



DELL 16:30:6f (14:b3:1f:16:30:6f)

2. What is the destination MAC address?

The screenshot shows a Wireshark packet capture on an Ethernet interface. The selected packet is an HTTP GET request. The packet details pane shows the following information:

- Ethernet II, Src: Dell_16:30:0f (14:b3:1f:16:30:0f), Dst: Cisco_59:ec:bf (00:2c:c8:59:ec:bf)
- Destination: Cisco_59:ec:bf (00:2c:c8:59:ec:bf)
- Address: Cisco_59:ec:bf (00:2c:c8:59:ec:bf)
- Type: IPv4 (v0800)
- Internet Protocol Version 4, Src: 10.8.20.118, Dst: 128.119.245.12
- Transmission Control Protocol, Src Port: 64835, Dst Port: 80, Seq: 1, Ack: 1, Len: 429
- Hypertext Transfer Protocol

The packet bytes pane shows the raw data of the packet, including the Ethernet II header and the HTTP request.

Cisco_59: ec: bf (00:2c:c8:59:ec:bf)

3. What device has the MAC address shown in the destination?

The screenshot shows a Wireshark packet capture on an Ethernet interface. The selected packet is an HTTP GET request. The packet details pane shows the following information:

- Ethernet II, Src: Dell_16:30:0f (14:b3:1f:16:30:0f), Dst: Cisco_59:ec:bf (00:2c:c8:59:ec:bf)
- Destination: Cisco_59:ec:bf (00:2c:c8:59:ec:bf)
- Address: Cisco_59:ec:bf (00:2c:c8:59:ec:bf)
- Type: IPv4 (v0800)
- Internet Protocol Version 4, Src: 10.8.20.118, Dst: 128.119.245.12
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- Hypertext Transfer Protocol

The packet bytes pane shows the raw data of the packet, including the Ethernet II header and the HTTP request.

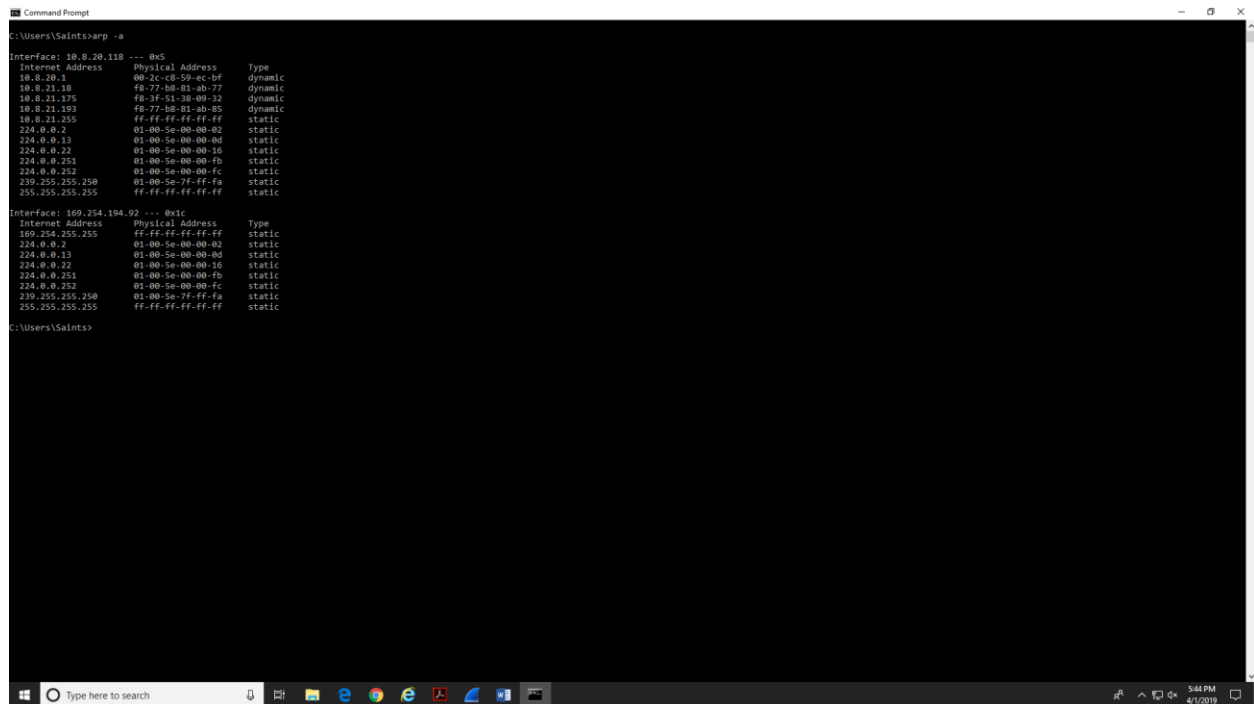
Cisco_59

4. Explain the relationship between the destination MAC address and the destination IP address.

MAC-addresses are used on local Ethernet networks. IP-addresses are more abstract and can be used on top of multiple types of networks.

The ARP is the link between them

5. Using the terminal (cmd in Windows, Terminal in mac), run a command to display your full ARP list table. (Find out what the command is, and print a full screen shot of your result.)



```
Command Prompt
C:\Users\Saints>arp -a

Interface: 10.8.20.118 --- 0x5
Internet Address      Physical Address      Type
10.8.20.1             00-2c-c8-50-ac-bf    dynamic
10.8.21.18            f8-77-b8-01-ab-77    dynamic
10.8.21.175           f8-7f-51-38-89-32    dynamic
10.8.21.153           f8-77-b8-01-ab-85    dynamic
10.8.21.255           ff-ff-ff-ff-ff-ff    static
224.0.0.2             01-00-5e-00-00-02    static
224.0.0.13            01-00-5e-00-00-0d    static
224.0.0.22            01-00-5e-00-00-16    static
224.0.0.251           01-00-5e-00-00-fb    static
224.0.0.252           01-00-5e-00-00-fc    static
239.255.255.250       01-00-5e-7f-ff-fa    static
255.255.255.255       ff-ff-ff-ff-ff-ff    static

Interface: 169.254.194.92 --- 0xc
Internet Address      Physical Address      Type
169.254.255.255       ff-ff-ff-ff-ff-ff    static
224.0.0.2             01-00-5e-00-00-02    static
224.0.0.13            01-00-5e-00-00-0d    static
224.0.0.22            01-00-5e-00-00-16    static
224.0.0.251           01-00-5e-00-00-fb    static
224.0.0.252           01-00-5e-00-00-fc    static
239.255.255.250       01-00-5e-7f-ff-fa    static
255.255.255.255       ff-ff-ff-ff-ff-ff    static

C:\Users\Saints>
```