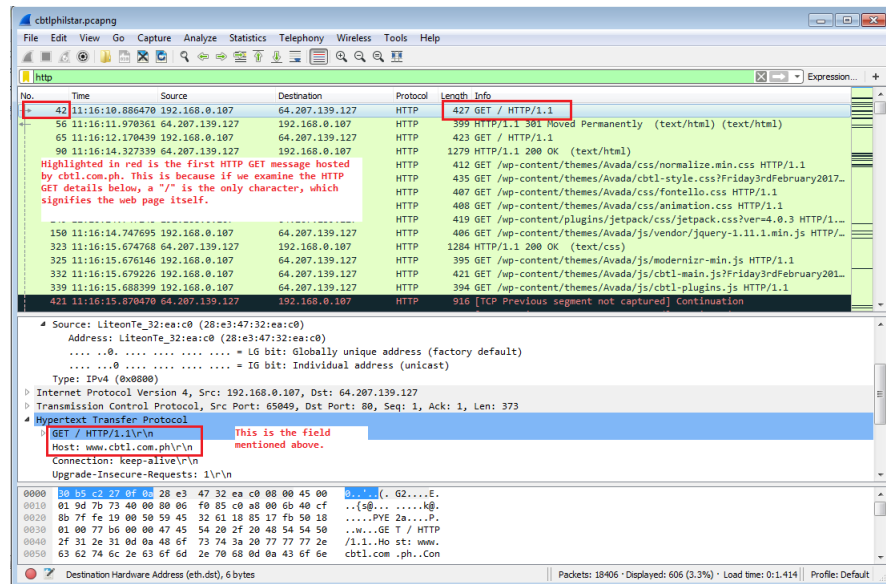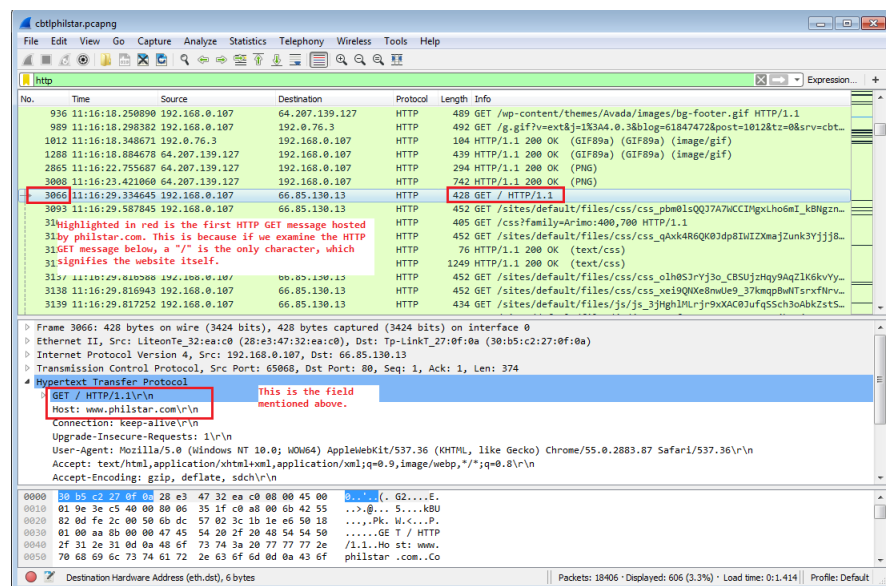Juan Miguel C. Manalo

2014-40093

CS 145 THWMXY-HONOR

CS145 Lab Exercise 2: Wireshark Lab - Layer 2 Addresses

1. Packet #42

2. Packet #3066

3. **Source Address:** LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0)
   Destination Address: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)

```
▷ Frame 42: 4 Packet 42: cbtl.com.ph   ts), 427 bytes captured (3416 bits) on interface 0
◢ Ethernet II, Src: LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0), Dst: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)
   ◢ Destination: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)      Destination Address
       Address: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)
       .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
       .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
   ◢ Source: LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0)           Source Address
       Address: LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0)
       .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
       .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
     Type: IPv4 (0x0800)
▷ Internet Protocol Version 4, Src: 192.168.0.107, Dst: 64.207.139.127
```

4. **Source Address:** LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0)
   Destination Address: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)

```
▷ Frame 3066: 428 Packet 3066: philstar.com, 428 bytes captured (3424 bits) on interface 0
◢ Ethernet II, Src: LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0), Dst: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)
   ◢ Destination: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)    Destination Address
       Address: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)
       .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
       .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
   ◢ Source: LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0)        Source Address
       Address: LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0)
       .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
       .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
     Type: IPv4 (0x0800)
▷ Internet Protocol Version 4, Src: 192.168.0.107, Dst: 66.85.130.13
```

5. The source address signifies the MAC Address of the terminal which allows it to conenct to a network.

6. The destination address signifies the MAC Address of the DNS Server that allows the terminal to connect to the Internet. Since the two websites have the same MAC Address, they are hosted by the same server.

7. The two addresses are the same which makes sense considering that the source is coming from the same computer terminal, having a single and unique MAC Address.

8. The two addresses are the same. It makes sense because a single server hosts the two websites despite having two different IP Addresses.

9. **ifconifg** stands for *"interface configuration"* (equiv. **ipconfig**, *"internet protocol configuration"*). It is used to view and change the configuration of the system's network interfaces. [1]

   If we consider the terminal's output for **ifconfig**, the values are not consistent with that of the values in the packet trace. This is because the trace was not generated in the same terminal as the one where **ifconfig** is performed.

---

[1]http://www.computerhope.com/unix/uifconfi.htm

```
Terminal                                    —  +  ×
CS145THWMXYHONOR@tl3-25 ~ $ ifconfig eth0
eth0      Link encap:Ethernet  HWaddr f8:0f:41:c6:55:e6
          inet addr:10.40.80.35  Bcast:10.40.80.255  Mask:255.255.255.0
          inet6 addr: fe80::fa0f:41ff:fec6:55e6/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:57199 errors:0 dropped:0 overruns:0 frame:0
          TX packets:40004 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:72248458 (72.2 MB)  TX bytes:4291645 (4.2 MB)
          Interrupt:20 Memory:f7d00000-f7d20000
                                              MAC Address is
                                              not consistent
CS145THWMXYHONOR@tl3-25 ~ $ ▯                 with that...
```

```
▷ Frame 42: 427 bytes on wire (3416 bits), 427 bytes captured (3416 bits) on interface 0
◢ Ethernet II, Src: LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0), Dst: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)
   ◢ Destination: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)
        Address: Tp-LinkT_27:0f:0a (30:b5:c2:27:0f:0a)
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
   ◢ Source: LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0)        ...of the Source Address
        Address: LiteonTe_32:ea:c0 (28:e3:47:32:ea:c0)    specified in the trace file.
        .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
        .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
     Type: IPv4 (0x0800)
▷ Internet Protocol Version 4, Src: 192.168.0.107, Dst: 64.207.139.127
```

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