

## MAC vs IP addresses

Download the packet trace file [mynet-hisnet.zip](#). Unzip it. Open the resulting "mynet-hisnet" file in Wireshark. It records 2 ping exchanges (4 packets total). Look at each of the 2 ping request packets. In each, note and compare the MAC and IP addresses used. Whose are they? Here are the 3 machines, 4 interfaces, and 8 addresses involved:

Pinger		Router		Faraway
eth0		eth0	eth1	eth0
192.168.3.1		192.168.3.2	192.168.4.2	192.168.4.1
0080C8E2AF61		00A0CCD2F042	004005A3A8BF	004005A34226
(by D-Link)		(by Lite-on)	(by TRENDwar)	(by TRENDwar)

You can see there are 2 LANs here, and Router is a member of both.

### What to submit:

Submit your answers to the questions following [these preparation and submittal instructions](#) (you will use ftp/sftp to deposit your answer file in your "assignments" subdirectory on the remote server). **Please name your file "macip.txt"**. I will grade these using an automated script, so the format of the answer is critical to intelligibility.

1. The first ping was launched by whom to whom?

- a. by Pinger to Router
- b. by Pinger to Faraway
- c. by Router to Pinger
- d. by Router to Faraway
- e. by Faraway to Pinger
- f. by Faraway to Router

2. To whom do the destination MAC and destination IP addresses written into the frame and packet carrying the first ping's request message belong?

- a. the destination MAC is Pinger's, the destination IP is Pinger's
- b. the destination MAC is Pinger's, the destination IP is Router's
- c. the destination MAC is Pinger's, the destination IP is Faraway's
- d. the destination MAC is Router's, the destination IP is Pinger's
- e. the destination MAC is Router's, the destination IP is Router's
- f. the destination MAC is Router's, the destination IP is Faraway's
- g. the destination MAC is Faraway's, the destination IP is Pinger's
- h. the destination MAC is Faraway's, the destination IP is Router's
- i. the destination MAC is Faraway's, the destination IP is Faraway's

3. To whom do the source MAC and source IP addresses received in the frame and packet carrying the first ping's reply message belong?

- a. the source MAC is Pinger's, the source IP is Pinger's

- b. the source MAC is Pinger's, the source IP is Router's
- c. the source MAC is Pinger's, the source IP is Faraway's
- d. the source MAC is Router's, the source IP is Pinger's
- e. the source MAC is Router's, the source IP is Router's
- f. the source MAC is Router's, the source IP is Faraway's
- g. the source MAC is Faraway's, the source IP is Pinger's
- h. the source MAC is Faraway's, the source IP is Router's
- i. the source MAC is Faraway's, the source IP is Faraway's

4. The second ping was launched by whom to whom?

- a. by Pinger to Router
- b. by Pinger to Faraway
- c. by Router to Pinger
- d. by Router to Faraway
- e. by Faraway to Pinger
- f. by Faraway to Router

5. To whom do the destination MAC and destination IP addresses written into the frame and packet carrying the second ping's request message belong?

- a. the destination MAC is Pinger's, the destination IP is Pinger's
- b. the destination MAC is Pinger's, the destination IP is Router's
- c. the destination MAC is Pinger's, the destination IP is Faraway's
- d. the destination MAC is Router's, the destination IP is Pinger's
- e. the destination MAC is Router's, the destination IP is Router's
- f. the destination MAC is Router's, the destination IP is Faraway's
- g. the destination MAC is Faraway's, the destination IP is Pinger's
- h. the destination MAC is Faraway's, the destination IP is Router's
- i. the destination MAC is Faraway's, the destination IP is Faraway's

6. To whom do the source MAC and source IP addresses received in the frame and packet carrying the second ping's reply message belong?

- a. the source MAC is Pinger's, the source IP is Pinger's
- b. the source MAC is Pinger's, the source IP is Router's
- c. the source MAC is Pinger's, the source IP is Faraway's
- d. the source MAC is Router's, the source IP is Pinger's
- e. the source MAC is Router's, the source IP is Router's
- f. the source MAC is Router's, the source IP is Faraway's
- g. the source MAC is Faraway's, the source IP is Pinger's
- h. the source MAC is Faraway's, the source IP is Router's
- i. the source MAC is Faraway's, the source IP is Faraway's

7. When you launch a ping to www.yahoo.com, the destination IP in the packet you send and the destination IP in the packet he receives carrying the request message are:

- a. the same
- b. different

8. When you launch a ping to www.yahoo.com, the destination MAC in the frame you send and the destination MAC in the frame he receives carrying the request message are:

- a. the same
- b. different

9. When you launch a ping to `www.yahoo.com`, the source MAC in the frame you receive and the source MAC in the frame he sends carrying the reply message are

- a. the same
- b. different

10. When you launch a ping to `www.yahoo.com`, the source IP in the packet you receive and the source IP in the packet he sends carrying the reply message are:

- a. the same
- b. different