

Exercsie 1

2. Source IP address: 192.168.1.100

destination IP address: 64.233.169.104

TCP source port: 4335

TCP destination port: 80

3. Time of HTTP 200 OK: 7.158797

Source IP address: 64.233.169.104

Destination IP address: 192.168.1.100

TCP source port: 80

TCP destination port: 4335

7. Source IP address: 71.192.34.104

Destination IP address: 64.233.169.104

TCP source port: 4335

TCP destination port: 80

The source IP address is changed. Everything else is the same.

9. The checksum field is changed. This is because the checksum uses the bytes in the header to calculate the checksum and since the IP address has changed, the bytes in the header are changed, so the checksum must be updated.

11. Source IP address: 64.233.169.104

Destination IP address: 71.192.34.104

TCP source port: 80

TCP destination port: 4335

The destination IP address is changed, everything else is the same

13. TCP SYN

Source IP address: 71.192.34.104

Destination IP address: 74.125.91.113

TCP source port: 4330

TCP destination port: 80

TCP SYN ACK

Source IP address: 74.125.91.113

Destination IP address: 71.192.34.104

TCP source port: 80

TCP destination port: 4330

The source IP address in TCP SYN is changed, the destination IP address in TCP SYN ACK is changed

Exercise 2

2. Destination address of ethernet frame: 00:06:25:da:af:73

No this is not the ethernet address of gaia.cs.umass.edu. this ethernet address is the address of the first router in the internet as we send our message to the internet

4. There are 54 bytes from the start of the frame to the G in GET. the preamble is omitted. The remainder of the bytes are the IP and TCP headers.

5. Ethernet source address: 00:d0:59:a9:3d:68. Yes this is the address of the host that sent the HTTP GET

Exercise 3

1. Source: 00:d0:59:a9:3d:68

destination: ff:ff:ff:ff:ff:ff

The destination address is all 1's - this is a broadcast address.

6. The "question" is in the "target IP address" in the ARP request

8. Opcode is reply (2)

9. The answer - the ethernet address is in sender MAC address.

10. source: 00:06:25:da:af:73

destination: 00:d0:59:a9:3d:68