# ASSIGNMENT 3 EECS 3214 – Winter 2021

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NAT

1A. No fields in the http GET message changed.

Version: NO

Header Length: NO

Flags: NO

Checksum: YES

Source IP address is a part of checksum, and after passing through router it changes, so checksum also changes.

Graphical user interface, application, table

Description automatically generated

1B.

|  |  |
| --- | --- |
| NAT Translation Table | |
| WAN side | LAN side |
| 71.192.34.104, 4335 | 192.168.1.100, 4335 |

ICMP

2A. ICMP type: 8

ICMP code: 0

Other fields ICMP packet has is checksum, identifier, sequence number and data fields.

Bytes of checksum: 2 bytes

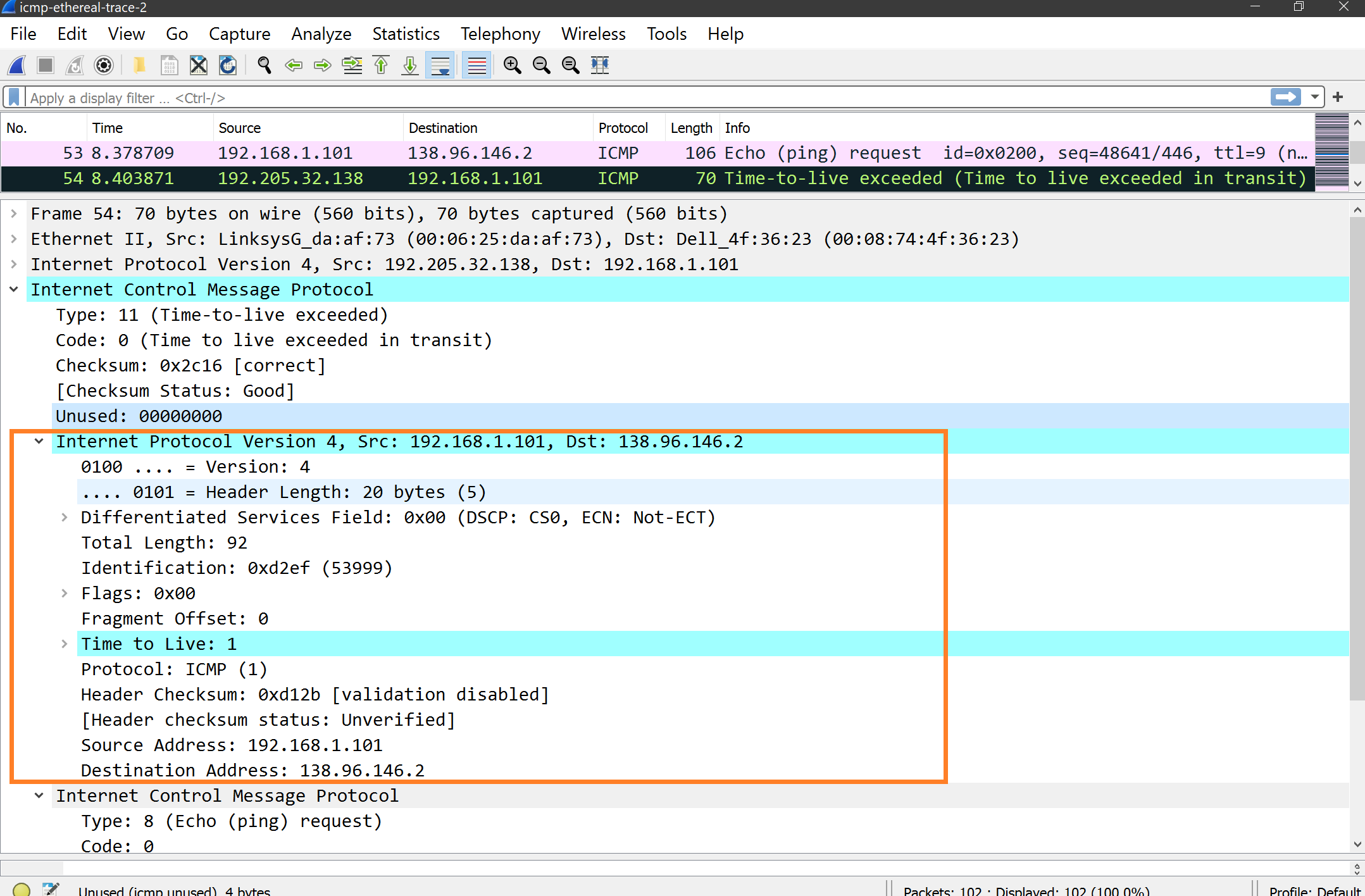
Bytes of sequence number: 2 bytes

Bytes of data fields: 2 bytes

Graphical user interface, text, application, email

Description automatically generated

2B. We know that ICMP error packet contains error in it. So along with IP header, it also has 8 bytes of ICMP packet that stores the error.



2C. Text

Description automatically generated

DHCP

3A.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| DHCP message type | Source IP | Source MAC | Destination IP | Destination MAC |
| DHCP Discover | 0.0.0.0 | fc:77:74:22:f4:43 | 255.255.255.255 | ff:ff:ff:ff:ff:ff |
| DHCP Offer | 192.168.0.1 | 98:de:d0:4c:12:56 | 192.168.0.103 | fc:77:74:22:f4:43 |
| DHCP Request | 0.0.0.0 | fc:77:74:22:f4:43 | 255.255.255.255 | ff:ff:ff:ff:ff:ff |
| DHCP ACK | 192.168.0.1 | 98:de:d0:4c:12:56 | 192.168.0.103 | fc:77:74:22:f4:43 |

Graphical user interface, text, application

Description automatically generated

3B. In the experiment, Relay agent IP address is 0.0.0.0 which means Relay Agent Field lacks relay agent.

Graphical user interface, application

Description automatically generated

3C. Client does accepts the IP address offered by the DHCP server.

Option (50) : Requested IP Address (192.168.1.103) shows the client’s response.

Graphical user interface, text, application, email

Description automatically generated

3D. DHCP server makes ARP requests.

Before allotting IP address to client, DHCP server checks whether the IP address is already given to some other client by generating ARP request.

Graphical user interface, text, application

Description automatically generated