Intelligence Of Things®

GLOBAL EDGE

•ALTRAN GROUP

DHCP

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Dynamic Host Configuration Protocol (DHCP)

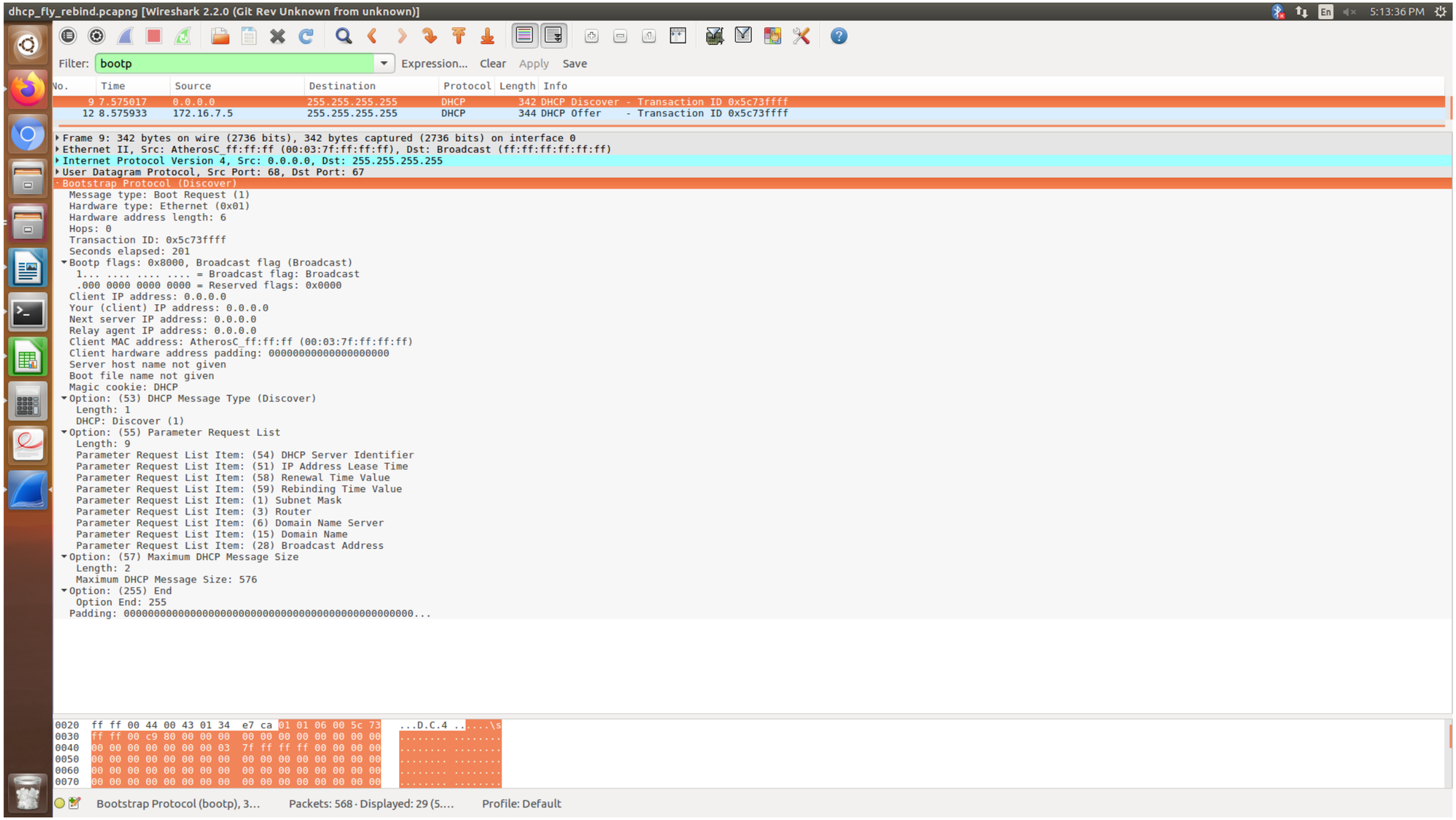
- DHCP is based on a client-server model and based on discovery, offer, request, and ACK.
- DHCP port number for server is 67 and for the client is 68. It is a Client server protocol which uses UDP services. IP address is assigned from a pool of addresses. In DHCP, the client and the server exchange mainly 4 DHCP messages in order to make a connection, also called DORA process, but there are 8 DHCP messages in the process.

DHCP messages

- DHCP discover message –

  This is a first message generated in the communication process between server and client. This message is generated by Client host in order to discover if there is any DHCP server/servers are present in a network or not. This message is broad-casted to all devices present in a network to find the DHCP server. This message is 342 or 576 bytes long.

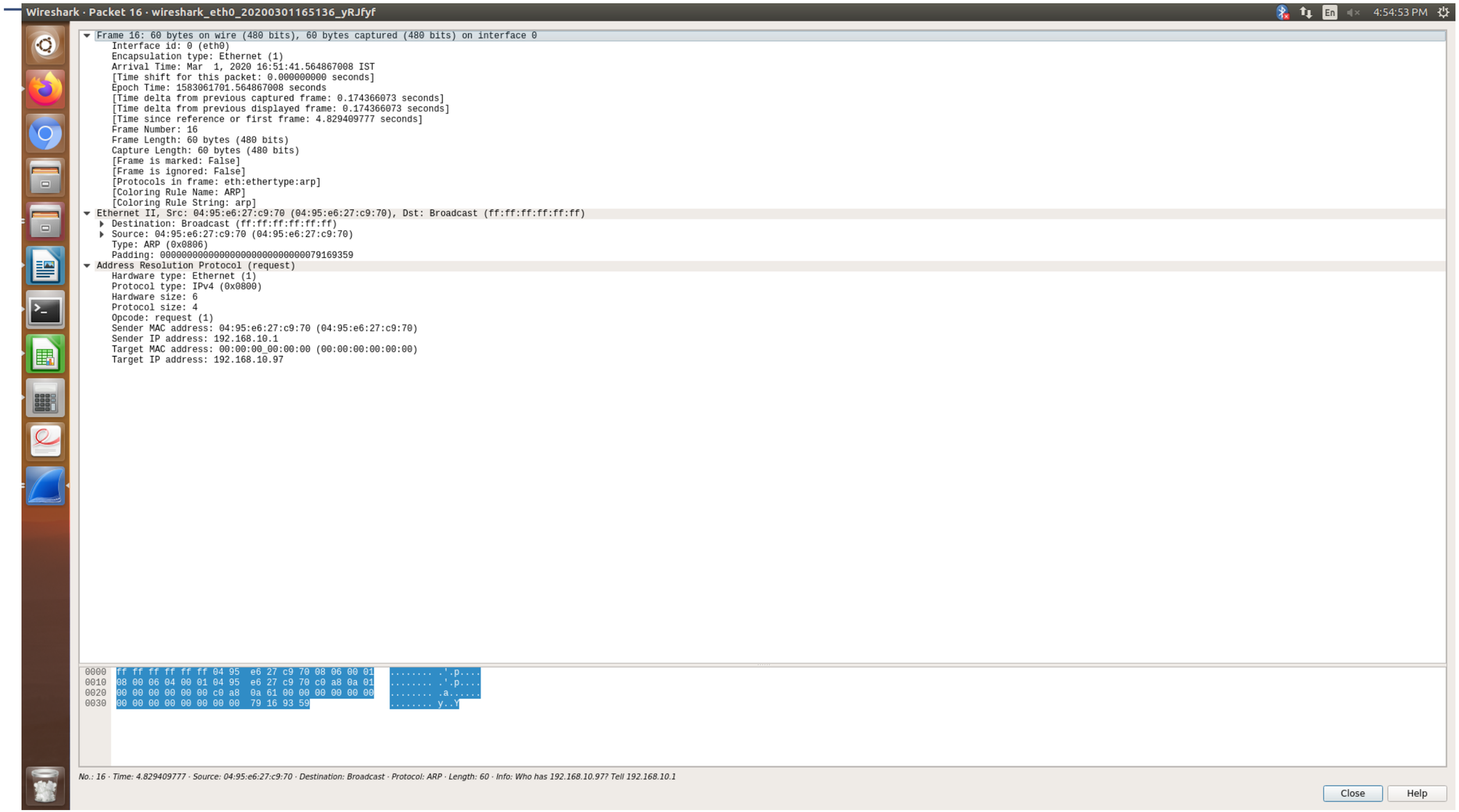
DISCOVER


dhcp_fly_rebind.pcapng [Wireshark 2.2.0 (Git Rev Unknown from unknown)]
5:13:36 PM
Filter: bootp
Expression... Clear Apply Save
No. Time Source Destination Protocol Length Info
9 7.575017 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x5c73ffff
12 8.575933 172.16.7.5 255.255.255.255 DHCP 344 DHCP Offer - Transaction ID 0x5c73ffff
Frame 9: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface 0
Ethernet II, Src: AtherosC_ff:ff:ff (00:03:7f:ff:ff:ff), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255
User Datagram Protocol, Src Port: 68, Dst Port: 67
Bootstrap Protocol (Discover)
Message type: Boot Request (1)
Hardware type: Ethernet (0x01)
Hardware address length: 6
Hops: 0
Transaction ID: 0x5c73ffff
Seconds elapsed: 201
Bootp flags: 0x8000, Broadcast flag (Broadcast)
1... .... = Broadcast flag: Broadcast
.000 0000 0000 0000 = Reserved flags: 0x0000
Client IP address: 0.0.0.0
Your (client) IP address: 0.0.0.0
Next server IP address: 0.0.0.0
Relay agent IP address: 0.0.0.0
Client MAC address: AtherosC_ff:ff:ff (00:03:7f:ff:ff:ff)
Client hardware address padding: 00000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP
Option: (53) DHCP Message Type (Discover)
Length: 1
DHCP: Discover (1)
Option: (55) Parameter Request List
Length: 9
Parameter Request List Item: (54) DHCP Server Identifier
Parameter Request List Item: (51) IP Address Lease Time
Parameter Request List Item: (58) Renewal Time Value
Parameter Request List Item: (59) Rebinding Time Value
Parameter Request List Item: (1) Subnet Mask
Parameter Request List Item: (3) Router
Parameter Request List Item: (6) Domain Name Server
Parameter Request List Item: (15) Domain Name
Parameter Request List Item: (28) Broadcast Address
Option: (57) Maximum DHCP Message Size
Length: 2
Maximum DHCP Message Size: 576
Option: (255) End
Option End: 255
Padding: 0000000000000000000000000000000000000000000000000000...
0020 ff ff 00 44 00 43 01 34 e7 ca 01 01 06 00 5c 73 ...D.C.4 ......\s
0030 ff ff 00 c9 80 00 00 00 00 00 00 00 00 00 00 00 ....
0040 00 00 00 00 00 00 00 00 03 7f ff ff ff 00 00 00 ....
0050 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
0060 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
0070 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
Bootstrap Protocol (bootp), 3...
Packets: 568 · Displayed: 29 (5....
Profile: Default

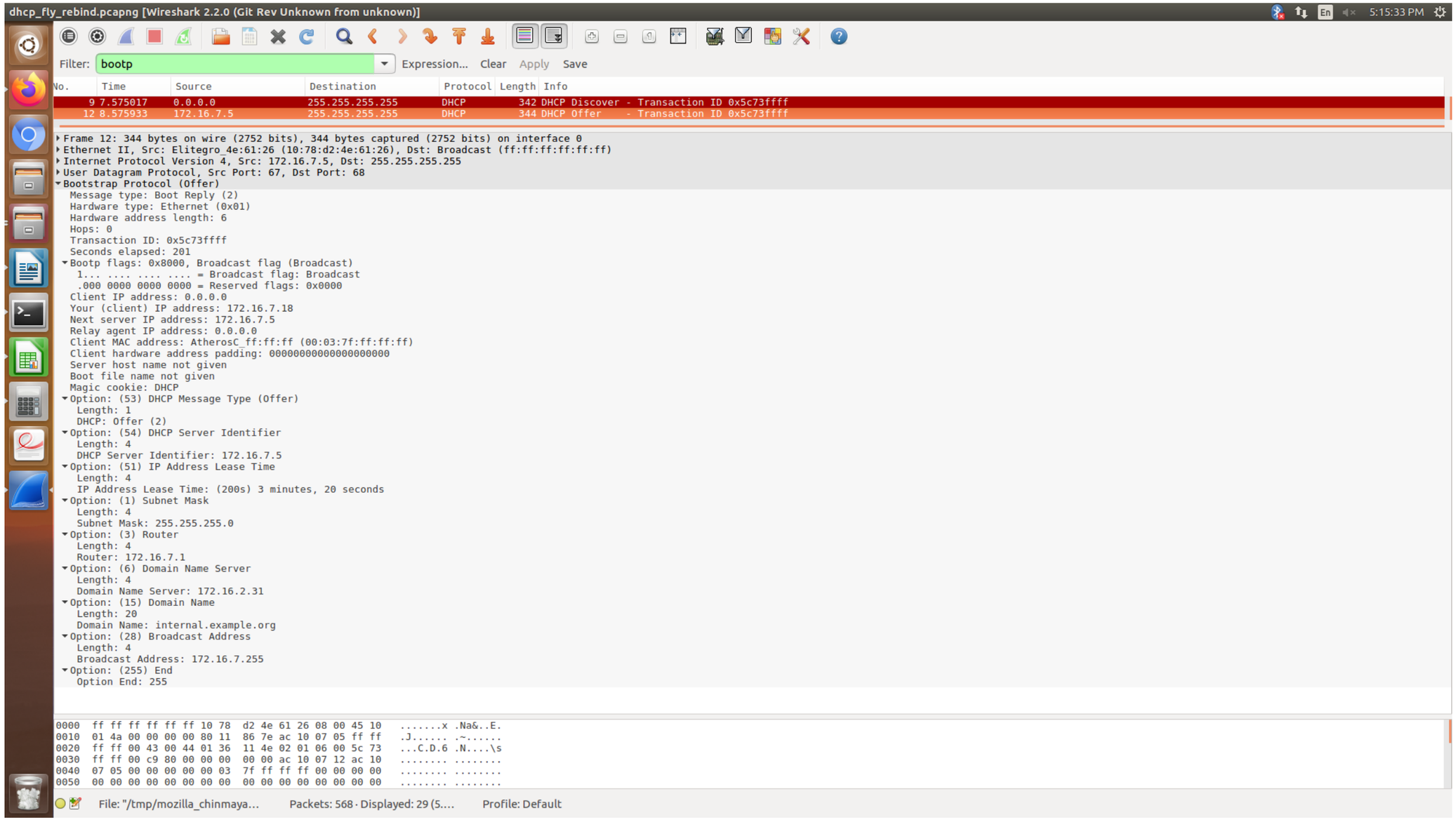
DHCP offer message

- The server will respond to host in this message offer the unleased IP address and other TCP configuration information. This message is broad-casted by server. Size of message is 342 bytes. If there are more than one DHCP servers present in the network then client host will accept the first DHCP OFFER message it receives. Also a server ID is specified in the packet in order to identify the server.

ARP FOR CHECKING UNUSED IP



OFFER


dhcp_fly_rebind.pcapng [Wireshark 2.2.0 (Git Rev Unknown from unknown)]
5:15:33 PM
Filter: bootp
Expression... Clear Apply Save
No. Time Source Destination Protocol Length Info
9 7.575017 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x5c73ffff
12 8.575933 172.16.7.5 255.255.255.255 DHCP 344 DHCP Offer - Transaction ID 0x5c73ffff
Frame 12: 344 bytes on wire (2752 bits), 344 bytes captured (2752 bits) on interface 0
Ethernet II, Src: Elitegro_4e:61:26 (10:78:d2:4e:61:26), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
Internet Protocol Version 4, Src: 172.16.7.5, Dst: 255.255.255.255
User Datagram Protocol, Src Port: 67, Dst Port: 68
Bootstrap Protocol (Offer)
Message type: Boot Reply (2)
Hardware type: Ethernet (0x01)
Hardware address length: 6
Hops: 0
Transaction ID: 0x5c73ffff
Seconds elapsed: 201
Bootp flags: 0x8000, Broadcast flag (Broadcast)
1... .... = Broadcast flag: Broadcast
.000 0000 0000 0000 = Reserved flags: 0x0000
Client IP address: 0.0.0.0
Your (client) IP address: 172.16.7.18
Next server IP address: 172.16.7.5
Relay agent IP address: 0.0.0.0
Client MAC address: AtherosC_ff:ff:ff (00:03:7f:ff:ff:ff)
Client hardware address padding: 00000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP
Option: (53) DHCP Message Type (Offer)
Length: 1
DHCP: Offer (2)
Option: (54) DHCP Server Identifier
Length: 4
DHCP Server Identifier: 172.16.7.5
Option: (51) IP Address Lease Time
Length: 4
IP Address Lease Time: (200s) 3 minutes, 20 seconds
Option: (1) Subnet Mask
Length: 4
Subnet Mask: 255.255.255.0
Option: (3) Router
Length: 4
Router: 172.16.7.1
Option: (6) Domain Name Server
Length: 4
Domain Name Server: 172.16.2.31
Option: (15) Domain Name
Length: 20
Domain Name: internal.example.org
Option: (28) Broadcast Address
Length: 4
Broadcast Address: 172.16.7.255
Option: (255) End
Option End: 255
0000 ff ff ff ff ff ff 10 78 d2 4e 61 26 08 00 45 10 .....x .Na&..E.
0010 01 4a 00 00 00 00 80 11 86 7e ac 10 07 05 ff ff .J..... .~.....
0020 ff ff 00 43 00 44 01 36 11 4e 02 01 06 00 5c 73 ...C.D.6 .N....\s
0030 ff ff 00 c9 80 00 00 00 00 00 ac 10 07 12 ac 10 ....
0040 07 05 00 00 00 00 00 03 7f ff ff ff 00 00 00 00 ....
0050 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
File: "/tmp/mozilla_chinmaya... Packets: 568 · Displayed: 29 (5.... Profile: Default

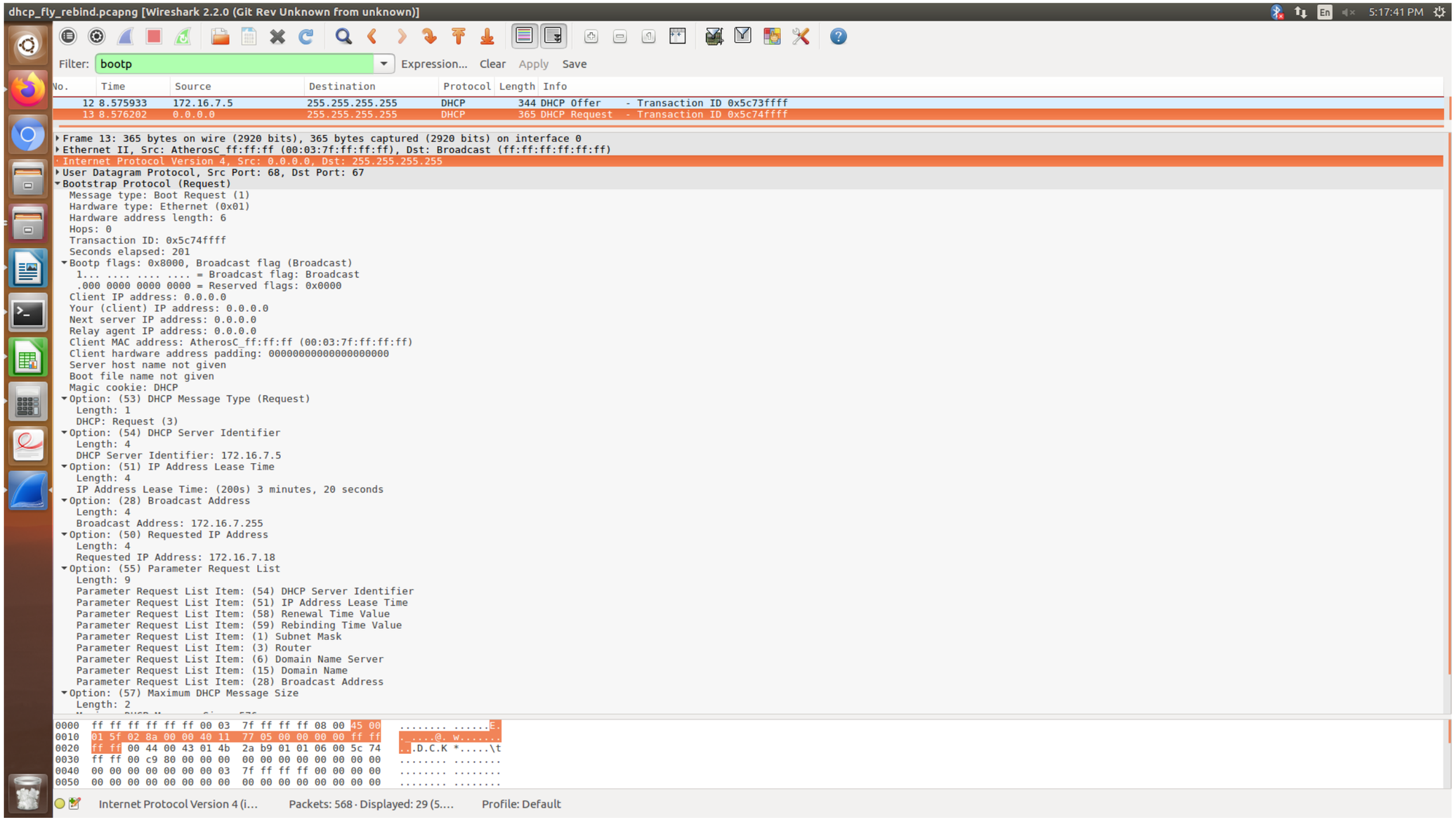
- DHCP request message

  When a client receives a offer message, it responds by broadcasting a DHCP request message.

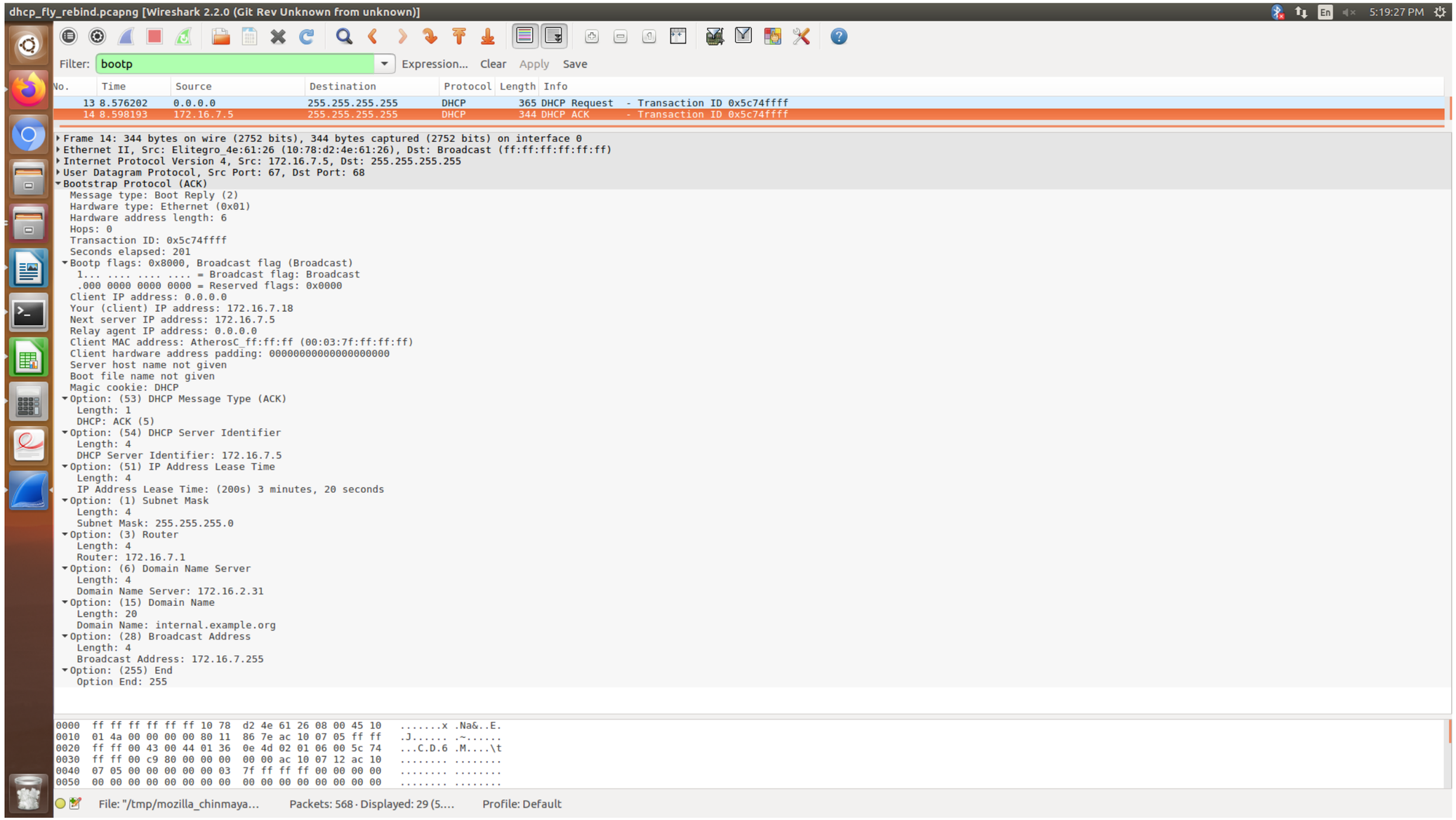
- DHCP acknowledgement message

  In response to the request message received, the server will make an entry with specified client ID and bind the IP address offered with lease time. Now, the client will have the IP address provided by server.

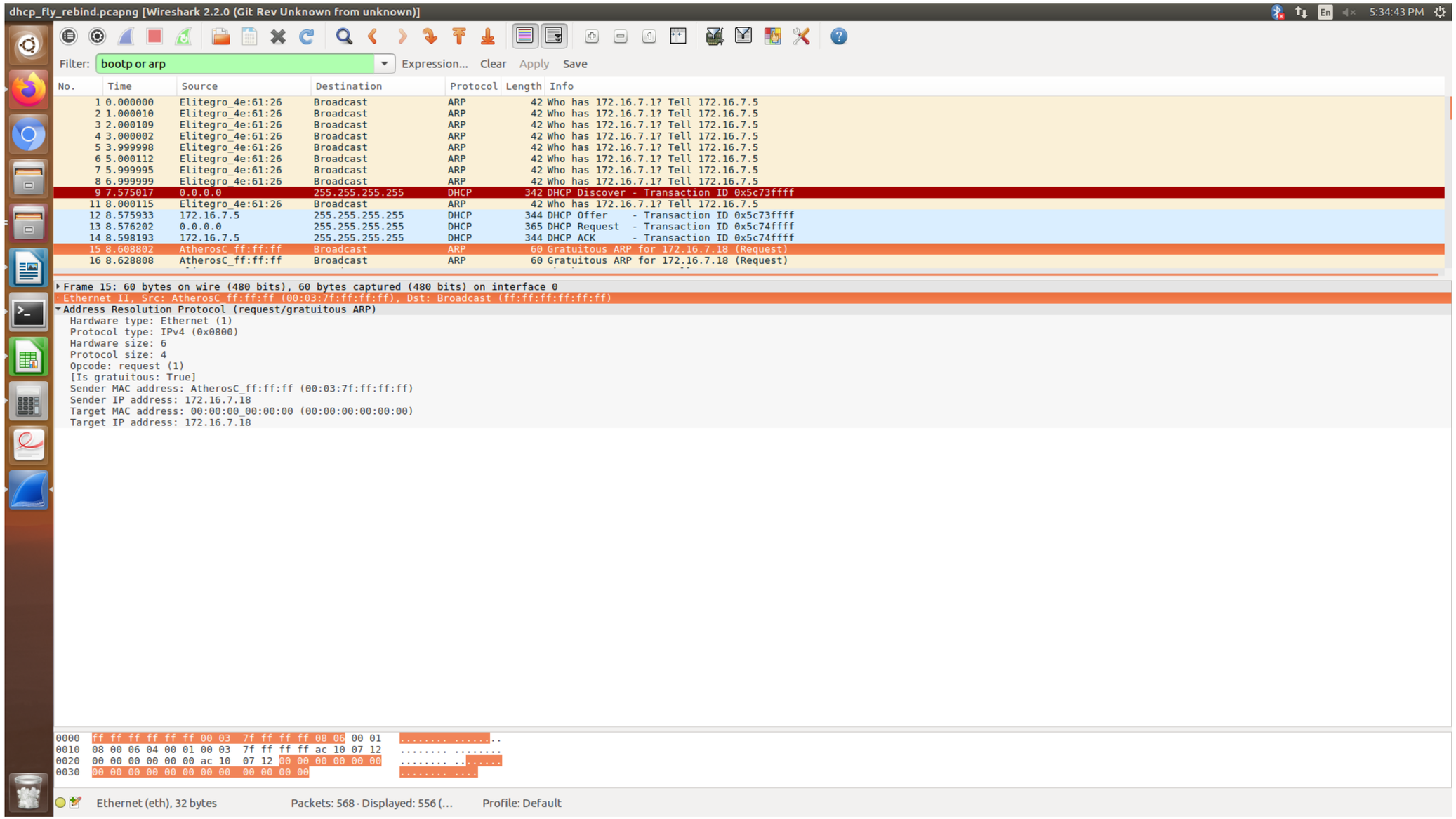
REQUEST


dhcp_fly_rebind.pcapng [Wireshark 2.2.0 (Git Rev Unknown from unknown)]
5:17:41 PM
Filter: bootp
Expression... Clear Apply Save
No. Time Source Destination Protocol Length Info
12 8.575933 172.16.7.5 255.255.255.255 DHCP 344 DHCP Offer - Transaction ID 0x5c73ffff
13 8.576202 0.0.0.0 255.255.255.255 DHCP 365 DHCP Request - Transaction ID 0x5c74ffff
Frame 13: 365 bytes on wire (2920 bits), 365 bytes captured (2920 bits) on interface 0
Ethernet II, Src: AtherosC_ff:ff:ff (00:03:7f:ff:ff:ff), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255
User Datagram Protocol, Src Port: 68, Dst Port: 67
Bootstrap Protocol (Request)
Message type: Boot Request (1)
Hardware type: Ethernet (0x01)
Hardware address length: 6
Hops: 0
Transaction ID: 0x5c74ffff
Seconds elapsed: 201
Bootp flags: 0x8000, Broadcast flag (Broadcast)
1... .... = Broadcast flag: Broadcast
.000 0000 0000 0000 = Reserved flags: 0x0000
Client IP address: 0.0.0.0
Your (client) IP address: 0.0.0.0
Next server IP address: 0.0.0.0
Relay agent IP address: 0.0.0.0
Client MAC address: AtherosC_ff:ff:ff (00:03:7f:ff:ff:ff)
Client hardware address padding: 00000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP
Option: (53) DHCP Message Type (Request)
Length: 1
DHCP: Request (3)
Option: (54) DHCP Server Identifier
Length: 4
DHCP Server Identifier: 172.16.7.5
Option: (51) IP Address Lease Time
Length: 4
IP Address Lease Time: (200s) 3 minutes, 20 seconds
Option: (28) Broadcast Address
Length: 4
Broadcast Address: 172.16.7.255
Option: (50) Requested IP Address
Length: 4
Requested IP Address: 172.16.7.18
Option: (55) Parameter Request List
Length: 9
Parameter Request List Item: (54) DHCP Server Identifier
Parameter Request List Item: (51) IP Address Lease Time
Parameter Request List Item: (58) Renewal Time Value
Parameter Request List Item: (59) Rebinding Time Value
Parameter Request List Item: (1) Subnet Mask
Parameter Request List Item: (3) Router
Parameter Request List Item: (6) Domain Name Server
Parameter Request List Item: (15) Domain Name
Parameter Request List Item: (28) Broadcast Address
Option: (57) Maximum DHCP Message Size
Length: 2
0000 ff ff ff ff ff ff 00 03 7f ff ff ff 08 00 45 00 ....E.
0010 01 5f 02 8a 00 00 40 11 77 05 00 00 00 00 ff ff ._....@. w.....
0020 ff ff 00 44 00 43 01 4b 2a b9 01 01 06 00 5c 74 ...D.C.K *.....\t
0030 ff ff 00 c9 80 00 00 00 00 00 00 00 00 00 00 00 ....
0040 00 00 00 00 00 00 00 03 7f ff ff ff 00 00 00 00 ....
0050 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
Internet Protocol Version 4 (i... Packets: 568 · Displayed: 29 (5.... Profile: Default

ACK


dhcp_fly_rebind.pcapng [Wireshark 2.2.0 (Git Rev Unknown from unknown)]
5:19:27 PM
Filter: bootp
Expression... Clear Apply Save
No. Time Source Destination Protocol Length Info
13 8.576202 0.0.0.0 255.255.255.255 DHCP 365 DHCP Request - Transaction ID 0x5c74ffff
14 8.598193 172.16.7.5 255.255.255.255 DHCP 344 DHCP ACK - Transaction ID 0x5c74ffff
Frame 14: 344 bytes on wire (2752 bits), 344 bytes captured (2752 bits) on interface 0
Ethernet II, Src: Elitegro_4e:61:26 (10:78:d2:4e:61:26), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
Internet Protocol Version 4, Src: 172.16.7.5, Dst: 255.255.255.255
User Datagram Protocol, Src Port: 67, Dst Port: 68
Bootstrap Protocol (ACK)
Message type: Boot Reply (2)
Hardware type: Ethernet (0x01)
Hardware address length: 6
Hops: 0
Transaction ID: 0x5c74ffff
Seconds elapsed: 201
Bootp flags: 0x8000, Broadcast flag (Broadcast)
1... .... = Broadcast flag: Broadcast
.000 0000 0000 0000 = Reserved flags: 0x0000
Client IP address: 0.0.0.0
Your (client) IP address: 172.16.7.18
Next server IP address: 172.16.7.5
Relay agent IP address: 0.0.0.0
Client MAC address: AtherosC_ff:ff:ff (00:03:7f:ff:ff:ff)
Client hardware address padding: 00000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP
Option: (53) DHCP Message Type (ACK)
Length: 1
DHCP: ACK (5)
Option: (54) DHCP Server Identifier
Length: 4
DHCP Server Identifier: 172.16.7.5
Option: (51) IP Address Lease Time
Length: 4
IP Address Lease Time: (200s) 3 minutes, 20 seconds
Option: (1) Subnet Mask
Length: 4
Subnet Mask: 255.255.255.0
Option: (3) Router
Length: 4
Router: 172.16.7.1
Option: (6) Domain Name Server
Length: 4
Domain Name Server: 172.16.2.31
Option: (15) Domain Name
Length: 20
Domain Name: internal.example.org
Option: (28) Broadcast Address
Length: 4
Broadcast Address: 172.16.7.255
Option: (255) End
Option End: 255
0000 ff ff ff ff ff ff 10 78 d2 4e 61 26 08 00 45 10 .....x .Na&..E.
0010 01 4a 00 00 00 00 80 11 86 7e ac 10 07 05 ff ff .J..... .~.....
0020 ff ff 00 43 00 44 01 36 0e 4d 02 01 06 00 5c 74 ...C.D.6 .M....\t
0030 ff ff 00 c9 80 00 00 00 00 00 ac 10 07 12 ac 10 ....
0040 07 05 00 00 00 00 00 03 7f ff ff ff 00 00 00 00 ....
0050 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
File: "/tmp/mozilla_chinmaya... Packets: 568 · Displayed: 29 (5.... Profile: Default

GRATUITOUS ARP



- DHCP negative acknowledgement message

  Whenever a DHCP server receives a request for IP address that is invalid according to the scopes that is configured with, it send DHCP Nak message to client. Eg-when the server has no IP address unused or the pool is empty, then this message is sent by the server to client.

- DHCP decline

  If DHCP client determines the offered configuration parameters are different or invalid, it sends DHCP decline message to the server .When there is a reply to the gratuitous ARP by any host to the client, the client sends DHCP decline message to the server showing the offered IP address is already in use.

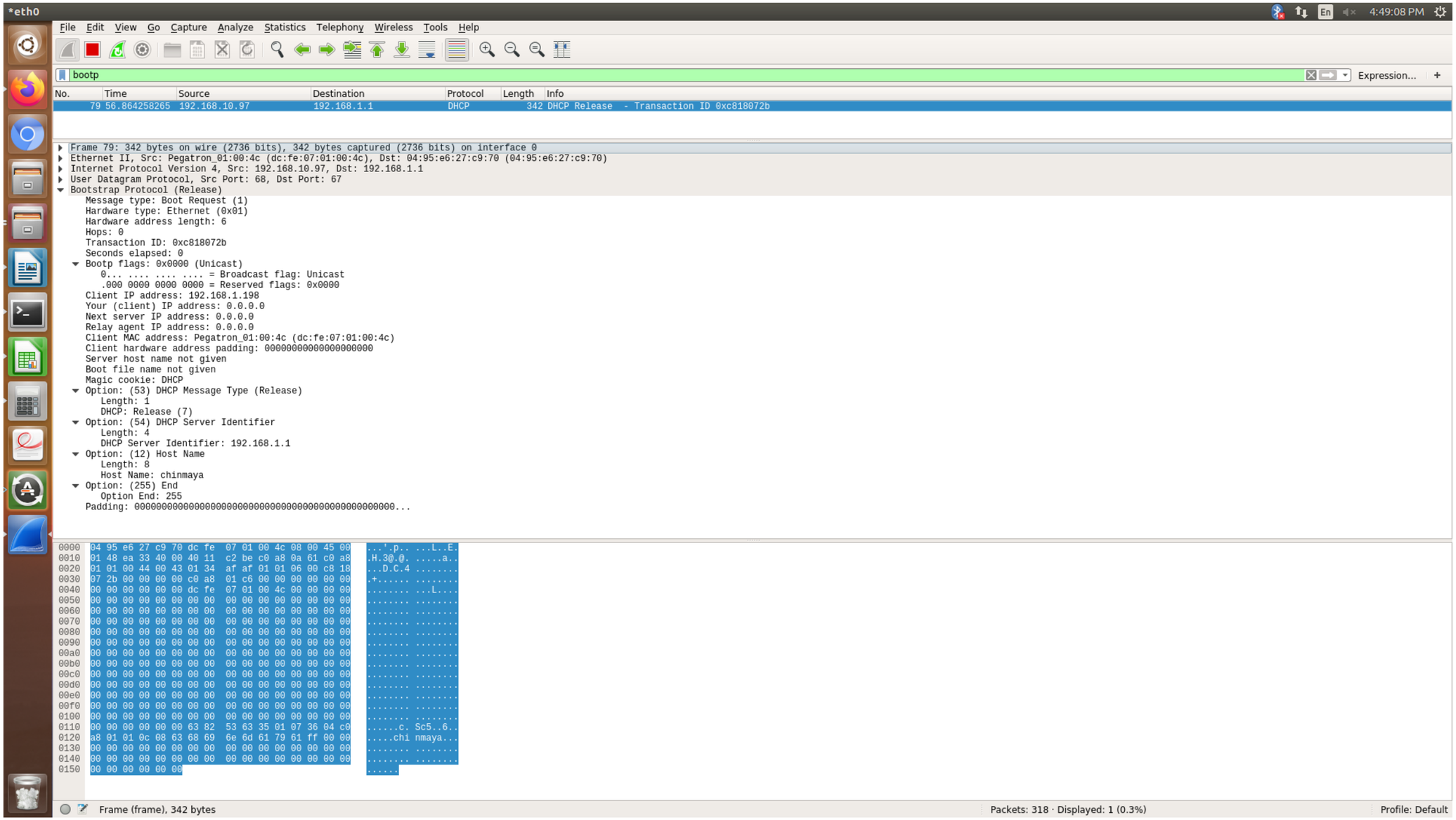
- DHCP release

  A DHCP client sends DHCP release packet to server to release IP address and cancel any remaining lease time.

- DHCP inform

  If a client address has obtained IP address manually then the client uses a DHCP inform to obtain other local configuration parameters, such as domain name. In reply to the dhcp inform message, DHCP server generates DHCP ack message with local configuration suitable for the client without allocating a new IP address. This DHCP ack message is unicast to the client.

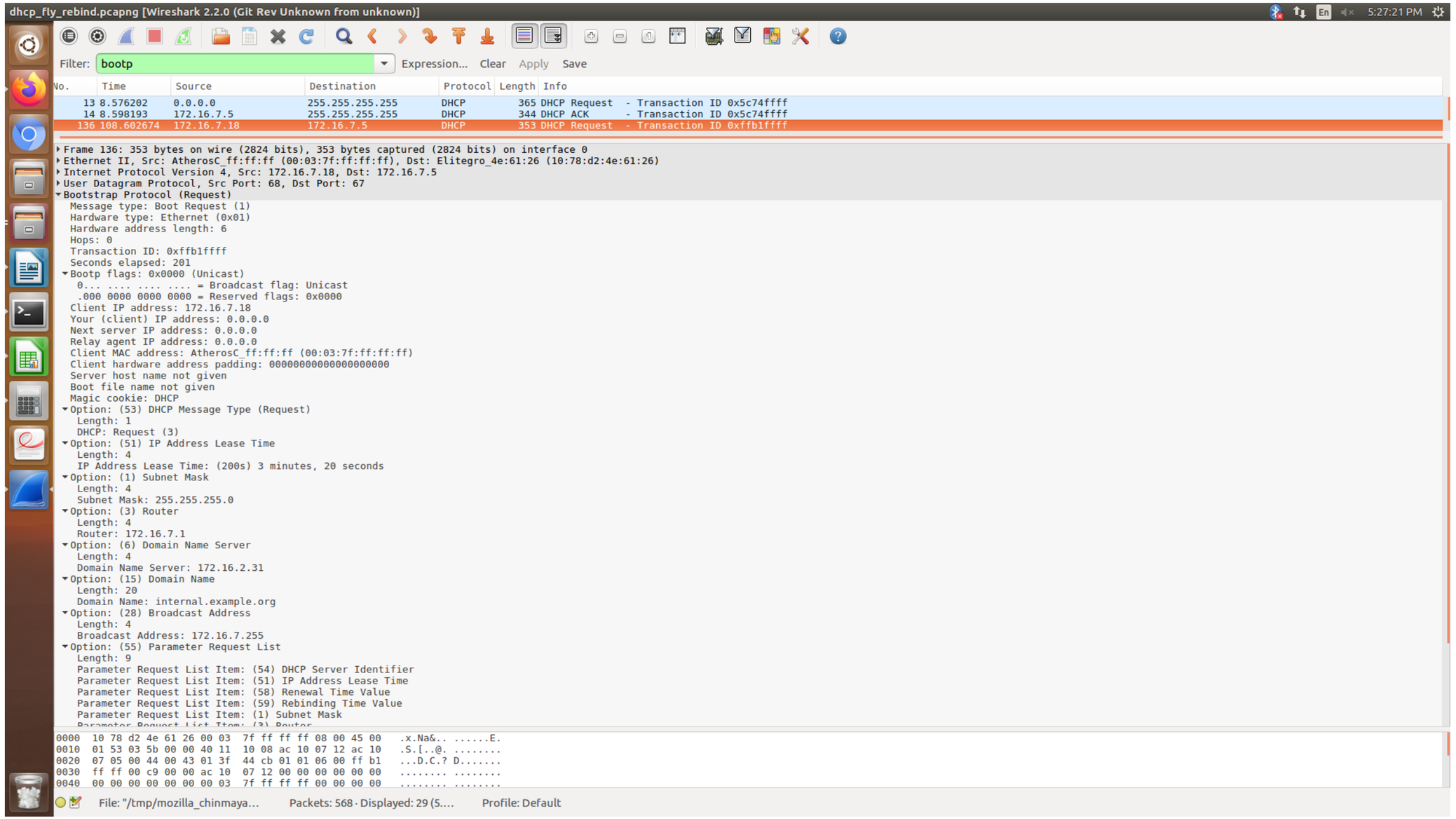
RELEASE


*eth0
4:49:08 PM
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
bootp
Expression...
No. Time Source Destination Protocol Length Info
79 56.864258265 192.168.10.97 192.168.1.1 DHCP 342 DHCP Release - Transaction ID 0xc818072b
Frame 79: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface 0
Ethernet II, Src: Pegatron_01:00:4c (dc:fe:07:01:00:4c), Dst: 04:95:e6:27:c9:70 (04:95:e6:27:c9:70)
Internet Protocol Version 4, Src: 192.168.10.97, Dst: 192.168.1.1
User Datagram Protocol, Src Port: 68, Dst Port: 67
Bootstrap Protocol (Release)
Message type: Boot Request (1)
Hardware type: Ethernet (0x01)
Hardware address length: 6
Hops: 0
Transaction ID: 0xc818072b
Seconds elapsed: 0
Bootp flags: 0x0000 (Unicast)
0... .... = Broadcast flag: Unicast
.000 0000 0000 0000 = Reserved flags: 0x0000
Client IP address: 192.168.1.198
Your (client) IP address: 0.0.0.0
Next server IP address: 0.0.0.0
Relay agent IP address: 0.0.0.0
Client MAC address: Pegatron_01:00:4c (dc:fe:07:01:00:4c)
Client hardware address padding: 00000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP
Option: (53) DHCP Message Type (Release)
Length: 1
DHCP: Release (7)
Option: (54) DHCP Server Identifier
Length: 4
DHCP Server Identifier: 192.168.1.1
Option: (12) Host Name
Length: 8
Host Name: chinmaya
Option: (255) End
Option End: 255
Padding: 0000000000000000000000000000000000000000000000000000...
0000 04 95 e6 27 c9 70 dc fe 07 01 00 4c 08 00 45 00 ...'.p.. ...L..E.
0010 01 48 ea 33 40 00 40 11 c2 be c0 a8 0a 61 c0 a8 .H.3@.@. .....a..
0020 01 01 00 44 00 43 01 34 af af 01 01 06 00 c8 18 ...D.C.4 ....
0030 07 2b 00 00 00 00 c0 a8 01 c6 00 00 00 00 00 00 .+...... ....
0040 00 00 00 00 00 00 dc fe 07 01 00 4c 00 00 00 00 ....L....
0050 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
0060 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
0070 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
0080 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
0090 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
00a0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
00b0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
00c0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
00d0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
00e0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
00f0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
0100 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
0110 00 00 00 00 00 00 63 82 53 63 35 01 07 36 04 c0 ......c. Sc5..6..
0120 a8 01 01 0c 08 63 68 69 6e 6d 61 79 61 ff 00 00 .....chi nmaya...
0130 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
0140 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....
0150 00 00 00 00 00 00 ......
Frame (frame), 342 bytes
Packets: 318 · Displayed: 1 (0.3%)
Profile: Default

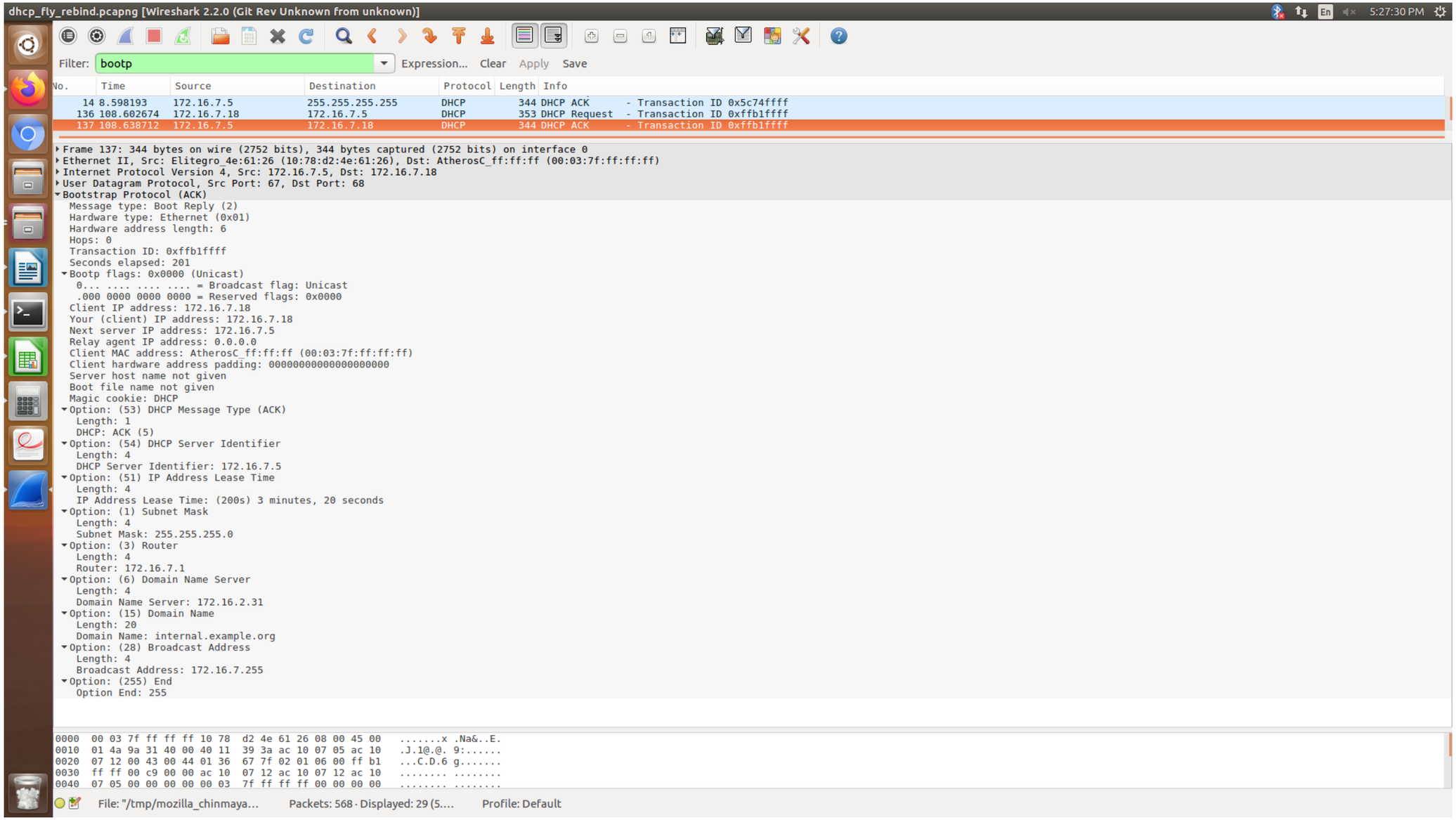
Stage of DHCP

- INIT
- Renewal
- Rebinding
- INIT Reboot

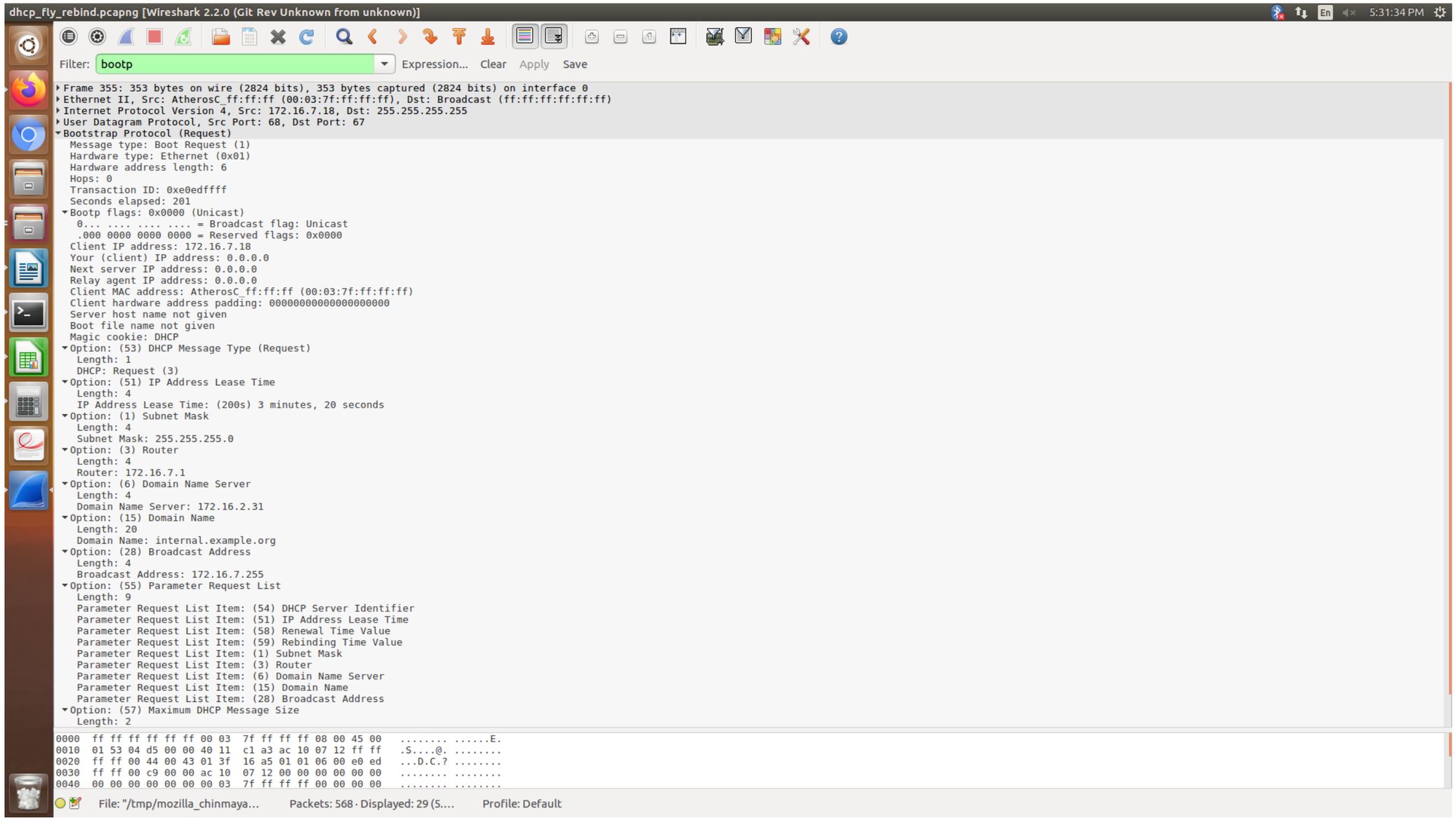
- Renewal REQUEST



ACK


dhcp_fly_rebind.pcapng [Wireshark 2.2.0 (Git Rev Unknown from unknown)]
5:27:30 PM
Filter: bootp
Expression... Clear Apply Save
No. Time Source Destination Protocol Length Info
14 8.598193 172.16.7.5 255.255.255.255 DHCP 344 DHCP ACK - Transaction ID 0x5c74ffff
136 108.602674 172.16.7.18 172.16.7.5 DHCP 353 DHCP Request - Transaction ID 0xffb1ffff
137 108.638712 172.16.7.5 172.16.7.18 DHCP 344 DHCP ACK - Transaction ID 0xffb1ffff
Frame 137: 344 bytes on wire (2752 bits), 344 bytes captured (2752 bits) on interface 0
Ethernet II, Src: Elitegro_4e:61:26 (10:78:d2:4e:61:26), Dst: AtherosC_ff:ff:ff (00:03:7f:ff:ff:ff)
Internet Protocol Version 4, Src: 172.16.7.5, Dst: 172.16.7.18
User Datagram Protocol, Src Port: 67, Dst Port: 68
Bootstrap Protocol (ACK)
Message type: Boot Reply (2)
Hardware type: Ethernet (0x01)
Hardware address length: 6
Hops: 0
Transaction ID: 0xffb1ffff
Seconds elapsed: 201
Bootp flags: 0x0000 (Unicast)
0... .... = Broadcast flag: Unicast
.000 0000 0000 0000 = Reserved flags: 0x0000
Client IP address: 172.16.7.18
Your (client) IP address: 172.16.7.18
Next server IP address: 172.16.7.5
Relay agent IP address: 0.0.0.0
Client MAC address: AtherosC_ff:ff:ff (00:03:7f:ff:ff:ff)
Client hardware address padding: 00000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP
Option: (53) DHCP Message Type (ACK)
Length: 1
DHCP: ACK (5)
Option: (54) DHCP Server Identifier
Length: 4
DHCP Server Identifier: 172.16.7.5
Option: (51) IP Address Lease Time
Length: 4
IP Address Lease Time: (200s) 3 minutes, 20 seconds
Option: (1) Subnet Mask
Length: 4
Subnet Mask: 255.255.255.0
Option: (3) Router
Length: 4
Router: 172.16.7.1
Option: (6) Domain Name Server
Length: 4
Domain Name Server: 172.16.2.31
Option: (15) Domain Name
Length: 20
Domain Name: internal.example.org
Option: (28) Broadcast Address
Length: 4
Broadcast Address: 172.16.7.255
Option: (255) End
Option End: 255
0000 00 03 7f ff ff ff 10 78 d2 4e 61 26 08 00 45 00 .....x .Na&..E.
0010 01 4a 9a 31 40 00 40 11 39 3a ac 10 07 05 ac 10 .J.1@.@. 9:.....
0020 07 12 00 43 00 44 01 36 67 7f 02 01 06 00 ff b1 ...C.D.6 g.....
0030 ff ff 00 c9 00 00 ac 10 07 12 ac 10 07 12 ac 10 ....
0040 07 05 00 00 00 00 00 03 7f ff ff ff 00 00 00 00 ....
File: "/tmp/mozilla_chinmaya... Packets: 568 · Displayed: 29 (5.... Profile: Default

REBIND REQ


dhcp_fly_rebind.pcapng [Wireshark 2.2.0 (Git Rev Unknown from unknown)]
5:31:34 PM
Filter: bootp
Expression... Clear Apply Save
Frame 355: 353 bytes on wire (2824 bits), 353 bytes captured (2824 bits) on interface 0
Ethernet II, Src: AtherosC_ff:ff:ff (00:03:7f:ff:ff:ff), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
Internet Protocol Version 4, Src: 172.16.7.18, Dst: 255.255.255.255
User Datagram Protocol, Src Port: 68, Dst Port: 67
Bootstrap Protocol (Request)
Message type: Boot Request (1)
Hardware type: Ethernet (0x01)
Hardware address length: 6
Hops: 0
Transaction ID: 0xe0edffff
Seconds elapsed: 201
Bootp flags: 0x0000 (Unicast)
0... .... = Broadcast flag: Unicast
.000 0000 0000 0000 = Reserved flags: 0x0000
Client IP address: 172.16.7.18
Your (client) IP address: 0.0.0.0
Next server IP address: 0.0.0.0
Relay agent IP address: 0.0.0.0
Client MAC address: AtherosC_ff:ff:ff (00:03:7f:ff:ff:ff)
Client hardware address padding: 00000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP
Option: (53) DHCP Message Type (Request)
Length: 1
DHCP: Request (3)
Option: (51) IP Address Lease Time
Length: 4
IP Address Lease Time: (200s) 3 minutes, 20 seconds
Option: (1) Subnet Mask
Length: 4
Subnet Mask: 255.255.255.0
Option: (3) Router
Length: 4
Router: 172.16.7.1
Option: (6) Domain Name Server
Length: 4
Domain Name Server: 172.16.2.31
Option: (15) Domain Name
Length: 20
Domain Name: internal.example.org
Option: (28) Broadcast Address
Length: 4
Broadcast Address: 172.16.7.255
Option: (55) Parameter Request List
Length: 9
Parameter Request List Item: (54) DHCP Server Identifier
Parameter Request List Item: (51) IP Address Lease Time
Parameter Request List Item: (58) Renewal Time Value
Parameter Request List Item: (59) Rebinding Time Value
Parameter Request List Item: (1) Subnet Mask
Parameter Request List Item: (3) Router
Parameter Request List Item: (6) Domain Name Server
Parameter Request List Item: (15) Domain Name
Parameter Request List Item: (28) Broadcast Address
Option: (57) Maximum DHCP Message Size
Length: 2
0000 ff ff ff ff ff ff 00 03 7f ff ff ff 08 00 45 00 ....E.
0010 01 53 04 d5 00 00 40 11 c1 a3 ac 10 07 12 ff ff .S....@. .....
0020 ff ff 00 44 00 43 01 3f 16 a5 01 01 06 00 e0 ed ...D.C.? .....
0030 ff ff 00 c9 00 00 ac 10 07 12 00 00 00 00 00 00 ....
0040 00 00 00 00 00 00 00 03 7f ff ff ff 00 00 00 00 ....
File: "/tmp/mozilla_chinmaya... Packets: 568 · Displayed: 29 (5.... Profile: Default

DHCP TIMERS

- Lease Renewal Timer:
- Lease Rebinding Timer:
- Lease Expiry Timer:

Thank You!

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