Network Systems Administration

Network Traffic with DHCP and DNS Services
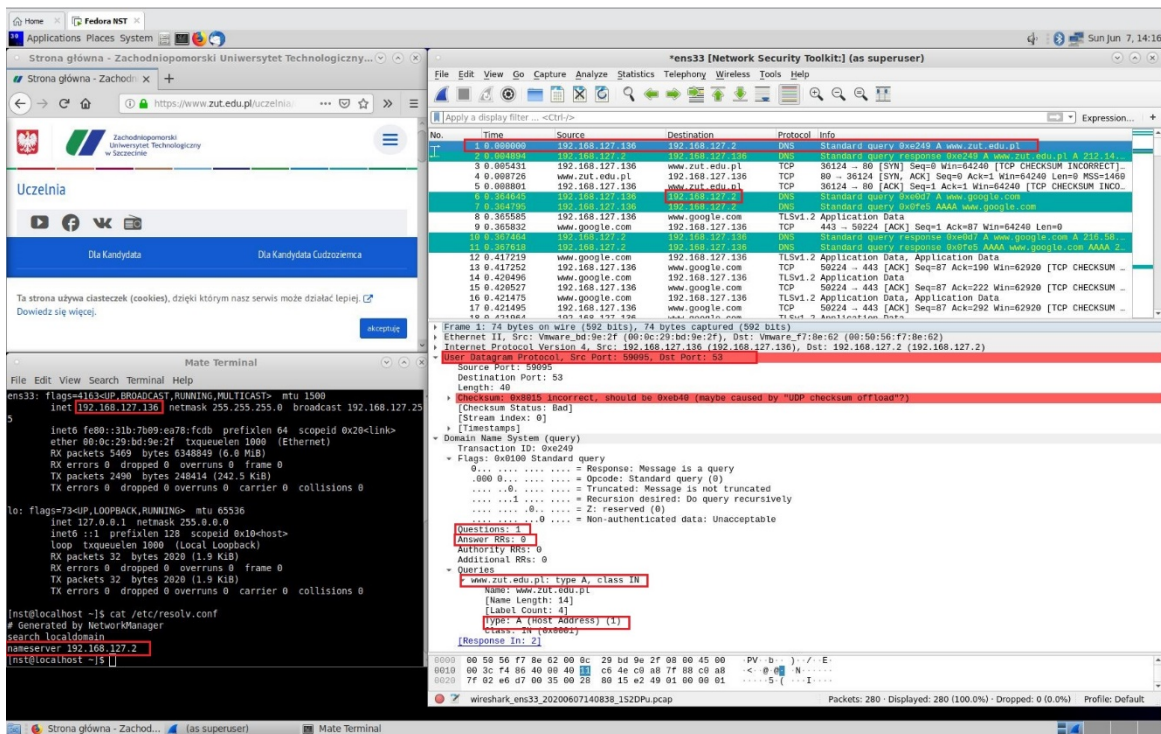
dr inż. Piotr Lech
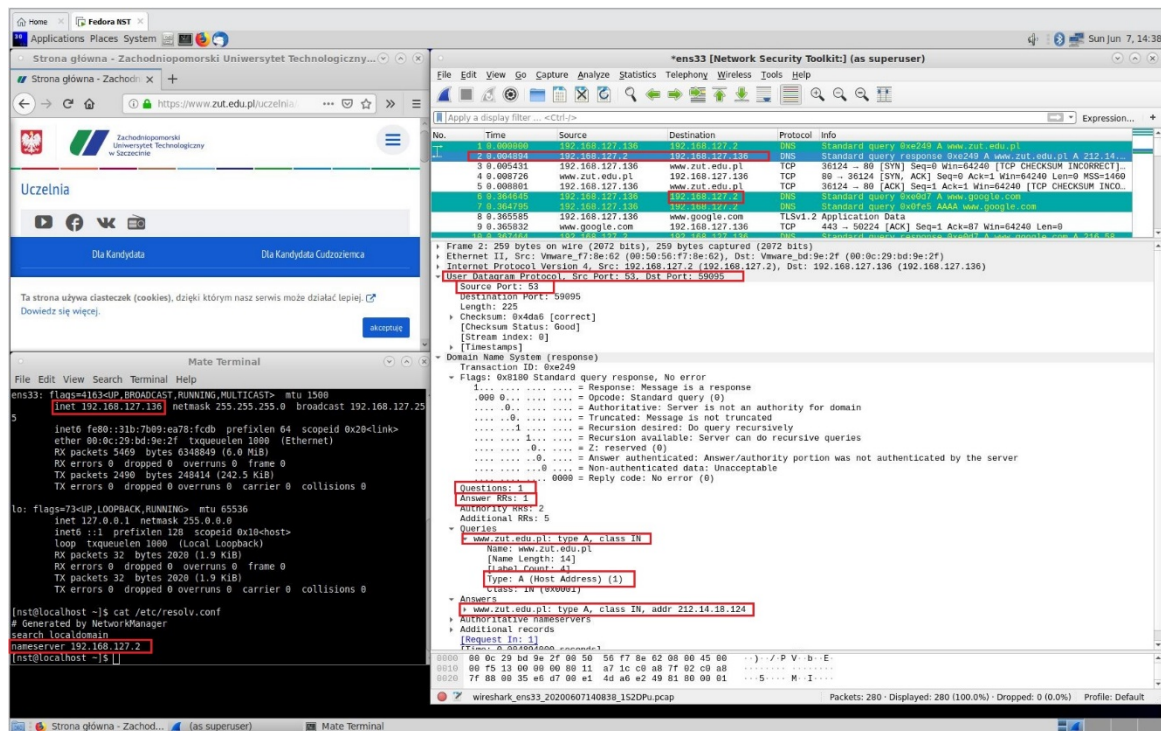
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1. DNS

   a. Screenshots

Şekil 1 Query Message

Şekil 2 Response Message

b. Questions and Answers

Q1. Locate the DNS query and response messages. Are they sent over UDP or TCP?
A1. They sent over UDP.

Q2. What is the destinations port for the DNS query message? What is the source port of DNS response message?
A2. Destination Port: domain (53)
     Source Port: domain (53)

Q3. To what IP address is the DNS query message sent? Use "ifconfig" to determine the IP address of your local DNS server. Are these two IP address the same?
A3. 192.168.127.2, yes the two IP address are the same.

Q4. Examine the DNS query message. What "Type" of DNS query is it? Does the query message contain any "answers"?
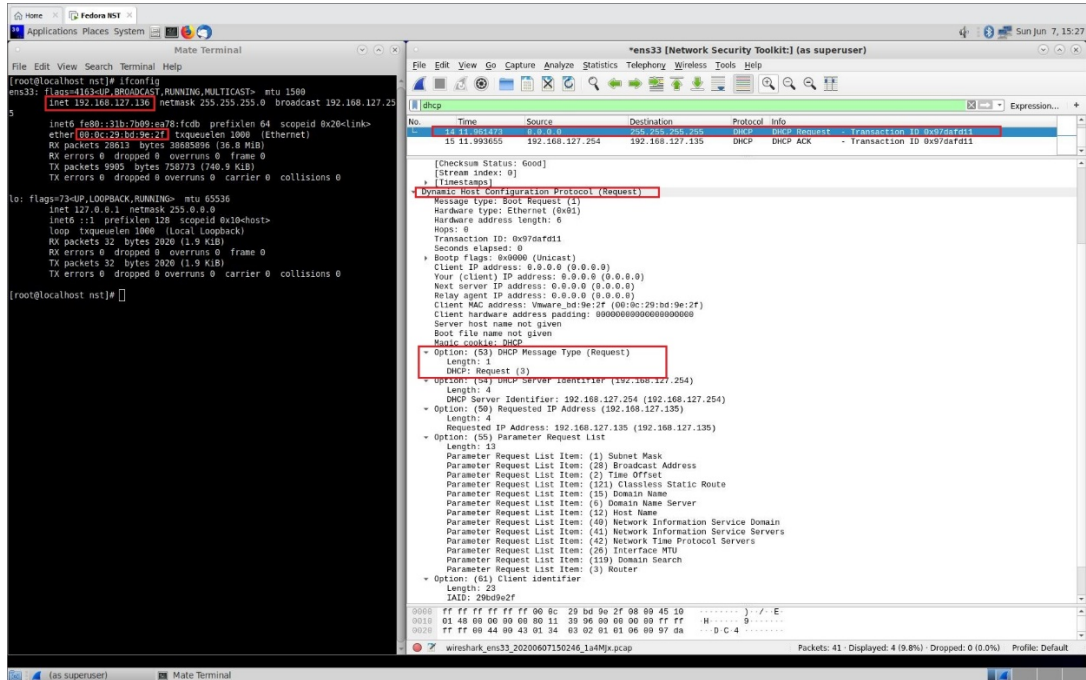A4. Type A (Host address), the query message does not contain any "answers".

Q5. Exemine the DNS response message. How many "answers" are provided? What does each of the answers contain?
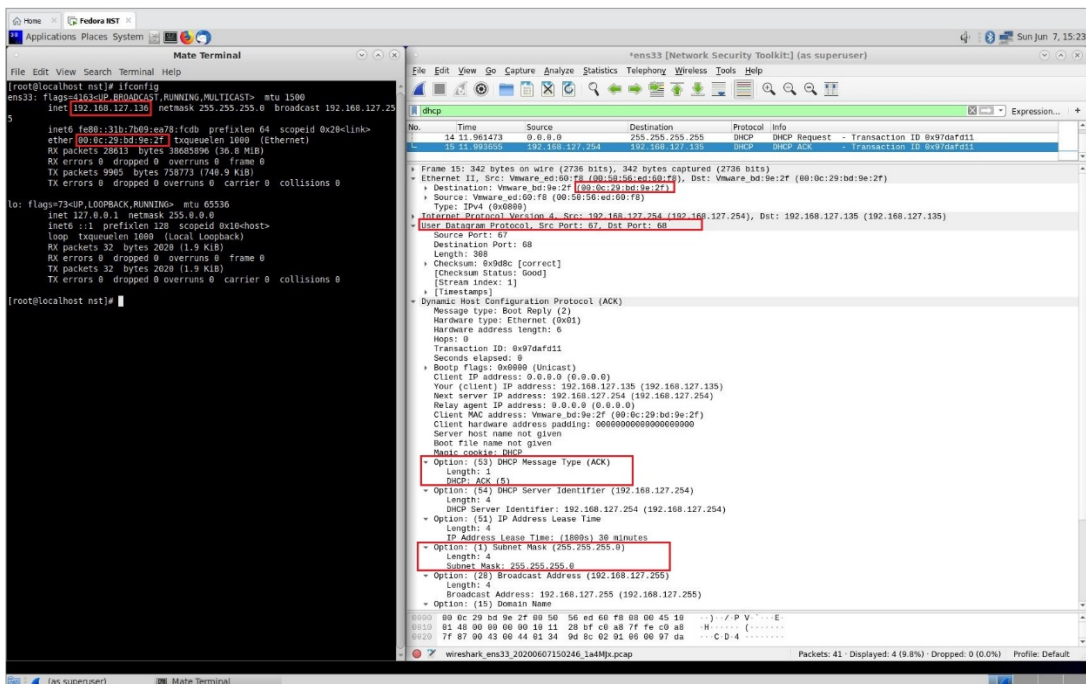A5. 1 "answers" is provided.
     The answer contains: "www.zut.edu.pl: type A, class IN, addr 212.14.18.124"
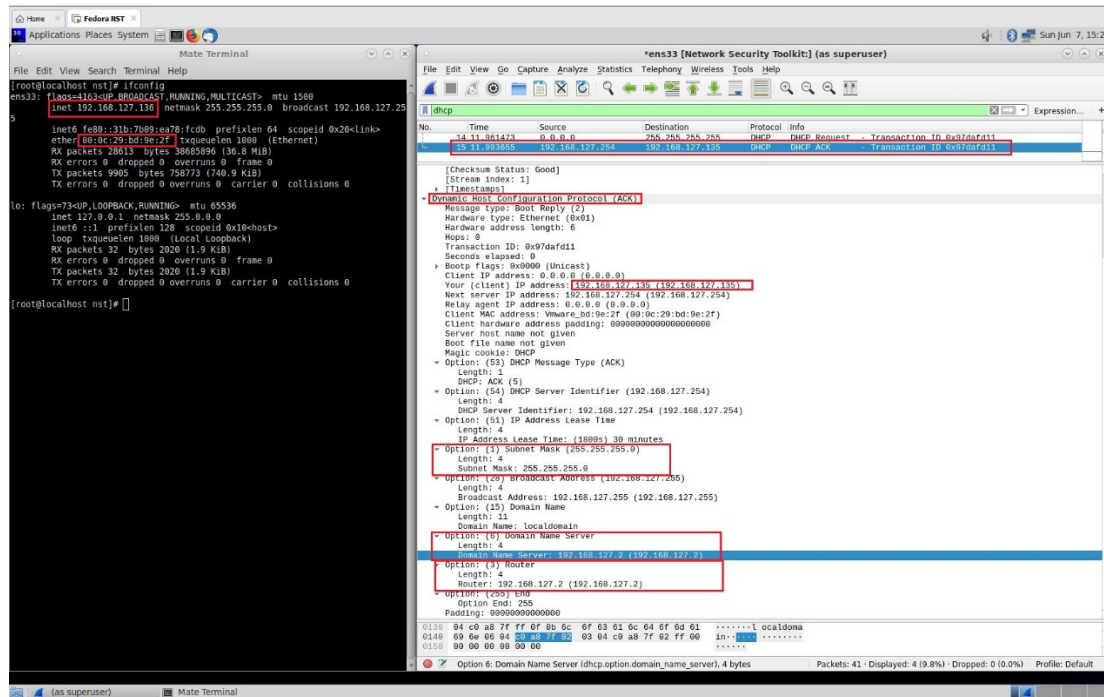
2. DHCP

a. Screenshots

Şekil 3 DHCP Request

Şekil 4 DHCP ACK-1

Şekil 5 DHCP ACK-2

b. Questions and Answers

Q1. Are DHCP messages sent over UDP or TCP?
A1. DHCP messages sent over UDP.

Q2. What is the link-layer address of your host?
A2. The link-layer address of my host is (00:0c:29:bd:9e:2f)

Q3. What values in the DHCP discover message differentiate this message from DHCP request   message?
A3. "Option: (53) DHCP Message Type (Request), Lenght: 1, DHCP: Request (3)".

Q4. What is the Ip address of your DHCP server?
A4. The IP address of DHCP server is 192.168.127.254.

Q5. Explain the purpose of the router and subnet mask lines in the DHCP offer message.
A5. The router line indicates to the client what it is default gateway should be. The subnet mask line tells the client which subnet mask it should use.