Δίκτυα Επικοινωνιών Άσκηση 1

ΡΑΥΤΟΠΟΥΛΟΣ ΜΑΡΙΟΣ 3180163

1. Χρονική διάρκεια ανίχνευσης = 102.573804 seconds

2.

Layer 2 (network)	Layer 3 (transport)	Layer 4 (application)
ARP	UDP	QUIC IETF
	TCP	MDNS
	STUN	LLMNR
	HTP	DNS
		TLS
		ICMPv6
		SSDP
		MP
		NBNS
		JON

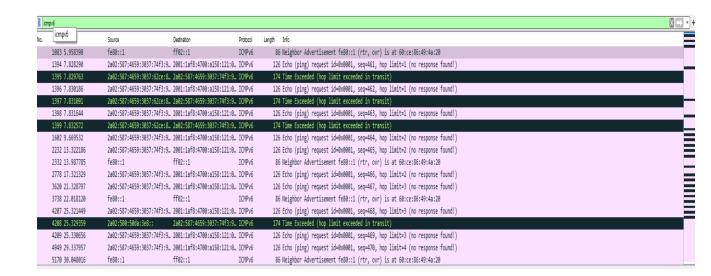| Protocol	Percent Packets	Packets	Percent Bytes	Bytes	Bits/s	End Packets	End Bytes	End Bits/s
Frame	100.0	19369	100.0	11784369	919k	0	0	0
Ethernet	100.0	19369	2.3	271166	21k	0	0	0
Internet Protocol Version 6	2.0	383	0.1	15320	1194	0	0	0
User Datagram Protocol	0.9	177	0.0	1416	110	0	0	0
QUIC IETF	0.4	83	0.5	56715	4423	83	56715	4423
Multicast Domain Name System	0.0	4	0.0	112	8	4	112	8
Link-local Multicast Name Resolution	0.0	6	0.0	268	20	6	268	20
Domain Name System	0.4	68	0.1	6245	487	68	6245	487
Data	0.1	16	0.0	548	42	16	548	42
Transmission Control Protocol	0.6	119	0.2	26145	2039	67	14250	1111
Transport Layer Security	0.2	42	0.2	23533	1835	42	23533	1835
Data	0.1	10	0.0	10	0	10	10	0
Internet Control Message Protocol v6	0.4	87	0.1	6448	502	87	6448	502
Internet Protocol Version 4	97.8	18940	3.2	378800	29k	0	0	0
User Datagram Protocol	96.3	18649	1.3	149192	11k	0	0	0
Simple Service Discovery Protocol	0.0	1	0.0	125	9	1	125	9
Session Traversal Utilities for NAT	2.0	388	0.3	32936	2568	368	28496	2222
Malformed Packet	0.1	20	0.0	0	0	20	0	0
NetBIOS Name Service	0.0	3	0.0	150	11	3	150	11
Multicast Domain Name System	0.0	5	0.0	157	12	5	157	12
Link-local Multicast Name Resolution	0.0	6	0.0	268	20	6	268	20
Domain Name System	0.1	18	0.0	2004	156	18	2004	156
Data	94.1	18228	91.4	10765941	839k	18228	10765941	839k
Transmission Control Protocol	1.5	291	0.6	68711	5358	144	16184	1262
Transport Layer Security	0.7	135	0.5	63516	4953	135	63516	4953
Hypertext Transfer Protocol	0.0	2	0.0	1395	108	1	275	21
JavaScript Object Notation	0.0	1	0.0	345	26	1	345	26
Data	0.1	10	0.0	1463	114	10	1463	114
Address Resolution Protocol	0.2	46	0.0	1486	115	46	1486	115

3.

Πρωτόκολλα που χρησιμοποιούν UDP: QUIC IETF, MDNS, LLMNR, DNS, SSDP,NBNS

Πρωτόκολλα που χρησιμοποιούν TCP: TLS

Πρωτόκολλα που χρησιμοποιούν STUN: MP

Πρωτόκολλα που χρησιμοποιούν HTTP: JON

4. Στο filter βάζουμε ICMP. Σε μένα χρησιμοποιείται το ICMPv6 .

No.		Source	Destination	Protocol	Length	Info
1083	5.958390	fe80::1	ff02::1	ICMPv6	86	Neighbor Advertisement fe80::1 (rtr, ovr) is at 60:ce:86:49:4a:20
1394	7.828290	2a02:587:4659:3037:74f3:9…	2001:1af8:4700:a158:121:0…	ICMPv6	126	Echo (ping) request id=0x0001, seq=461, hop limit=1 (no response found!)
1395	7.829763	2a02:587:4659:3037:62ce:8…	2a02:587:4659:3037:74f3:9…	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
1396	7.830186	2a02:587:4659:3037:74f3:9…	2001:1af8:4700:a158:121:0…	ICMPv6	126	Echo (ping) request id=0x0001, seq=462, hop limit=1 (no response found!)
1397	7.831091	2a02:587:4659:3037:62ce:8…	2a02:587:4659:3037:74f3:9…	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
1398	7.831644	2a02:587:4659:3037:74f3:9…	2001:1af8:4700:a158:121:0…	ICMPv6	126	Echo (ping) request id=0x0001, seq=463, hop limit=1 (no response found!)
1399	7.832572	2a02:587:4659:3037:62ce:8…	2a02:587:4659:3037:74f3:9…	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
1602	9.669532	2a02:587:4659:3037:74f3:9…	2001:1af8:4700:a158:121:0…	ICMPv6	126	Echo (ping) request id=0x0001, seq=464, hop limit=2 (no response found!)
2232	13.322186	2a02:587:4659:3037:74f3:9…	2001:1af8:4700:a158:121:0…	ICMPv6	126	Echo (ping) request id=0x0001, seq=465, hop limit=2 (no response found!)
2332	13.987785	fe80::1	ff02::1	ICMPv6	86	Neighbor Advertisement fe80::1 (rtr, ovr) is at 60:ce:86:49:4a:20
2778	17.321329	2a02:587:4659:3037:74f3:9…	2001:1af8:4700:a158:121:0…	ICMPv6	126	Echo (ping) request id=0x0001, seq=466, hop limit=2 (no response found!)
3620	21.328797	2a02:587:4659:3037:74f3:9…	2001:1af8:4700:a158:121:0…	ICMPv6	126	Echo (ping) request id=0x0001, seq=467, hop limit=3 (no response found!)
3738	22.018120	fe80::1	ff02::1	ICMPv6	86	Neighbor Advertisement fe80::1 (rtr, ovr) is at 60:ce:86:49:4a:20
4207	25.321449	2a02:587:4659:3037:74f3:9…	2001:1af8:4700:a158:121:0…	ICMPv6	126	Echo (ping) request id=0x0001, seq=468, hop limit=3 (no response found!)
4208	25.329359	2a02:580:50da:3e8::	2a02:587:4659:3037:74f3:9…	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
4209	25.330656	2a02:587:4659:3037:74f3:9…	2001:1af8:4700:a158:121:0…	ICMPv6	126	Echo (ping) request id=0x0001, seq=469, hop limit=3 (no response found!)
4949	29.337957	2a02:587:4659:3037:74f3:9…	2001:1af8:4700:a158:121:0…	ICMPv6	126	Echo (ping) request id=0x0001, seq=470, hop limit=4 (no response found!)
5170	30.048016	fe80::1	ff02::1	ICMPv6	86	Neighbor Advertisement fe80::1 (rtr, ovr) is at 60:ce:86:49:4a:20

5.


```
Internet Protocol Version 6, Src: 2a02:587:4659:3037:74f3:9462:82ca:8b86, Dst: 2001:1af8:4700:a158:121:0:1:115
    0110 .... = Version: 6
    .... 0000 0000 .... .... .... .... .... = Traffic Class: 0x00 (DSCP: CS0, ECN: Not-ECT)
        .... 0000 00.. .... .... .... .... .... = Differentiated Services Codepoint: Default (0)
        .... .... ..00 .... .... .... .... .... = Explicit Congestion Notification: Not ECN-Capable Transport (0)
    .... .... .... 0000 0000 0000 0000 0000 = Flow Label: 0x00000
    Payload Length: 72
    Next Header: ICMPv6 (58)
    Hop Limit: 13
    Source Address: 2a02:587:4659:3037:74f3:9462:82ca:8b86
    Destination Address: 2001:1af8:4700:a158:121:0:1:115
```

   a. IP destination address: 2001:1af8:4700:a158:121:0:1:115
   b. Hop limit: 13
   c. Payload length = 72 , Next Header length = 58 Hop Limit = 13
      Data length = 64 bytes

6. a. IP destination address: 2a02:587:4659:3037:74f3:9462:82ca:8b86

   b. IP source address : 2a02:587:4659:3037:62ce:86ff:fe49:4a20

```
✓ Internet Protocol Version 6, Src: 2a02:587:4659:3037:62ce:86ff:fe49:4a20, Dst: 2a02:587:4659:3037:74f3:9462:82ca:8b86
    0110 .... = Version: 6
  ✓ .... 0000 0000 .... .... .... .... .... = Traffic Class: 0x00 (DSCP: CS0, ECN: Not-ECT)
        .... 0000 00.. .... .... .... .... .... = Differentiated Services Codepoint: Default (0)
        .... .... ..00 .... .... .... .... .... = Explicit Congestion Notification: Not ECN-Capable Transport (0)
    .... .... .... 0000 0000 0000 0000 0000 = Flow Label: 0x00000
    Payload Length: 120
    Next Header: ICMPv6 (58)
    Hop Limit: 255
    Source Address: 2a02:587:4659:3037:62ce:86ff:fe49:4a20
    Destination Address: 2a02:587:4659:3037:74f3:9462:82ca:8b86
    [Source SA MAC: Sercomm 49:4a:20 (60:ce:86:49:4a:20)]
```

7. Source IP addresses:

- 2a02:587:4659:3037:62ce:86ff:fe49:4a20
- 2a02:580:50da:3e8::
- 2a00:1cb8:1::36
- 2a00:1cb8:1::10a
- 2a03:2280:36::82
- 2a03:2280:32::201
- 2a03:2280:38::231
- 2001:1af8:4700:0:81:17:34:19
- 2a07:3b80:3::3
- 2001:1af8:4700:a03f::a

Screenshot of tracert www.acm.org

```
Trace complete.

C:\Users\User>tracert www.acm.org

Tracing route to WwW.AcM.Org [2001:1af8:4700:a158:121:0:1:115]
over a maximum of 30 hops:

  1     1 ms    <1 ms    <1 ms  2a02:587:4659:3037:62ce:86ff:fe49:4a20
  2     *        *        *     Request timed out.
  3     *        8 ms     *     2a02:580:50da:3e8::
  4     *        *        *     Request timed out.
  5     *        8 ms     *     2a00:1cb8:1::36
  6    44 ms     *              2a00:1cb8:1::10a
  7    44 ms    43 ms    43 ms  2a03:2280:36::82
  8    43 ms    45 ms    44 ms  2a03:2280:32::201
  9     *       44 ms     *     2a03:2280:38::231
 10    44 ms    45 ms    44 ms  2001:1af8:4700:0:81:17:34:19
 11    45 ms    44 ms    44 ms  2a07:3b80:3::3
 12    44 ms    44 ms    44 ms  2001:1af8:4700:a03f::a
 13    45 ms    44 ms    45 ms  2001:1af8:4700:a158:121:0:1:115

Trace complete.
```

Οι 10 ip addresses που εμφανίζονται είναι source ip addresses των time exceeded. Η
2001:1af8:4700:a158:121:0:1:115 είναι source ip echo reply