

```

C:\Windows\system32\cmd.exe
10 53 ms 53 ms 53 ms 2001:1af8:4700:0:81:17:34:21
11 53 ms 53 ms 53 ms 2a07:3b80:3::3
12 53 ms 53 ms 53 ms 2001:1af8:4700:a03f::a
13 52 ms 53 ms 53 ms 2001:1af8:4700:a158:121:0:1:114

Trace complete.

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

Tracing route to www.acm.org [2001:1af8:4700:a158:121:0:1:114]
over a maximum of 30 hops:

 1 * * * Request timed out.
 2 * * * Request timed out.
 3 * * * Request timed out.
 4 * * * Request timed out.
 5 * 17 ms * 2a00:1cb8:1::1b6
 6 53 ms 53 ms 55 ms 2a00:1cb8:1::1c6
 7 52 ms 52 ms 51 ms 2a03:2280:36::82
 8 53 ms 52 ms 52 ms 2a03:2280:32::201
 9 53 ms 62 ms 55 ms 2a03:2280:38::229
10 53 ms 53 ms 53 ms 2001:1af8:4700:0:81:17:34:21
11 54 ms 53 ms 53 ms 2a07:3b80:3::3
12 53 ms 53 ms 54 ms 2001:1af8:4700:a03f::a
13 53 ms 53 ms 53 ms 2001:1af8:4700:a158:121:0:1:114

Trace complete.

C:\Users\georg>

```

1) ~106 δευτερόλεπτα

2001:1af8:4700:0:81:17:34:21	2001:1af8:4700:a03f::a	2001:1af8:4700:a158:121:0:1:114	2001:1af8:4700:0:81:17:34:21	2001:1af8:4700:a03f::a	2001:1af8:4700:a158:121:0:1:114
18404	106.614204	52.112.146.152	192.168.1.2	UDP	240 3480 → 65514 Len=198

2)

Application Layer

Transport Layer

Network Layer

Link Layer

Physical Layer

Http,dns,TLSv1.2,SSDP,SSL

TCP UDP

ICMPv6,IPv6,STUN,STP,SSL

ARP

3)http=TCP

dns=UDP

TLSv1.2=TCP

SSDP=UDP

SSL=TCP

4)Το φίλτρο που χρησιμοποιούμε είναι το ICMPv6

5) a,b,c photo

[illegible]

ask1.pcapng

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

icmpv6

No.	Time	Source	Destination	Protocol	Length	Info
12002	58.988732	2a02:587:2d1a:8000::...	fe80::1	ICMPv6	86	Neighbor Advertisement 2a02:587:2d1a:8000:ec8a:be69:5020:e6b6
12006	58.994562	2a00:1cb8:1::1c6	2a02:587:2d1a:8000::...	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12007	58.995949	2a02:587:2d1a:8000::...	2001:1af8:4700:a158::...	ICMPv6	126	Echo (ping) request id=0x0001, seq=77, hop limit=6
12017	59.048829	2a00:1cb8:1::1c6	2a02:587:2d1a:8000::...	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12018	59.050576	2a02:587:2d1a:8000::...	2001:1af8:4700:a158::...	ICMPv6	126	Echo (ping) request id=0x0001, seq=78, hop limit=6
12034	59.105534	2a00:1cb8:1::1c6	2a02:587:2d1a:8000::...	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12429	61.050422	2a02:587:2d1a:8000::...	2001:1af8:4700:a158::...	ICMPv6	126	Echo (ping) request id=0x0001, seq=79, hop limit=7
12436	61.102732	2a03:2280:36::82	2a02:587:2d1a:8000::...	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12437	61.104711	2a02:587:2d1a:8000::...	2001:1af8:4700:a158::...	ICMPv6	126	Echo (ping) request id=0x0001, seq=80, hop limit=7
12441	61.157156	2a03:2280:36::82	2a02:587:2d1a:8000::...	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12442	61.160147	2a02:587:2d1a:8000::...	2001:1af8:4700:a158::...	ICMPv6	126	Echo (ping) request id=0x0001, seq=81, hop limit=7
12476	61.211861	2a03:2280:36::82	2a02:587:2d1a:8000::...	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12835	63.189749	2a02:587:2d1a:8000::...	2001:1af8:4700:a158::...	ICMPv6	126	Echo (ping) request id=0x0001, seq=82, hop limit=8
12839	63.242780	2a03:2280:32::201	2a02:587:2d1a:8000::...	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12840	63.244424	2a02:587:2d1a:8000::...	2001:1af8:4700:a158::...	ICMPv6	126	Echo (ping) request id=0x0001, seq=83, hop limit=8

> Frame 12006: 174 bytes on wire (1392 bits), 174 bytes captured (1392 bits) on interface \Device\NPF\_{81BE2529-437A-48B6-94F5-B1B66F8C...}

▼ Ethernet II, Src: zte\_29:51:2c (28:ff:3e:29:51:2c), Dst: Elitegro\_95:a3:c3 (10:78:d2:95:a3:c3)

> Destination: Elitegro\_95:a3:c3 (10:78:d2:95:a3:c3)

> Source: zte\_29:51:2c (28:ff:3e:29:51:2c)

Type: IPv6 (0x86dd)

▼ Internet Protocol Version 6, Src: 2a00:1cb8:1::1c6, Dst: 2a02:587:2d1a:8000:ec8a:be69:5020:e6b6

0110 .... = Version: 6

> .... 0000 0000 .... = Traffic Class: 0x00 (DSCP: CS0, ECN: Not-ECT)

.... 0000 0000 0000 0000 0000 0000 = Flow Label: 0x000000

Payload Length: 120

Next Header: ICMPv6 (58)

Hop Limit: 59

Source Address: 2a00:1cb8:1::1c6

Destination Address: 2a02:587:2d1a:8000:ec8a:be69:5020:e6b6

> Internet Control Message Protocol v6



## 7) Όπως φαίνεται στις φωτογραφίες υπάρχουν αντιστοιχίες για όλα

No.	Time	Source	Destination	Protocol	Length	Info
12937	63.948953	fe80::b0d9:8bf5:2b29:7d1	fe80::1	ICMPv6	86	Neighbor Advertisement fe80::b0d9:8bf5:2b29:7d1
13968	74.134720	fe80::1	ff02::1:ffea:1b07	ICMPv6	86	Neighbor Solicitation for fe80::9e5c:1b07:1
12936	63.948793	fe80::1	fe80::b0d9:8bf5:2b29:7d1	ICMPv6	86	Neighbor Solicitation for fe80::b0d9:8bf5:2b29:7d1
12001	58.988663	fe80::1	2a02:587:2d1a:8000::	ICMPv6	86	Neighbor Solicitation for 2a02:587:2d1a:8000::
13544	69.817575	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13537	69.762070	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13532	69.763514	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13139	65.487507	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13133	65.429998	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13127	65.365376	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12476	61.211861	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12441	61.157156	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12436	61.102722	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12849	63.359061	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12845	63.296948	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)

< Frame 13371: 174 bytes on wire (1392 bits), 174 bytes captured (1392 bits) on Interface \Device\NPF\_{018E2529-437A-4806-94F5-B1866FBC} Ethernet II, Src: zte\_29:51:2c (28:ff:3e:29:51:2c), Dst: Ellitgre\_95:a3:c3 (10:78:d2:95:a3:c3)

> Destination: Ellitgre\_95:a3:c3 (10:78:d2:95:a3:c3)

> Source: zte\_29:51:2c (28:ff:3e:29:51:2c)

Type: IPv6 (0x86dd)

> Internet Protocol Version 6, Src: 2001:1af8:4700:0:81:17:34:21, Dst: 2a02:587:2d1a:8000::ec8a:be69:5020:e6b6

0110 .... = Version: 6

.... 0000 0000 .... = Traffic Class: 0x00 (DSCP: CS0, ECN: Not-ECT)

.... 0000 0000 0000 0000 0000 = Flow Label: 0x000000

Payload Length: 120

Next Header: ICMPv6 (58)

Hop Limit: 54

Source Address: 2001:1af8:4700:0:81:17:34:21

Destination Address: 2a02:587:2d1a:8000::ec8a:be69:5020:e6b6

> Internet Control Message Protocol v6

< 0000 10 78 d2 95 a3 c3 28 ff 3e 29 51 2c 86 dd 60 00 ...X...(>)Q...  
0010 00 00 00 78 3a 36 20 01 1a f8 47 00 00 00 00 81 ...x16...G...  
0020 00 17 00 34 00 21 2a 02 05 87 2d 1a 80 00 ec 8a ...4...  
0030 2a 02 58 72 d1 a8 00 03 00 13 30 0e 00 00 00 60 00 ...IP...0...  
0040 00 00 00 48 3a 01 2a 02 05 87 2d 1a 80 00 ec 8a ...H...  
0050 0e 69 50 20 e6 b6 00 01 1a f8 47 00 a1 58 01 21 ...IP...G X I  
0060 00 00 00 01 01 14 80 00 9b 2a 00 01 00 5a 00 00 ...Z...  
0070 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 ...  
0090 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 ...

Destination IPv6 Address (pv6.dst), 16 byte(s) Packets: 18404 · Displayed: 69 (0.4%) · Dropped: 0 (0.0%) Profile: Default

```
C:\Windows\system32\cmd.exe
10 53 ms 53 ms 53 ms 2001:1af8:4700:0:81:17:34:21
11 53 ms 53 ms 53 ms 2a02:587:2d1a:8000::ec8a:be69:5020:e6b6
12 53 ms 53 ms 53 ms 2001:1af8:4700:a03f::a
13 52 ms 53 ms 53 ms 2001:1af8:4700:a158:121:0:1:114

Trace complete.

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

Tracing route to www.acm.org [2001:1af8:4700:a158:121:0:1:114]
over a maximum of 30 hops:

 1 * * * Request timed out.
 2 * * * Request timed out.
 3 * * * Request timed out.
 4 * * * Request timed out.
 5 * 17 ms * 2a00:1cb8:1::1b6
 6 53 ms 53 ms 55 ms 2a00:1cb8:1::1c6
 7 52 ms 52 ms 51 ms 2a03:2280:36:182
 8 53 ms 52 ms 52 ms 2a03:2280:32:201
 9 53 ms 62 ms 55 ms 2a03:2280:38:129
10 53 ms 53 ms 53 ms 2001:1af8:4700:0:81:17:34:21
11 54 ms 53 ms 53 ms 2a07:3b00:3:13
12 53 ms 53 ms 54 ms 2001:1af8:4700:a03f::a
13 53 ms 53 ms 53 ms 2001:1af8:4700:a158:121:0:1:114

Trace complete.

C:\Users\georg>
```

No.	Time	Source	Destination	Protocol	Length	Info
1099	5.967494	2a02:587:2d1a:8000::ec8a:be69:5020	2001:1af8:4700:a158::	ICMPv6	126	Echo (ping) request id=0x0001, seq=62
482	2.208434	2a02:587:2d1a:8000::ec8a:be69:5020	2001:1af8:4700:a158::	ICMPv6	126	Echo (ping) request id=0x0001, seq=61
12024	59.055534	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12017	59.040029	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
12006	58.994562	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
10928	53.983554	2a02:587:2d1a:8000::	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13992	74.270639	2001:1af8:4700:a158:121:0:1:114	2a02:587:2d1a:8000::	ICMPv6	126	Echo (ping) reply id=0x0001, seq=99
13987	74.215626	2001:1af8:4700:a158:121:0:1:114	2a02:587:2d1a:8000::	ICMPv6	126	Echo (ping) reply id=0x0001, seq=98
13980	74.166210	2001:1af8:4700:a158:121:0:1:114	2a02:587:2d1a:8000::	ICMPv6	126	Echo (ping) reply id=0x0001, seq=97
13754	72.115240	2001:1af8:4700:a03f::a	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13775	72.095340	2001:1af8:4700:a03f::a	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13769	72.040380	2001:1af8:4700:a03f::a	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13371	67.711988	2001:1af8:4700:0:81:17:34:21	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13363	67.655516	2001:1af8:4700:0:81:17:34:21	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
13357	67.599082	2001:1af8:4700:0:81:17:34:21	2a02:587:2d1a:8000::	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)

< Frame 13371: 174 bytes on wire (1392 bits), 174 bytes captured (1392 bits) on Interface \Device\NPF\_{018E2529-437A-4806-94F5-B1866FBC} Ethernet II, Src: zte\_29:51:2c (28:ff:3e:29:51:2c), Dst: Ellitgre\_95:a3:c3 (10:78:d2:95:a3:c3)

> Destination: Ellitgre\_95:a3:c3 (10:78:d2:95:a3:c3)

> Source: zte\_29:51:2c (28:ff:3e:29:51:2c)

Type: IPv6 (0x86dd)

> Internet Protocol Version 6, Src: 2001:1af8:4700:0:81:17:34:21, Dst: 2a02:587:2d1a:8000::ec8a:be69:5020:e6b6

0110 .... = Version: 6

.... 0000 0000 .... = Traffic Class: 0x00 (DSCP: CS0, ECN: Not-ECT)

.... 0000 0000 0000 0000 0000 = Flow Label: 0x000000

Payload Length: 120

Next Header: ICMPv6 (58)

Hop Limit: 54

Source Address: 2001:1af8:4700:0:81:17:34:21

Destination Address: 2a02:587:2d1a:8000::ec8a:be69:5020:e6b6

> Internet Control Message Protocol v6

< 0000 10 78 d2 95 a3 c3 28 ff 3e 29 51 2c 86 dd 60 00 ...X...(>)Q...  
0010 00 00 00 78 3a 36 20 01 1a f8 47 00 00 00 00 81 ...x16...G...  
0020 00 17 00 34 00 21 2a 02 05 87 2d 1a 80 00 ec 8a ...4...  
0030 2a 02 58 72 d1 a8 00 03 00 13 30 0e 00 00 00 60 00 ...IP...0...  
0040 00 00 00 48 3a 01 2a 02 05 87 2d 1a 80 00 ec 8a ...H...  
0050 0e 69 50 20 e6 b6 00 01 1a f8 47 00 a1 58 01 21 ...IP...G X I  
0060 00 00 00 01 01 14 80 00 9b 2a 00 01 00 5a 00 00 ...Z...  
0070 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 ...  
0090 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 ...

Destination IPv6 Address (pv6.dst), 16 byte(s) Packets: 18404 · Displayed: 69 (0.4%) · Dropped: 0 (0.0%) Profile: Default

```
C:\Windows\system32\cmd.exe
10 53 ms 53 ms 53 ms 2001:1af8:4700:0:81:17:34:21
11 53 ms 53 ms 53 ms 2a02:587:2d1a:8000::ec8a:be69:5020:e6b6
12 53 ms 53 ms 53 ms 2001:1af8:4700:a03f::a
13 52 ms 53 ms 53 ms 2001:1af8:4700:a158:121:0:1:114

Trace complete.

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

Tracing route to www.acm.org [2001:1af8:4700:a158:121:0:1:114]
over a maximum of 30 hops:

 1 * * * Request timed out.
 2 * * * Request timed out.
 3 * * * Request timed out.
 4 * * * Request timed out.
 5 * 17 ms * 2a00:1cb8:1::1b6
 6 53 ms 53 ms 55 ms 2a00:1cb8:1::1c6
 7 52 ms 52 ms 51 ms 2a03:2280:36:182
 8 53 ms 52 ms 52 ms 2a03:2280:32:201
 9 53 ms 62 ms 55 ms 2a03:2280:38:129
10 53 ms 53 ms 53 ms 2001:1af8:4700:0:81:17:34:21
11 54 ms 53 ms 53 ms 2a07:3b00:3:13
12 53 ms 53 ms 54 ms 2001:1af8:4700:a03f::a
13 53 ms 53 ms 53 ms 2001:1af8:4700:a158:121:0:1:114

Trace complete.

C:\Users\georg>
```