

## Εργασία Δίκτυα Υπολογιστών II – Wireshark Screenshots



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Δεδομένα και κώδικες της εργασίας [εδώ](#)

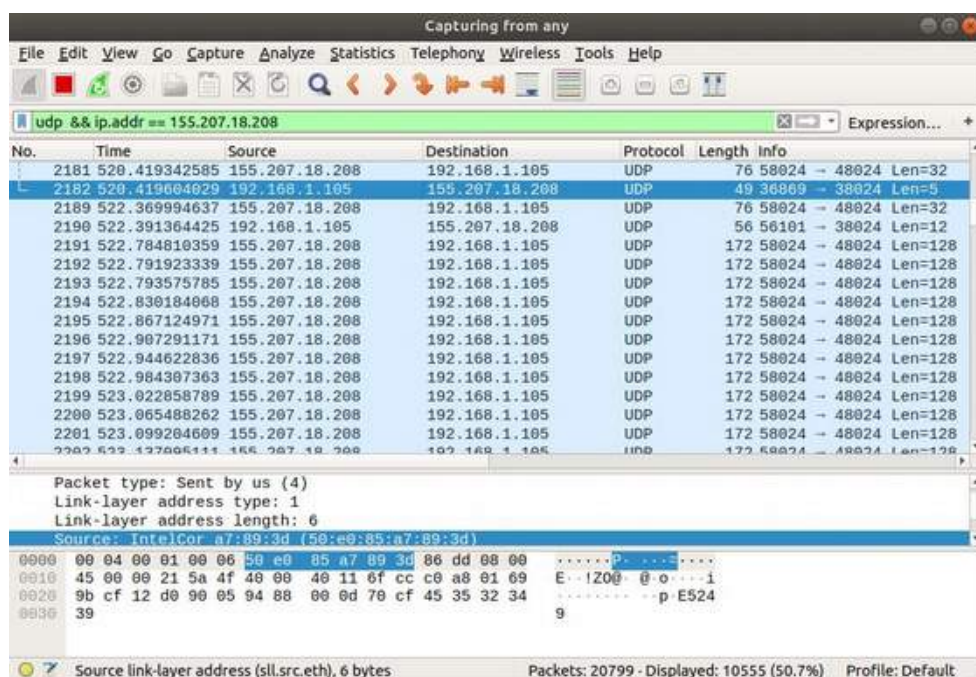
Στο παρόν αρχείο παρατίθενται το σύνολο των screenshot από το εργαλείο Wireshark, που ζητήθηκαν στα πλαίσια εκπόνησης της εργασίας.

## 1. Session 1 Wireshark screenshots:

- Session 1 Codes and attributes



- Echo request Packet before Image application (before Image 1 download) (Session 1):



*Echo request Packet before Image application*

- Echo response Packet from server, before Image application (before Image 1 download) (Session 1):

Link-layer address type: 1  
Link-layer address length: 6  
Source: Zte\_2b:d0:5b (b0:ac:d2:2b:d0:5b)  
Unused: 0000

0000 00 00 00 01 00 06 b0 ac d2 2b d0 5b 00 00 00 00 .....P: .....  
0010 45 00 00 3c dc 25 00 00 79 11 f4 da 9b cf 12 d0 E- < % - y .....  
0020 c0 a8 01 69 e2 a8 bb 98 00 28 49 e8 50 53 54 41 ...i... (I PSTA  
0030 52 54 20 32 39 2d 31 31 2d 32 30 32 30 20 30 30 RT 29-11 -2020 00  
0040 3a 32 39 3a 31 34 20 50 53 54 4f 50 :29:14 P STOP

*Echo response Packet before Image application*

- Image request Packet (for Image 1) (Session 1):

Link-layer address type: 1  
Link-layer address length: 6  
Source: IntelCor\_a7:89:3d (50:e0:85:a7:99:3d)  
Unused: 0000

0000 00 04 00 01 00 06 50 e0 85 a7 99 3d 08 00 00 00 .....P: .....  
0010 45 00 00 28 5a 7e 40 00 40 11 6f 96 c0 a8 01 69 E- (Z-0- 0 o...i  
0020 9b cf 12 d0 db 25 94 88 00 14 70 d6 4d 30 30 30 ...%... p M000  
0030 34 43 41 4d 3d 46 49 58 4CAM=FIX

*Image request Packet*



- Image 1st response Packet from server (Image 1) (Session 1):

Wireshark packet capture showing the first response packet from the server. The packet list shows a UDP packet from 192.168.1.105 to 155.207.18.208 at time 2191.522. The packet details show the link-layer address type as 1 and length as 6. The packet bytes show the source link-layer address (sll.src.eth) as 6 bytes.

No.	Time	Source	Destination	Protocol	Length	Info
2181	520.419342585	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
2182	520.419604029	192.168.1.105	155.207.18.208	UDP	49	36869 → 38024 Len=5
2189	522.369994637	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
2190	522.391364425	192.168.1.105	155.207.18.208	UDP	56	56101 → 38024 Len=12
2191	522.784810359	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
2192	522.791923339	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
2193	522.793575785	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
2194	522.830184968	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
2195	522.867124971	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
2196	522.907291171	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
2197	522.944622836	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
2198	522.984307363	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
2199	523.022858789	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
2200	523.065488262	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
2201	523.099204609	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128

Link-layer address type: 1  
Link-layer address length: 6  
Source: Zte 2b:d0:5b (b0:ac:d2:2b:d0:5b)  
Unused: 0000

0000 00 00 00 01 00 06 b0 ac d2 2b d0 5b 00 00 00 00  
0010 45 00 00 9c dc 26 00 00 79 11 f4 79 9b cf 12 d0  
0020 c0 a8 01 69 e2 a8 bb 98 00 88 00 5f ff d8 ff e0  
0030 00 10 4a 46 49 46 00 01 02 00 00 01 00 01 00 00  
0040 ff db 00 43 00 08 06 06 07 06 05 08 07 07 07 09

Source link-layer address (sll.src.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

Image 1st response Packet from server

- Echo request Packet before DPCM sound application (before frequency generator sample) (Session 1):

Wireshark packet capture showing the echo request packet before DPCM sound application. The packet list shows a UDP packet from 192.168.1.105 to 155.207.18.208 at time 3310.508. The packet details show the frame type as 1 and length as 49 bytes. The packet bytes show the source link-layer address (sll.src.eth) as 6 bytes.

No.	Time	Source	Destination	Protocol	Length	Info
3308	508.003186566	192.168.1.105	155.207.18.208	UDP	49	44235 → 38024 Len=5
3309	508.819804963	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
3310	508.820073384	192.168.1.105	155.207.18.208	UDP	49	44235 → 38024 Len=5
3311	590.254029386	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
3312	590.260985824	192.168.1.105	155.207.18.208	UDP	53	55884 → 38024 Len=9
3313	590.290383895	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3314	590.320001483	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3315	590.340759235	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3316	590.374351305	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3317	590.404944500	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3318	590.431535163	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3319	590.461317689	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3320	590.490070632	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3321	590.519046131	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3322	590.552560387	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3323	590.573831954	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128

Frame 3310: 49 bytes on wire (392 bits), 49 bytes captured (392 bits) on interface 0  
Linux cooked capture  
Packet type: Sent by us (4)  
Link-layer address type: 1

0000 00 04 00 01 00 06 90 e0 85 a7 89 3d 06 dd 08 00  
0010 45 00 00 21 6e 92 40 00 40 11 5b 89 c0 a8 01 69  
0020 9b cf 12 d0 ac cb 94 88 00 0d 70 cf 45 35 32 34  
0030 39

Source link-layer address (sll.src.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

Echo request Packet before DPCM sound application

- Echo response Packet from server, before DPCM sound application (before frequency generator sample) (Session 1):

The screenshot shows a Wireshark packet capture of a network session. The filter is set to 'udp && ip.addr == 155.207.18.208'. The packet list shows several UDP packets. The selected packet is No. 3311, Time 590.254029386, Source 155.207.18.208, Destination 192.168.1.105, Protocol UDP, Length 76, Info 58024 → 48024 Len=32. The packet details pane shows the Link-layer address type as 1, length as 6, and source as Zte\_Zb:d0:5b (b0:ac:d2:2b:d0:5b). The packet bytes pane shows the raw data in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	Info
3308	588.003186566	192.168.1.105	155.207.18.208	UDP	49	44235 → 38024 Len=5
3309	588.819804983	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
3310	588.820073384	192.168.1.105	155.207.18.208	UDP	49	44235 → 38024 Len=5
3311	590.254029386	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
3312	590.260985824	192.168.1.105	155.207.18.208	UDP	53	55884 → 38024 Len=9
3313	590.290383895	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3314	590.320001483	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3315	590.348750235	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3316	590.374351305	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3317	590.404944580	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3318	590.431535163	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3319	590.461317689	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3320	590.490070632	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3321	590.519046131	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3322	590.552560387	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3323	590.573831954	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128

Link-layer address type: 1  
Link-layer address length: 6  
Source: Zte\_Zb:d0:5b (b0:ac:d2:2b:d0:5b)  
Unused: 0000

0000 00 00 00 01 00 06 b0 ac d2 2b d0 5b 00 00 08 00 .....P.....re..  
0010 45 00 00 3c df d5 00 00 79 11 f1 2a 9b cf 12 d0 E...%Y8 @ Z...i  
0020 c0 a8 01 69 e2 a8 bb 98 00 28 51 e9 50 53 54 41 .....L...p-A858  
0030 52 54 20 32 39 2d 31 31 2d 32 30 32 30 20 30 30 8T900  
0040 3a 33 30 3a 32 32 20 50 53 54 4f 50

Source link-layer address (sll.src.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

*Echo response from server Packet before DPCM sound application*

- DPCM sample request Packet (frequency generator sample request) (Session 1):

The screenshot shows a Wireshark packet capture of a network session. The filter is set to 'udp && ip.addr == 155.207.18.208'. The packet list shows several UDP packets. The selected packet is No. 3312, Time 590.260985824, Source 192.168.1.105, Destination 155.207.18.208, Protocol UDP, Length 53, Info 55884 → 38024 Len=9. The packet details pane shows the Link-layer address type as 1, length as 6, and source as IntelCor\_a7:89:3d (50:e0:85:a7:89:3d). The packet bytes pane shows the raw data in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	Info
3308	588.003186566	192.168.1.105	155.207.18.208	UDP	49	44235 → 38024 Len=5
3309	588.819804983	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
3310	588.820073384	192.168.1.105	155.207.18.208	UDP	49	44235 → 38024 Len=5
3311	590.254029386	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
3312	590.260985824	192.168.1.105	155.207.18.208	UDP	53	55884 → 38024 Len=9
3313	590.290383895	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3314	590.320001483	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3315	590.348750235	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3316	590.374351305	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3317	590.404944580	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3318	590.431535163	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3319	590.461317689	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3320	590.490070632	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3321	590.519046131	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3322	590.552560387	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3323	590.573831954	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128

Link-layer address type: 1  
Link-layer address length: 6  
Source: IntelCor\_a7:89:3d (50:e0:85:a7:89:3d)  
Unused: 7265

0000 00 04 00 01 00 06 50 e0 85 a7 89 3d 72 65 08 00 .....P.....re..  
0010 45 00 00 25 6f 59 40 00 40 11 5a be c0 a8 01 69 E...%Y8 @ Z...i  
0020 9b cf 12 d0 da 4c 94 88 00 11 70 d3 41 38 35 38 .....L...p-A858  
0030 38 54 39 30 30 8T900

Source link-layer address (sll.src.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

*DPCM sample request Packet*



- DPCM sample first response Packet from server(frequency generator sample request) (Session 1):

The screenshot shows a Wireshark packet capture of a UDP stream from 155.207.18.208 to 192.168.1.105. The selected packet (No. 3313) is a UDP packet with length 172, containing a DPCM sample first response. The packet details show the link-layer address type as 1 and the source as Zte\_2b:d0:5b (b0:ac:d2:2b:d0:5b). The packet bytes are displayed in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	Info
3308	588.003186566	192.168.1.105	155.207.18.208	UDP	49	44235 → 38024 Len=5
3309	588.819804983	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
3310	588.820073384	192.168.1.105	155.207.18.208	UDP	49	44235 → 38024 Len=5
3311	590.254029386	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
3312	590.260985824	192.168.1.105	155.207.18.208	UDP	53	55884 → 38024 Len=9
3313	590.290383895	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3314	590.320001483	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3315	590.348750235	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3316	590.374351305	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3317	590.404944580	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3318	590.431535163	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3319	590.461317689	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3320	590.490070632	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3321	590.519046131	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3322	590.552560387	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
3323	590.573831954	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128

Link-layer address type: 1  
Link-layer address length: 6  
Source: Zte\_2b:d0:5b (b0:ac:d2:2b:d0:5b)  
Unused: 12d9

0000 00 00 00 01 00 06 b0 ac d2 2b d0 5b 12 d0 08 00 .....P.....re..  
0010 45 00 00 9c df d6 00 00 79 11 f0 c9 9b cf 12 d0 E.....@.....m..i  
0020 c0 a8 01 09 e2 a8 bb 98 00 88 43 89 ff ff ff f0 .....S.....p.E524  
0030 00 0f ff ff f0 00 00 00 ff ff ff 00 00 ff ff ff  
0040 f0 00 00 00 0f ff f0 00 00 0f ff ff 00 00 00 00

Source link-layer address (sllsrc.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

DPCM sample first response Packet from server

- Echo request Packet before AQDPCM sound application (sample from Symphony No. 9: Ode To Joy) (Session 1):

The screenshot shows a Wireshark packet capture of a UDP stream from 155.207.18.208 to 192.168.1.105. The selected packet (No. 5170) is a UDP packet with length 49, containing an echo request. The packet details show the link-layer address type as 1 and the source as IntelCor\_a7:89:3d (50:e0:85:a7:89:3d). The packet bytes are displayed in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	Info
5149	676.113536609	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
5154	701.224068046	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5157	702.894159502	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5158	702.894480346	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5159	704.843067011	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5160	704.843337514	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5162	706.479806693	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5163	706.480097526	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5167	708.323283428	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5168	708.323581271	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5169	710.062215308	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5170	710.062480857	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5171	711.495400552	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5172	711.500800411	192.168.1.105	155.207.18.208	UDP	55	41711 → 38024 Len=11
5173	711.531933494	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5174	711.558130258	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132

Link-layer address type: 1  
Link-layer address length: 6  
Source: IntelCor\_a7:89:3d (50:e0:85:a7:89:3d)  
Unused: 7265

0000 00 04 00 01 00 06 50 e0 85 a7 89 3d 72 65 08 00 .....P.....re..  
0010 45 00 00 21 d1 ad 40 00 40 11 f8 6d c0 a8 01 69 E.....@.....m..i  
0020 9b cf 12 d0 ad 53 94 88 00 0d 70 cf 45 35 32 34 .....S.....p.E524  
0030 39

Source link-layer address (sllsrc.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

Echo request Packet before AQDPCM sound application

- Echo response Packet from server, before AQDPCM sound application (sample from Symphony No. 9: Ode To Joy) (Session 1):

The screenshot shows a Wireshark packet capture of an Echo response packet. The filter is set to 'udp && ip.addr == 155.207.18.208'. The packet list shows a series of UDP packets. The selected packet (No. 5171) is an Echo response from 155.207.18.208 to 192.168.1.105. The packet details pane shows the link-layer address type as 1, length as 6, and source as 'Zte\_2b:d0:5b (b0:ac:d2:2b:d0:5b)'. The packet bytes pane shows the raw data in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	Info
5149	676.113536609	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
5154	701.224068046	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5157	702.894159502	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5158	702.894480346	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5159	704.843067011	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5160	704.843337514	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5162	706.479806693	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5163	706.480097526	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5167	708.323283428	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5168	708.323581271	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5169	710.062215308	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5170	710.062486857	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5171	711.495400552	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5172	711.500800411	192.168.1.105	155.207.18.208	UDP	55	41711 → 38024 Len=11
5173	711.531033494	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5174	711.558130258	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132

Link-layer address type: 1  
Link-layer address length: 6  
Source: Zte\_2b:d0:5b (b0:ac:d2:2b:d0:5b)  
Unused: 0000

0000 00 00 00 01 00 06 b0 ac d2 2b d0 5b 00 00 08 00 .....  
0010 45 00 00 3c e6 e9 00 00 79 11 ea 16 9b cf 12 d0 E...<...y.....  
0020 c0 a8 01 69 e2 a8 bb 98 00 28 4f e8 50 53 54 41 ...i... (0 PSTA  
0030 52 54 20 32 39 2d 31 31 2d 32 30 32 30 20 30 30 RT 29-11 -2020 00  
0040 3a 33 32 3a 32 33 20 50 53 54 4f 50 :32:23 P STOP

Source link-layer address (sll.src.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

*Echo response Packet from server, before AQDPCM sound application*

- AQDPCM sample request Packet(sample from Symphony No. 9: Ode To Joy)(Session 1):

The screenshot shows a Wireshark packet capture of an AQDPCM sample request packet. The filter is set to 'udp && ip.addr == 155.207.18.208'. The packet list shows a series of UDP packets. The selected packet (No. 5172) is an AQDPCM sample request from 155.207.18.208 to 192.168.1.105. The packet details pane shows the link-layer address type as 1, length as 6, and source as 'IntelCor\_a7:89:3d (50:e0:85:a7:89:3d)'. The packet bytes pane shows the raw data in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	Info
5149	676.113536609	155.207.18.208	192.168.1.105	UDP	172	58024 → 48024 Len=128
5154	701.224068046	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5157	702.894159502	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5158	702.894480346	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5159	704.843067011	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5160	704.843337514	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5162	706.479806693	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5163	706.480097526	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5167	708.323283428	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5168	708.323581271	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5169	710.062215308	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5170	710.062486857	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5171	711.495400552	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5172	711.500800411	155.207.18.208	192.168.1.105	UDP	55	41711 → 38024 Len=11
5173	711.531033494	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5174	711.558130258	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132

Link-layer address type: 1  
Link-layer address length: 6  
Source: IntelCor\_a7:89:3d (50:e0:85:a7:89:3d)  
Unused: a887

0000 00 04 00 01 00 06 50 e0 85 a7 89 3d a8 87 08 00 .....  
0010 45 00 00 27 d2 a8 40 00 40 11 f7 6c c0 a8 01 69 E...@...l...i  
0020 9b cf 12 d0 a2 ef 94 88 00 13 70 d5 41 38 35 38 .....p A858  
0030 38 46 41 51 39 30 30 8FAQ900

Source link-layer address (sll.src.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

*AQDPCM sample request Packet*



- AQDPCM sample 1st response Packet from server (sample from Symphony No. 9: Ode To Joy) (Session 1):

Wireshark capture showing AQDPCM sample 1st response packet from server. The packet is a DCERPC request with sequence number 2589026649.

No.	Time	Source	Destination	Protocol	Length	Info
5168	708.323581271	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5169	710.062215308	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5170	710.062486857	192.168.1.105	155.207.18.208	UDP	49	44371 → 38024 Len=5
5171	711.495400552	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
5172	711.500800411	192.168.1.105	155.207.18.208	UDP	55	41711 → 38024 Len=11
5173	711.531033494	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5174	711.558130258	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5175	711.587624940	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5176	711.618157541	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5177	711.643684927	155.207.18.208	192.168.1.105	DCERPC	176	Request: seq: 2589026649
5178	711.672535677	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5179	711.700605132	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5180	711.738477244	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5181	711.761718414	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5182	711.792502423	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132
5183	711.815311298	155.207.18.208	192.168.1.105	UDP	176	58024 → 48024 Len=132

Link-layer address type: 1  
Link-layer address length: 6  
Source: Zte\_2b:d0:5b (b0:ac:d2:2b:d0:5b)  
Unused: 0000

0000 00 00 00 01 00 06 b0 ac d2 2b d0 5b 00 00 08 00 .....+...  
0010 45 00 00 a0 e6 ea 00 00 79 11 e9 b1 9b cf 12 d0 E...y...  
0020 c0 a8 01 69 e2 a8 bb 98 00 8c 07 19 fe ff bb 00 ...i...  
0030 28 aa f7 7b 68 f8 4a 96 87 62 46 77 de 77 97 89 ({h-J bFw-w...  
0040 96 7b 68 a7 68 aa 5c b4 a9 37 ac a8 b6 49 47 95 {h-h\ -7...IG

Source link-layer address (sll.src.eth), 6 bytes Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%) Profile: Default

*AQDPCM sample 1st response Packet from server*

- Echo request Packet before IthakiCopter application (Session 1):

Wireshark capture showing Echo request packet before IthakiCopter application. The packet is a UDP echo request with sequence number 50536.

No.	Time	Source	Destination	Protocol	Length	Info
7026	801.712279381	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7027	801.712542049	192.168.1.105	155.207.18.208	UDP	49	50536 → 38024 Len=5
7028	803.556199241	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7029	803.556490832	192.168.1.105	155.207.18.208	UDP	49	50536 → 38024 Len=5
7030	805.396446345	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7031	805.396697819	192.168.1.105	155.207.18.208	UDP	49	50536 → 38024 Len=5
7032	808.469389710	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7039	808.825272959	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7146	809.833320604	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7351	810.823902980	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7546	811.847967478	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7679	812.827080809	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7812	813.826060552	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7990	814.849965233	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
8043	815.825664447	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
8223	816.825833606	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113

Link-layer address type: 1  
Link-layer address length: 6  
Source: IntelCor\_a7:89:3d (50:e0:85:a7:89:3d)  
Unused: b5a9

0000 00 04 00 01 00 06 50 e0 85 a7 89 3d b5 a9 08 00 P...  
0010 45 00 00 21 11 17 40 00 40 11 b9 04 c0 a8 01 69 E...@...i  
0020 9b cf 12 d0 c5 68 94 88 00 0d 70 cf 45 35 32 34 ...h...p-E524  
0030 39 9

Source link-layer address (sll.src.eth), 6 bytes Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%) Profile: Default

*Echo request Packet before IthakiCopter application*



- Echo response Packet from server, before IthakiCopter application (Session 1):

No.	Time	Source	Destination	Protocol	Length	Info
7026	801.712279381	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7027	801.712542049	192.168.1.105	155.207.18.208	UDP	49	50536 → 38024 Len=5
7028	803.556199241	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7029	803.556490832	192.168.1.105	155.207.18.208	UDP	49	50536 → 38024 Len=5
7030	805.396446345	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7031	805.396697819	192.168.1.105	155.207.18.208	UDP	49	50536 → 38024 Len=5
7032	808.469389710	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7039	808.825272959	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7146	809.833320604	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7351	810.823902980	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7546	811.847967478	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7679	812.827080809	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7812	813.826060552	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7990	814.849965233	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
8043	815.825664447	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
8223	816.825833606	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113

Link-layer address type: 1  
Link-layer address length: 6  
Source: Zte\_2b:d0:5b (b0:ac:d2:2b:d0:5b)  
Unused: 0000

0000 00 00 00 01 00 06 b0 ac d2 2b d0 5b 00 00 08 00 .....+..[.....  
0010 45 00 00 3c ed fd 00 00 79 11 e3 02 9b cf 12 d0 E...y.....  
0020 c0 a8 01 69 e2 a8 bb 98 00 28 4f eb 50 53 54 41 ...i...y..ITHA  
0030 52 54 20 32 39 2d 31 31 2d 32 30 32 30 20 30 30 KICOPTER 29-11-2  
0040 3a 33 34 3a 30 30 20 50 53 54 4f 50 020 00:3 4:01 LMO  
0050 54 4f 52 3d 31 38 34 20 52 4d 4f 54 4f 52 3d 31 TOR=184 RMOTOR=1  
0060 38 34 20 41 4c 54 49 54 55 44 45 3d 32 33 30 20 84 ALTIT UDE=230  
0070 54 45 4d 50 45 52 41 54 55 52 45 3d 2b 32 33 2e TEMPERAT URE=+23.  
0080 39 34 20 50 52 45 53 53 55 52 45 3d 31 30 31 30 94 PRESS URE=1010  
0090 2e 39 33 20 54 45 4c 45 4d 45 54 52 59 .93 TELE METRY

Source link-layer address (sllsrc.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

*Echo response Packet from server, before IthakiCopter application*

(We don't have Ithakicopter requests as we used the JAR application of Ithaki Copter)

- Ithakicopter's 1st response Packet (Session 1):

No.	Time	Source	Destination	Protocol	Length	Info
7026	801.712279381	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7027	801.712542049	192.168.1.105	155.207.18.208	UDP	49	50536 → 38024 Len=5
7028	803.556199241	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7029	803.556490832	192.168.1.105	155.207.18.208	UDP	49	50536 → 38024 Len=5
7030	805.396446345	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7031	805.396697819	192.168.1.105	155.207.18.208	UDP	49	50536 → 38024 Len=5
7032	808.469389710	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
7039	808.825272959	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7146	809.833320604	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113
7351	810.823902980	155.207.18.208	192.168.1.105	UDP	157	61280 → 48078 Len=113

Link-layer address type: 1  
Link-layer address length: 6  
Source: Zte\_2b:d0:5b (b0:ac:d2:2b:d0:5b)  
Unused: 6156  
Protocol: IPv4 (0x0800)

0000 00 00 00 01 00 06 b0 ac d2 2b d0 5b 61 56 08 00 .....+..[aV..  
0010 45 00 00 8d ed ff 00 00 79 11 e2 af 9b cf 12 d0 E...y.....  
0020 c0 a8 01 69 ef 60 bb ce 00 79 9a 15 49 54 48 41 ...i...y..ITHA  
0030 4b 49 43 4f 50 54 45 52 20 32 39 2d 31 31 2d 32 KICOPTER 29-11-2  
0040 30 32 30 20 30 30 3a 33 34 3a 30 31 20 4c 4d 4f 020 00:3 4:01 LMO  
0050 54 4f 52 3d 31 38 34 20 52 4d 4f 54 4f 52 3d 31 TOR=184 RMOTOR=1  
0060 38 34 20 41 4c 54 49 54 55 44 45 3d 32 33 30 20 84 ALTIT UDE=230  
0070 54 45 4d 50 45 52 41 54 55 52 45 3d 2b 32 33 2e TEMPERAT URE=+23.  
0080 39 34 20 50 52 45 53 53 55 52 45 3d 31 30 31 30 94 PRESS URE=1010  
0090 2e 39 33 20 54 45 4c 45 4d 45 54 52 59 .93 TELE METRY

Source link-layer address (sllsrc.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

*Ithakicopter's 1st response Packet*

- Echo request Packet before ODB-II diagnostics application (Session 1):

No.	Time	Source	Destination	Protocol	Length	Info
16724	905.756953345	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
16725	905.757114850	192.168.1.105	155.207.18.208	UDP	49	46369 → 38024 Len=5
16726	907.693231159	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
16727	907.695231380	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16728	907.727117769	155.207.18.208	192.168.1.105	UDP	55	58024 → 48024 Len=11
16729	907.733308201	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16730	907.900611100	155.207.18.208	192.168.1.105	UDP	52	58024 → 48024 Len=8
16731	907.902167904	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16732	907.962115383	155.207.18.208	192.168.1.105	UDP	52	58024 → 48024 Len=8
16733	907.963628548	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16

Link-layer address type: 1  
Link-layer address length: 6  
Source: IntelCor\_a7:89:3d (50:e0:85:a7:89:3d)  
Unused: 0404  
Protocol: IPv4 (0x0800)  
Internet Protocol Version 4, Src: 192.168.1.105, Dst: 155.207.18.208  
User Datagram Protocol, Src Port: 46369, Dst Port: 38024  
Data (5 bytes)  
0000 00 04 00 01 00 06 50 e0 85 a7 89 3d 04 04 08 00 .....P...=...  
0010 45 00 00 21 3b 5c 40 00 40 11 8e bf c0 a8 01 69 E...!;\@. @.....i  
0020 9b cf 12 d0 b5 21 94 88 00 0d 70 cf 45 35 32 34 .....!...p E524  
0030 39 9

Source link-layer address (sll.src.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

*Echo request Packet before ODB-II diagnostics application*

- Echo response Packet from server, before ODB-II diagnostics application (Session 1):

No.	Time	Source	Destination	Protocol	Length	Info
16724	905.756953345	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
16725	905.757114850	192.168.1.105	155.207.18.208	UDP	49	46369 → 38024 Len=5
16726	907.693231159	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
16727	907.695231380	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16728	907.727117769	155.207.18.208	192.168.1.105	UDP	55	58024 → 48024 Len=11
16729	907.733308201	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16730	907.900611100	155.207.18.208	192.168.1.105	UDP	52	58024 → 48024 Len=8
16731	907.902167904	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16732	907.962115383	155.207.18.208	192.168.1.105	UDP	52	58024 → 48024 Len=8
16733	907.963628548	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16

Link-layer address type: 1  
Link-layer address length: 6  
Source: Zte\_2b:d0:5b (b0:ac:d2:2b:d0:5b)  
Unused: 0000  
Protocol: IPv4 (0x0800)  
Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.105  
User Datagram Protocol, Src Port: 58024, Dst Port: 48024  
Data (32 bytes)  
0000 00 00 00 01 00 06 b0 ac d2 2b d0 5b 00 00 08 00 .....-.-+...  
0010 45 00 00 3c 26 1c 00 00 79 11 aa e4 9b cf 12 d0 E-<&...y.....  
0020 c0 a8 01 69 e2 a8 bb 98 00 28 4b e2 50 53 54 41 ...i...-(K PSTA  
0030 52 54 20 32 39 2d 31 31 2d 32 30 32 30 20 30 30 RT 29-11 -2020 00  
0040 3a 33 35 3a 33 39 20 50 53 54 4f 50 :35:39 P STOP

Source link-layer address (sll.src.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

*Echo response Packet from server, before ODB-II diagnostics application*



- **ODB-II diagnostics request Packet (Engine Runtime Request) (Session 1):**

Link-layer address type: 1  
Link-layer address length: 6  
Source: IntelCor\_a7:89:3d (50:e0:85:a7:89:3d)  
Unused: 3135  
Protocol: IPv4 (0x0800)  
Internet Protocol Version 4, Src: 192.168.1.105, Dst: 155.207.18.208  
User Datagram Protocol, Src Port: 39826, Dst Port: 38024  
Data (16 bytes)

No.	Time	Source	Destination	Protocol	Length	Info
16724	905.756953345	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
16725	905.757114850	192.168.1.105	155.207.18.208	UDP	49	46369 → 38024 Len=5
16726	907.693231159	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
16727	907.695231380	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16728	907.727117769	155.207.18.208	192.168.1.105	UDP	55	58024 → 48024 Len=11
16729	907.733308201	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16730	907.900611100	155.207.18.208	192.168.1.105	UDP	52	58024 → 48024 Len=8
16731	907.902167904	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16732	907.962115383	155.207.18.208	192.168.1.105	UDP	52	58024 → 48024 Len=8
16733	907.963628548	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16

Source link-layer address (sll.src.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

*ODB-II diagnostics request Packet (Engine Runtime Request)*

- **ODB-II diagnostics response Packet (Engine Runtime Response) (Session 1):**

Link-layer address type: 1  
Link-layer address length: 6  
Source: Zte\_2b:d0:5b (b0:ac:d2:2b:d0:5b)  
Unused: 3134  
Protocol: IPv4 (0x0800)  
Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.105  
User Datagram Protocol, Src Port: 58024, Dst Port: 48024  
Data (11 bytes)

No.	Time	Source	Destination	Protocol	Length	Info
16724	905.756953345	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
16725	905.757114850	192.168.1.105	155.207.18.208	UDP	49	46369 → 38024 Len=5
16726	907.693231159	155.207.18.208	192.168.1.105	UDP	76	58024 → 48024 Len=32
16727	907.695231380	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16728	907.727117769	155.207.18.208	192.168.1.105	UDP	55	58024 → 48024 Len=11
16729	907.733308201	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16730	907.900611100	155.207.18.208	192.168.1.105	UDP	52	58024 → 48024 Len=8
16731	907.902167904	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16
16732	907.962115383	155.207.18.208	192.168.1.105	UDP	52	58024 → 48024 Len=8
16733	907.963628548	192.168.1.105	155.207.18.208	UDP	60	39826 → 38024 Len=16

Source link-layer address (sll.src.eth), 6 bytes      Packets: 20822 · Displayed: 10555 (50.7%) · Dropped: 0 (0.0%)      Profile: Default

*ODB-II diagnostics response Packet (Engine Runtime Response)*

## 2. Session 2 Wireshark screenshots:

- Session 2 Codes and attributes

Εργασία σε δικτυακό προγραμματισμό : Java socket programming

Client public address	: 87.202.101.23
Client listening port	: 48023
Server public address	: 155.207.18.208
Server listening port	: 38023
Echo request code	: E1809
Image request code	: M7100
Audio request code	: A1145 Ad-hoc real-time audio streaming
Ithakicopter code	: Q2463 Remote flying micro-platform
Vehicle OBD-II code	: V7291 Onboard car fault diagnostics

Διάρκεια εργαστηρίου από 03.25 έως 5.25 σήμερα 02-12-2020

Αριθμός φοιτητών/φοιτητριών online στο εργαστήριο : 16

- Echo request Packet before Image application (before Image 1 download) (Session 2):

The screenshot shows a Wireshark capture of a network session. The packet list pane highlights a packet (No. 2559) with the following details:

- Filter:** udp && ip.addr == 155.207.18.208
- Packet List:**

No.	Time	Source	Destination	Protocol	Length	Info
2552	523.996392133	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
2553	523.996618523	192.168.1.105	155.207.18.208	UDP	49	37703 → 38023 Len=5
2555	525.215262896	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
2556	525.215438291	192.168.1.105	155.207.18.208	UDP	49	37703 → 38023 Len=5
2558	526.741864836	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
2559	526.741196846	192.168.1.105	155.207.18.208	UDP	49	37703 → 38023 Len=5
- Packet Details:**
  - Linux cooked capture
  - Internet Protocol Version 4, Src: 192.168.1.105, Dst: 155.207.18.208
  - User Datagram Protocol, Src Port: 37703, Dst Port: 38023
  - Data (5 bytes)
- Packet Bytes:**

```

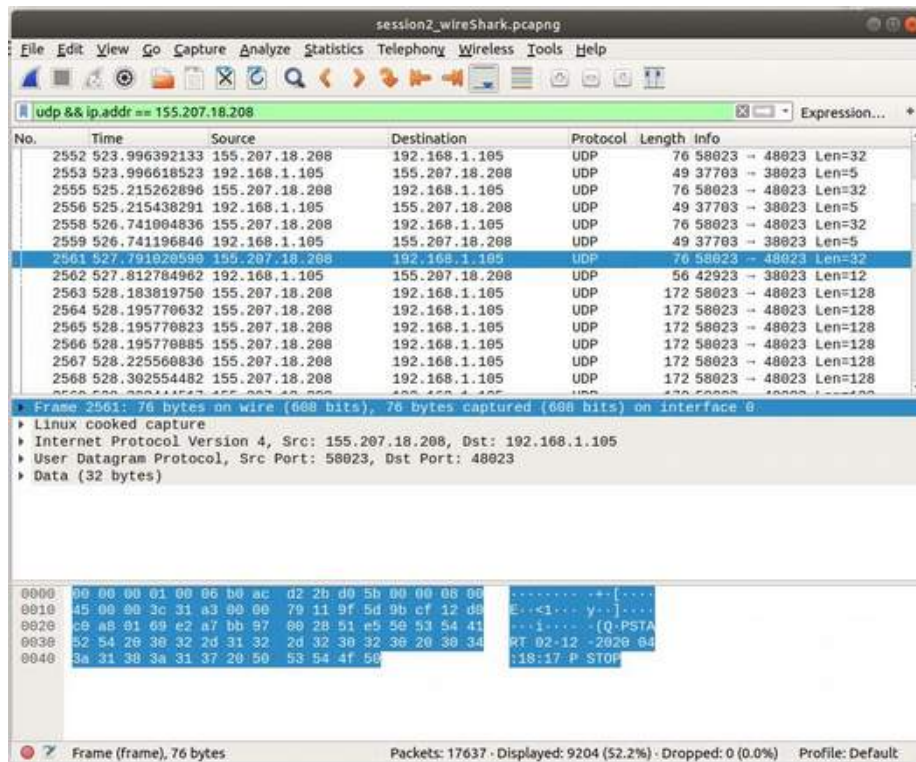
0000  00 04 00 01 00 00 50 e0 85 a7 89 3d 00 06 00 00  ...P...
0010  45 00 00 21 5b 42 40 86 40 11 5e d9 c0 a8 01 05  E...[50...
0020  9b cf 12 d8 93 47 94 87 00 0d 70 cf 45 31 38 3e  ...G...p.E180
0030  3e
  
```

Frame (frame), 49 bytes      Packets: 17637 · Displayed: 9204 (52.2%) · Dropped: 0 (0.0%)      Profile: Default

*Echo request Packet before Image application*

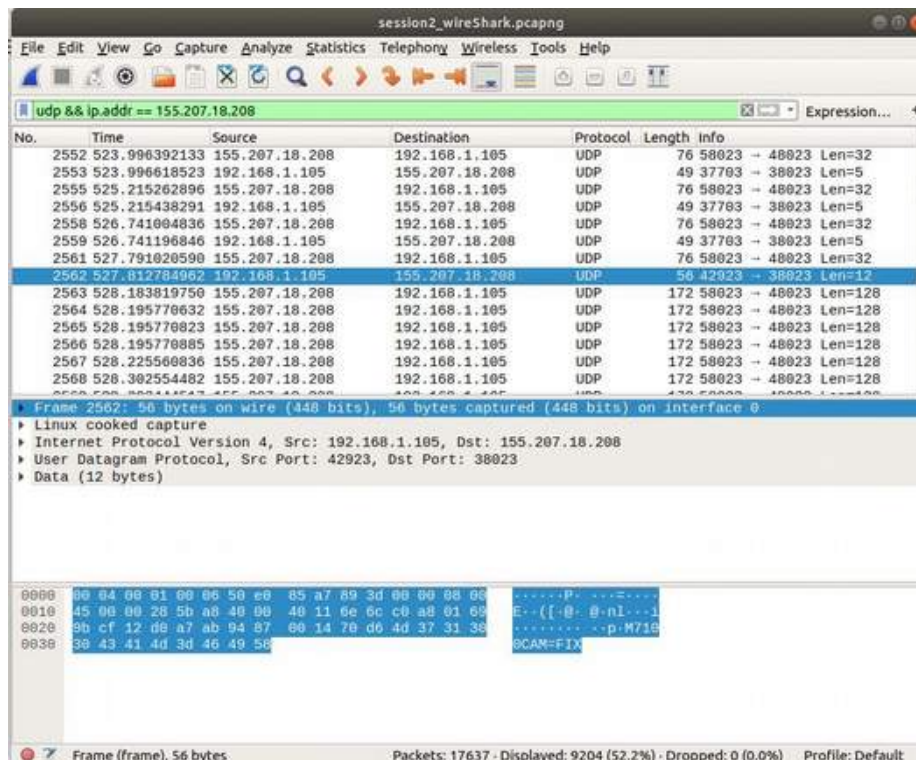


- Echo response Packet from server, before Image application (before Image 1 download) (Session 2):



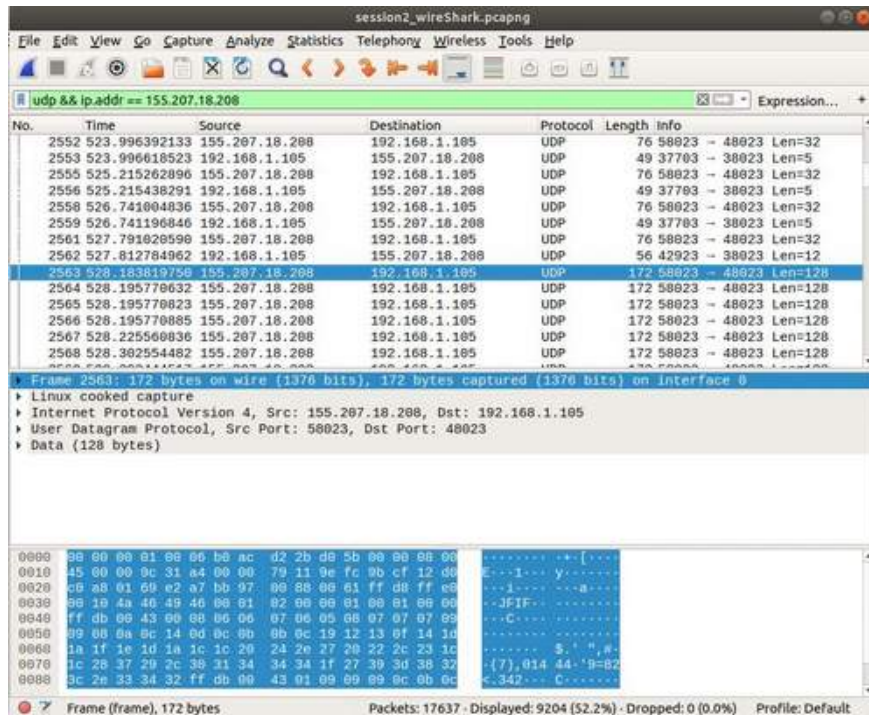
*Echo response Packet from server, before Image application*

- Image request Packet (for Image 1) (Session 2):



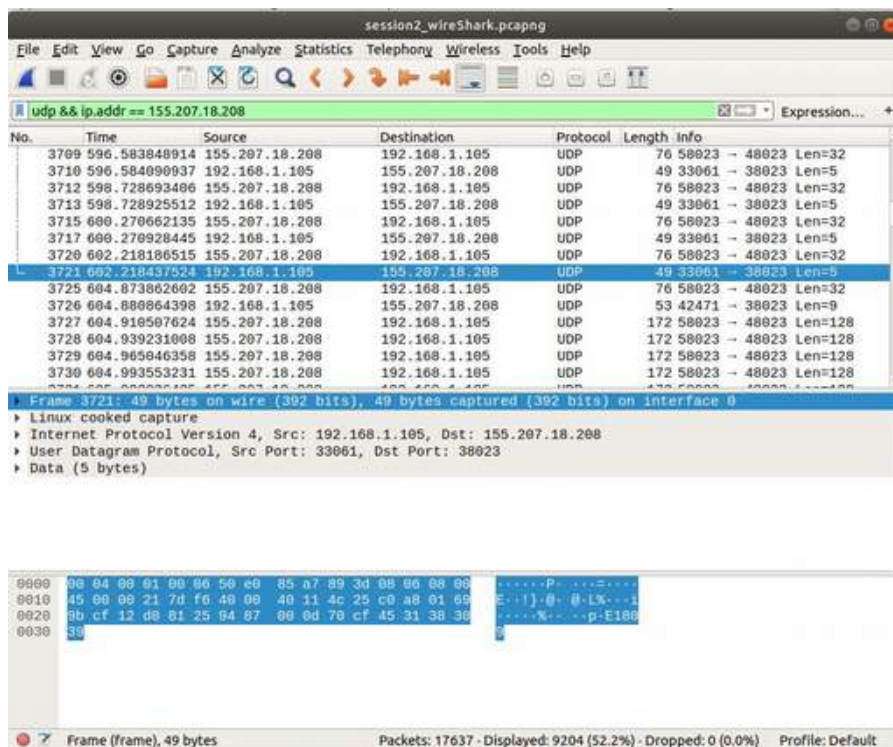
*Image request Packet*

- Image 1st response Packet from server (Image 1) (Session 2):



*Image 1st response Packet from server*

- Echo request Packet before DPCM sound application (before frequency generator sample) (Session 2):



*Echo request Packet before DPCM sound application*



- Echo response Packet from server, before DPCM sound application (before frequency generator sample) (Session 2):

The screenshot shows a Wireshark capture of a network packet. The packet list pane shows a table of captured packets. Packet 3725 is selected, showing it is a UDP packet from 155.207.18.208 to 192.168.1.105, length 76 bytes. The packet details pane shows the structure: Linux cooked capture, Internet Protocol Version 4, User Datagram Protocol, and Data (32 bytes). The packet bytes pane shows the raw data in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	Info
3709	596.583848914	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
3710	596.584090937	192.168.1.105	155.207.18.208	UDP	49	33061 → 38023 Len=5
3712	598.728693406	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
3713	598.728925512	192.168.1.105	155.207.18.208	UDP	49	33061 → 38023 Len=5
3715	600.270662135	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
3717	600.270928445	192.168.1.105	155.207.18.208	UDP	49	33061 → 38023 Len=5
3720	602.218186515	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
3721	602.218437524	192.168.1.105	155.207.18.208	UDP	49	33061 → 38023 Len=5
3725	604.873862602	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
3726	604.880864398	192.168.1.105	155.207.18.208	UDP	53	42471 → 38023 Len=9
3727	604.910507624	155.207.18.208	192.168.1.105	UDP	172	58023 → 48023 Len=128
3728	604.939231008	155.207.18.208	192.168.1.105	UDP	172	58023 → 48023 Len=128
3729	604.965046358	155.207.18.208	192.168.1.105	UDP	172	58023 → 48023 Len=128
3730	604.993553231	155.207.18.208	192.168.1.105	UDP	172	58023 → 48023 Len=128

Frame 3725: 76 bytes on wire (608 bits), 76 bytes captured (608 bits) on interface 0  
 Linux cooked capture  
 Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.105  
 User Datagram Protocol, Src Port: 58023, Dst Port: 48023  
 Data (32 bytes)

0000 00 00 00 01 00 06 b8 ac d2 2b d9 5b 00 00 08 00 .....+{...  
 0010 45 00 00 3c 35 64 00 00 79 11 9b 9c 9b cf 12 d8 E...<5d..y...  
 0020 08 a8 01 69 e2 a7 b0 97 00 28 4e e8 50 53 54 41 ...1....(N-PSTA  
 0030 52 54 20 30 32 2d 31 32 2d 32 30 32 30 20 30 34 RT 02-12-2020 04  
 0040 3a 31 39 3a 33 34 20 50 53 54 4f 50 .....:19:34 P STOP

*Echo response Packet from server, before DPCM sound application*

- DPCM sample request Packet (frequency generator sample request) (Session 2):

The screenshot shows a Wireshark capture of a network packet. The packet list pane shows a table of captured packets. Packet 3726 is selected, showing it is a UDP packet from 192.168.1.105 to 155.207.18.208, length 53 bytes. The packet details pane shows the structure: Linux cooked capture, Internet Protocol Version 4, User Datagram Protocol, and Data (9 bytes). The packet bytes pane shows the raw data in hexadecimal and ASCII.

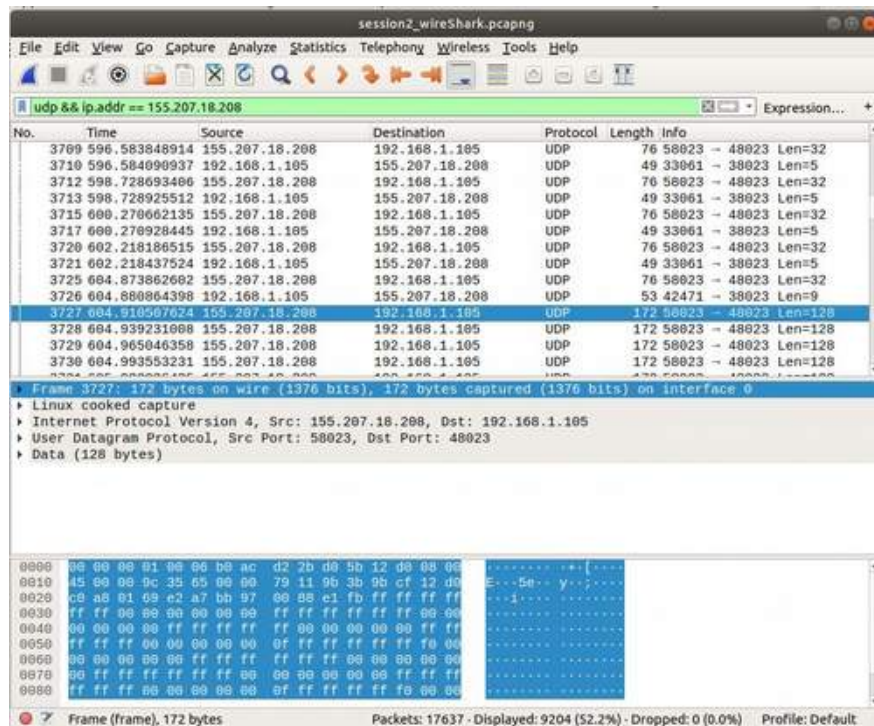
No.	Time	Source	Destination	Protocol	Length	Info
3709	596.583848914	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
3710	596.584090937	192.168.1.105	155.207.18.208	UDP	49	33061 → 38023 Len=5
3712	598.728693406	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
3713	598.728925512	192.168.1.105	155.207.18.208	UDP	49	33061 → 38023 Len=5
3715	600.270662135	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
3717	600.270928445	192.168.1.105	155.207.18.208	UDP	49	33061 → 38023 Len=5
3720	602.218186515	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
3721	602.218437524	192.168.1.105	155.207.18.208	UDP	49	33061 → 38023 Len=5
3725	604.873862602	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
3726	604.880864398	192.168.1.105	155.207.18.208	UDP	53	42471 → 38023 Len=9
3727	604.910507624	155.207.18.208	192.168.1.105	UDP	172	58023 → 48023 Len=128
3728	604.939231008	155.207.18.208	192.168.1.105	UDP	172	58023 → 48023 Len=128
3729	604.965046358	155.207.18.208	192.168.1.105	UDP	172	58023 → 48023 Len=128
3730	604.993553231	155.207.18.208	192.168.1.105	UDP	172	58023 → 48023 Len=128

Frame 3726: 53 bytes on wire (424 bits), 53 bytes captured (424 bits) on interface 0  
 Linux cooked capture  
 Internet Protocol Version 4, Src: 192.168.1.105, Dst: 155.207.18.208  
 User Datagram Protocol, Src Port: 42471, Dst Port: 38023  
 Data (9 bytes)

0000 00 04 00 01 00 00 50 e8 65 a7 89 3d b0 ac 08 00 .....P.....  
 0010 45 00 00 25 7e c3 40 00 40 11 4b 54 c0 a8 01 69 E...0..0:KT...  
 0020 2b cf 12 40 a5 e7 94 87 00 11 70 d3 41 31 31 34 .....p.A114  
 0030 39 54 39 30 3e .....5T960

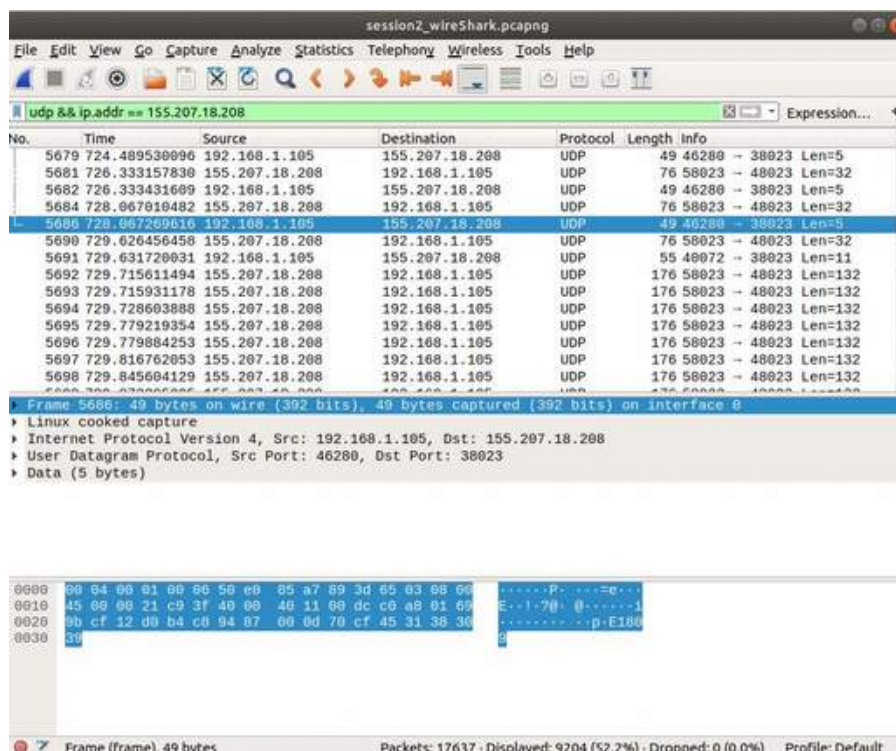
*DPCM sample request Packet*

- DPCM sample first response Packet from server(frequency generator sample request) (Session 2):



*DPCM sample first response Packet from server*

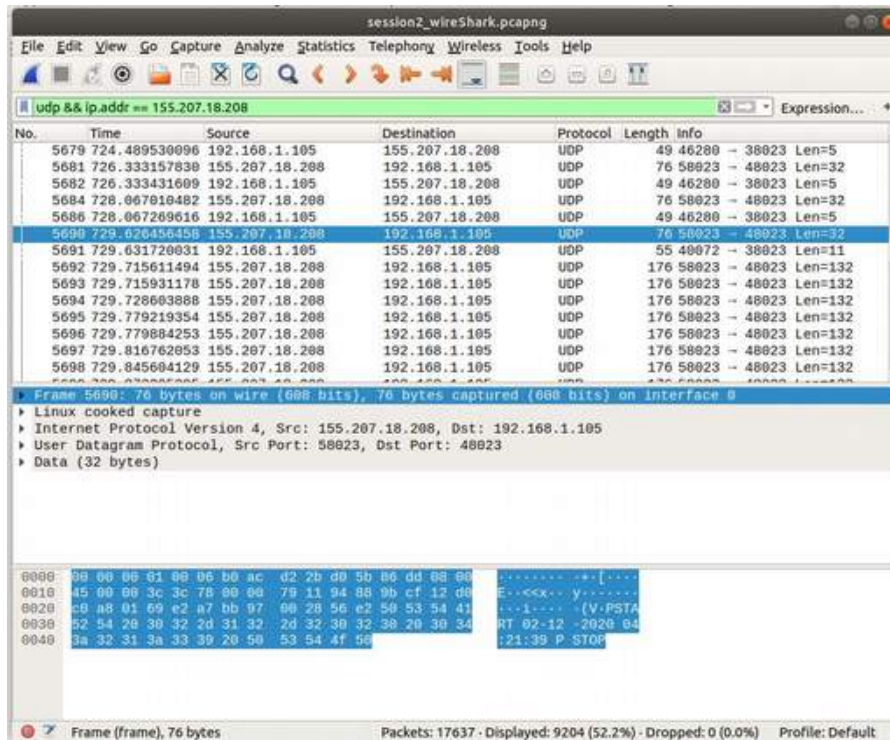
- Echo request Packet before AQDPCM sound application (Session 2):



*Echo request Packet before AQDPCM sound application*

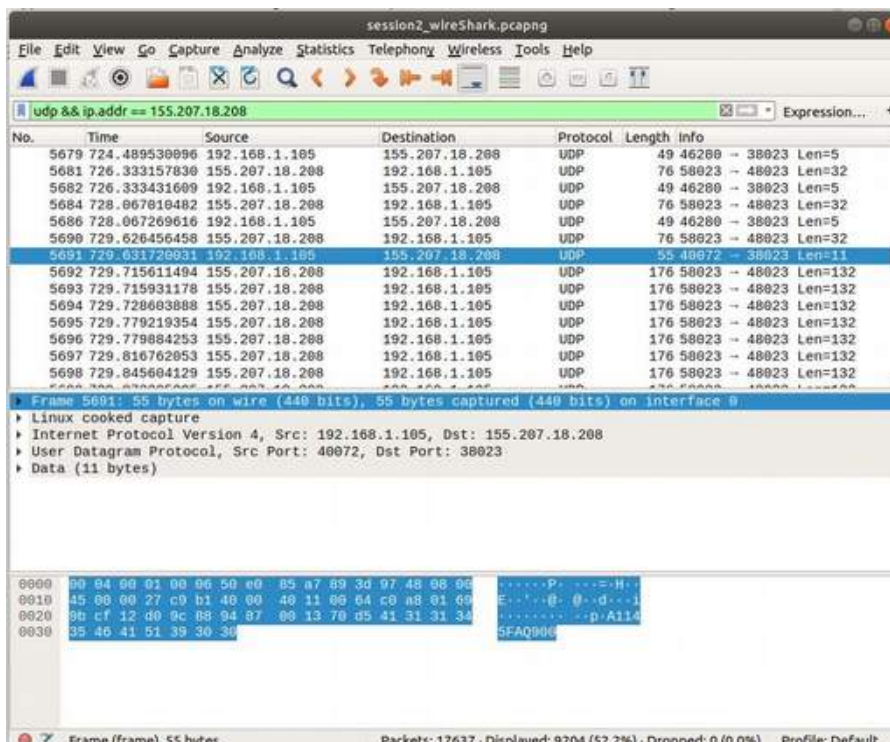


- Echo response Packet from server, before AQDPCM sound application (Session 2):



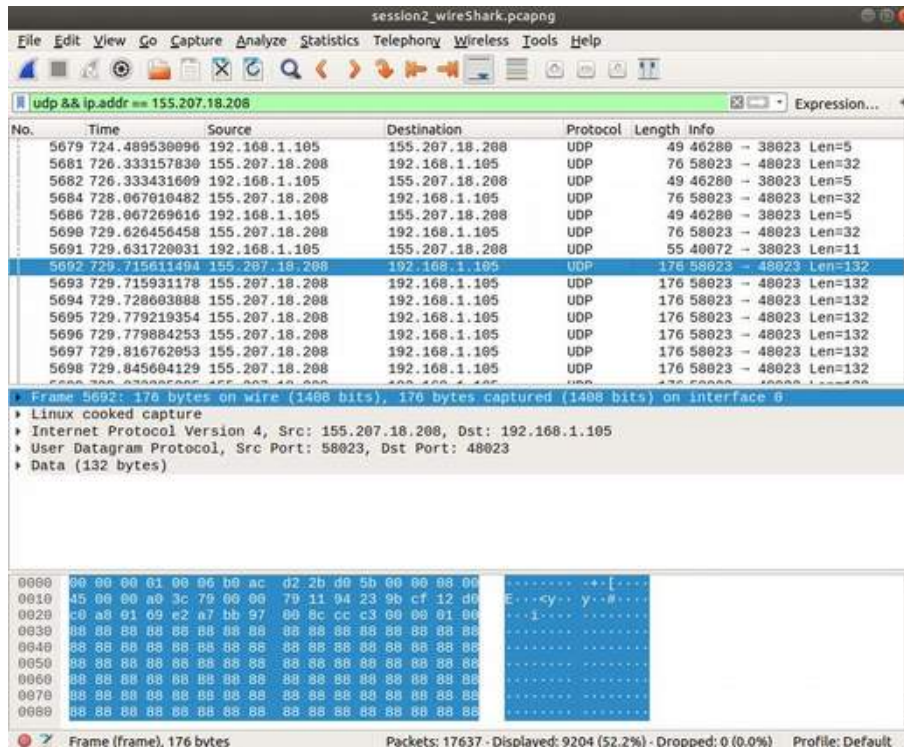
*Echo response Packet from server, before AQDPCM sound application*

- AQDPCM sample request Packet(sample from “Patrida M’, Araevo Se – Stelios kazantzidis”) (Session 2):



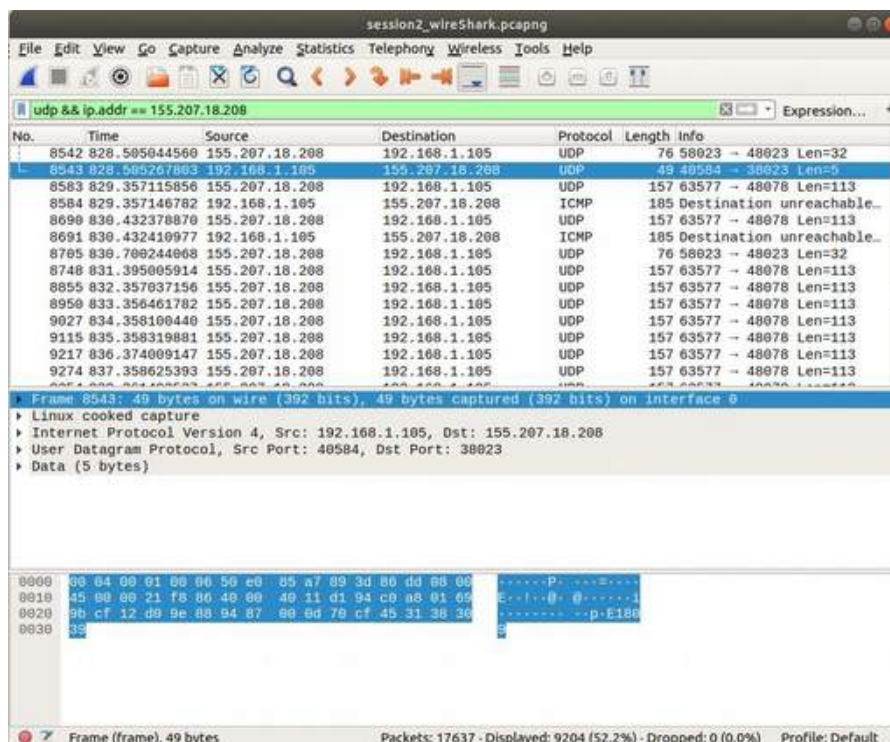
*AQDPCM sample request Packet*

- AQDPCM sample 1st response Packet from server (sample from “Patrida M’, Araevo Se – Stelios kazantzidis”) (Session 2):



*AQDPCM sample 1st response Packet from server*

- Echo request Packet before IthakiCopter application (Session 2):

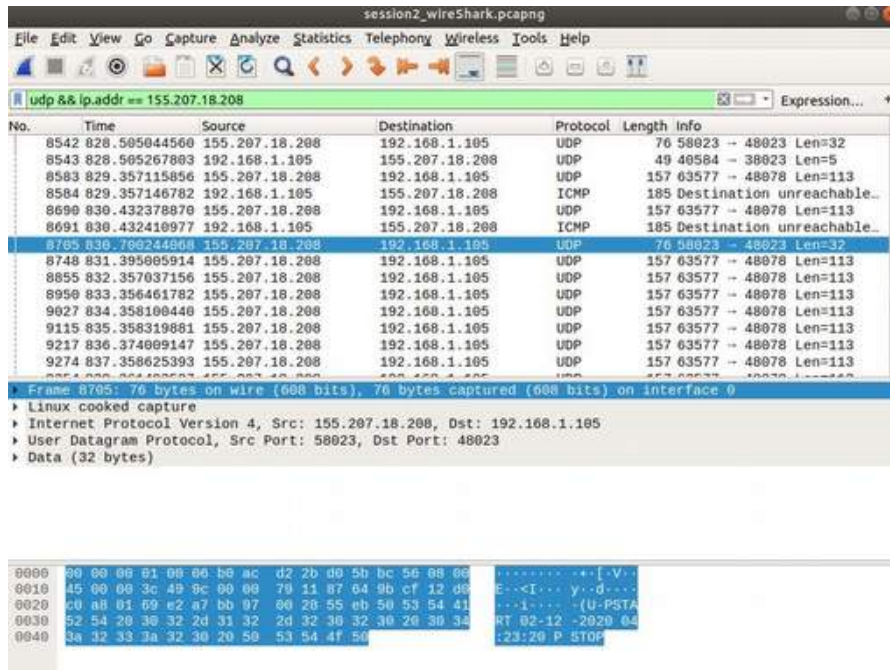


*Echo request Packet before IthakiCopter application*



Βλέπουμε ότι κατά τα screenshot που έχουν να κάνουν με την εφαρμογή IthakiCopter κατά το session 2 έχουμε και πακέτα τύπου ICMP, οποία από ότι φαίνεται έχουν κανουν με την εφαρμογή ithakicopter.jar, που εκίνησε λίγο πριν την ενάρξη της λήψης των μετρήσεων telemetry. Κατά την εκίνηση του ithakicopter.jar το copter ήταν εν κίνηση, ενδεχομένως εξαιτίας της τηλεδιαχείρισης του copter από κάποιο συνάδελφο.

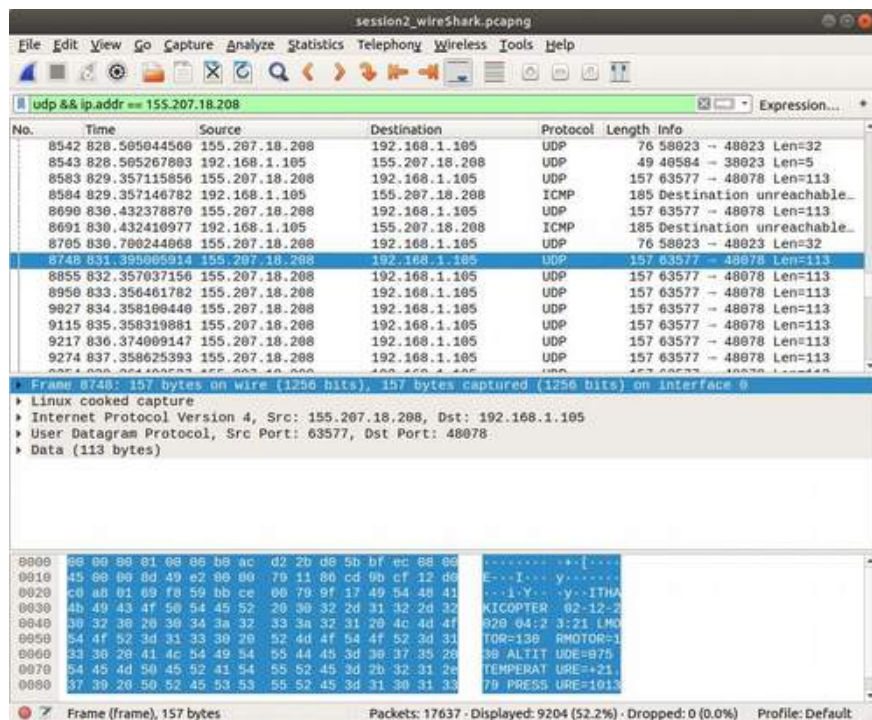
- **Echo response Packet from server, before IthakiCopter application (Session 2):**



*Echo response Packet from server, before IthakiCopter application*

(We don't have Ithakicopter requests as we used the JAR application of Ithaki Copter)

- **Ithakicopter's 1st response Packet (Session 2):**



*Ithakicopter's 1st response Packet*

- Echo request Packet before ODB-II diagnostics application (Session 2):

The image shows a Wireshark packet capture analysis of a network traffic. The top bar indicates the session is 'session2\_wireshark.pcapng'. The menu bar includes File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Tools, and Help. The toolbar contains various icons for file operations, capture control, and analysis.

The packet list pane on the left shows a list of captured packets. Packet 14645 is selected, which is a UDP echo response from 192.168.1.105 to 155.207.18.208. The packet details pane on the right shows the structure of the selected packet:

- Frame 14645: 49 bytes on wire (392 bits), 49 bytes captured (392 bits) on interface 0
- Ethernet II, Src: Linux cooked capture, Dst: 155.207.18.208
- Internet Protocol Version 4, Src: 192.168.1.105, Dst: 155.207.18.208
- User Datagram Protocol, Src Port: 47848, Dst Port: 38023
- Data (5 bytes)

The packet bytes pane at the bottom shows the raw data of the selected packet in hexadecimal and ASCII. The data is 'P-17', which is the ASCII representation of the string 'P-17'.

### Echo request Packet before ODB-II diagnostics application

- Echo response Packet from server, before ODB-II diagnostics application (Session 2):

[illegible]

*Echo response Packet from server, before ODB-II diagnostics application*



- ODB-II diagnostics request Packet (Engine Runtime Request) (Session 2):

session2\_wireshark.pcapng

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

udp && ip.addr == 155.207.18.208

No.	Time	Source	Destination	Protocol	Length	Info
14630	925.400308866	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
14631	925.400565055	192.168.1.105	155.207.18.208	UDP	49	47848 → 38023 Len=5
14634	927.742472756	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
14635	927.742707046	192.168.1.105	155.207.18.208	UDP	49	47848 → 38023 Len=5
14638	929.797005155	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
14639	929.797243642	192.168.1.105	155.207.18.208	UDP	49	47848 → 38023 Len=5
14644	932.156399617	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
14645	932.156601700	192.168.1.105	155.207.18.208	UDP	49	47848 → 38023 Len=5
14646	934.194525149	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
14647	934.196432131	192.168.1.105	155.207.18.208	UDP	60	38678 → 38023 Len=16
14648	934.226974289	155.207.18.208	192.168.1.105	UDP	55	58023 → 48023 Len=11
14649	934.233862217	192.168.1.105	155.207.18.208	UDP	60	38678 → 38023 Len=16
14650	934.342700988	155.207.18.208	192.168.1.105	UDP	52	58023 → 48023 Len=8
14651	934.344619289	192.168.1.105	155.207.18.208	UDP	60	38678 → 38023 Len=16

Frame 14647: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface 0  
Linux cooked capture  
Internet Protocol Version 4, Src: 192.168.1.105, Dst: 155.207.18.208  
User Datagram Protocol, Src Port: 38678, Dst Port: 38023  
Data (16 bytes)

0000 00 04 00 01 00 06 50 e0 85 a7 89 3d 31 37 08 00 .....P.....=17..  
0010 45 00 00 2c 3b 02 40 00 48 11 0e ae c0 a8 01 69 E...;b...@.....I  
0020 0b cf 12 d0 97 16 94 87 00 18 70 da 56 37 32 39 .....p.V729  
0030 31 0d 4f 42 44 3d 30 31 20 31 46 0d 1 0BD=01 1F

Internet Proto...(ip), 20 byte Packets: 17637 - Displayed: 9200 (52.2%) - Dropped: 0 (0.0%) - Ignored: 4 (0.0%) Profile: Default

*ODB-II diagnostics request Packet (Engine Runtime Request)*

- ODB-II diagnostics response Packet (Engine Runtime Response) (Session 2):

session2\_wireshark.pcapng

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

udp && ip.addr == 155.207.18.208

No.	Time	Source	Destination	Protocol	Length	Info
14630	925.400308866	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
14631	925.400565055	192.168.1.105	155.207.18.208	UDP	49	47848 → 38023 Len=5
14634	927.742472756	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
14635	927.742707046	192.168.1.105	155.207.18.208	UDP	49	47848 → 38023 Len=5
14638	929.797005155	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
14639	929.797243642	192.168.1.105	155.207.18.208	UDP	49	47848 → 38023 Len=5
14644	932.156399617	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
14645	932.156601700	192.168.1.105	155.207.18.208	UDP	49	47848 → 38023 Len=5
14646	934.194525149	155.207.18.208	192.168.1.105	UDP	76	58023 → 48023 Len=32
14647	934.196432131	192.168.1.105	155.207.18.208	UDP	60	38678 → 38023 Len=16
14648	934.226974289	155.207.18.208	192.168.1.105	UDP	55	58023 → 48023 Len=11
14649	934.233862217	192.168.1.105	155.207.18.208	UDP	60	38678 → 38023 Len=16
14650	934.342700988	155.207.18.208	192.168.1.105	UDP	52	58023 → 48023 Len=8
14651	934.344619289	192.168.1.105	155.207.18.208	UDP	60	38678 → 38023 Len=16

Frame 14648: 55 bytes on wire (440 bits), 55 bytes captured (440 bits) on interface 0  
Linux cooked capture  
Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.105  
User Datagram Protocol, Src Port: 58023, Dst Port: 48023  
Data (11 bytes)

0000 00 00 00 01 00 06 b0 ac d2 2b d0 5b 4b 00 08 00 .....+..@..  
0010 45 00 00 27 80 30 00 00 79 11 50 e5 9b cf 12 d0 E...0...y.P.....  
0020 c0 a8 01 69 e2 a7 bb 97 00 13 cf ed 34 31 20 31 .....I.....41 I  
0030 46 20 30 33 20 34 36 F 03 46

Internet Proto...(ip), 20 byte Packets: 17637 - Displayed: 9200 (52.2%) - Dropped: 0 (0.0%) - Ignored: 4 (0.0%) Profile: Default

*ODB-II diagnostics response Packet (Engine Runtime Response)*