



Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης
Πολυτεχνική Σχολή

Δίκτυα Υπολογιστών II

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1 Image

Αξίζει να σημειωθεί, μιας και δεν φαίνεται στα wireshark captures, ότι είχαμε δημιουργήσει ένα custom filter: **host 155.207.18.208 and udp** το οποίο το επιλέγαμε προτού αρχίσουμε το capturing των πακέτων.

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:44:36.755882097	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:44:39.479950928	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:44:39.490131454	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:44:41.863274842	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:44:41.864509919	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:44:42.978898363	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:44:42.980298519	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:44:44.182104925	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:44:44.209077362	192.168.1.50	155.207.18.208	UDP	55	48032 → 38032 Len=13
10	2020-11-25 22:44:44.446438913	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
11	2020-11-25 22:44:44.483780124	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
12	2020-11-25 22:44:44.522436932	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
13	2020-11-25 22:44:44.560434091	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
14	2020-11-25 22:44:44.599023525	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
15	2020-11-25 22:44:44.636988129	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
16	2020-11-25 22:44:44.675957130	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
17	2020-11-25 22:44:44.714471262	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
18	2020-11-25 22:44:44.753185142	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
19	2020-11-25 22:44:44.790992341	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
20	2020-11-25 22:44:44.829977493	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
21	2020-11-25 22:44:44.868213060	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
22	2020-11-25 22:44:44.906193832	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
23	2020-11-25 22:44:44.945183978	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
24	2020-11-25 22:44:44.982968702	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024

▶ Frame 7: 47 bytes on wire (376 bits), 47 bytes captured (376 bits) on interface enp2s0, id 0

▶ Ethernet II, Src: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6), Dst: zte_1a:b4:0a (d4:76:ea:1a:b4:0a)

▶ Internet Protocol Version 4, Src: 192.168.1.50, Dst: 155.207.18.208

▶ User Datagram Protocol, Src Port: 48032, Dst Port: 38032

▼ Data (5 bytes)

Data: 4538313432

[Length: 5]

0000	d4 76 ea 1a b4 0a 40 b0	34 96 9d b6 08 00 45 00	·v····@ 4····E·
0010	00 21 f5 4d 40 00 40 11	d5 04 c0 a8 01 32 9b cf	·!M@·@ ·····2·
0020	12 d0 bb a0 94 90 00 0d	96 bc 45 38 31 34 32	·······E8142

Figure 1: Echo request code

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:44:36.755882097	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:44:39.479950928	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:44:39.490131454	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:44:41.863274842	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:44:41.864509919	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:44:42.978898363	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:44:42.980298519	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:44:44.182104925	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:44:44.209077362	192.168.1.50	155.207.18.208	UDP	55	48032 → 38032 Len=13
10	2020-11-25 22:44:44.446438913	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
11	2020-11-25 22:44:44.483780124	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
12	2020-11-25 22:44:44.522436932	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
13	2020-11-25 22:44:44.560434091	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
14	2020-11-25 22:44:44.599023525	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
15	2020-11-25 22:44:44.636988129	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
16	2020-11-25 22:44:44.675957130	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
17	2020-11-25 22:44:44.714471262	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
18	2020-11-25 22:44:44.753185142	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
19	2020-11-25 22:44:44.790992341	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
20	2020-11-25 22:44:44.829977493	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
21	2020-11-25 22:44:44.868213060	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
22	2020-11-25 22:44:44.906193832	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
23	2020-11-25 22:44:44.945183978	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
24	2020-11-25 22:44:44.982968702	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
▶ Frame 8: 74 bytes on wire (592 bits), 74 bytes captured (592 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: zte_1a:b4:0a (d4:76:ea:1a:b4:0a), Dst: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6) ▶ Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.50 ▶ User Datagram Protocol, Src Port: 58032, Dst Port: 48032 ▼ Data (32 bytes) Data: 5053544152542032352d31312d32303230203232323a343a343205053544f50 [Length: 32]						
0000 40 b0 34 96 9d b6 d4 76 ea 1a b4 0a 08 00 45 00 @-4-----v-----E- 0010 00 3c d0 93 00 00 79 11 00 a4 9b cf 12 d0 c0 a8 <-----2----- 0020 01 32 e2 b0 bb a0 00 28 4e 0b 50 53 54 41 52 54 2----- (N)PSTART 0030 20 32 35 2d 31 31 2d 32 30 32 30 20 32 32 3a 34 25-11-2 020 22:4 0040 34 3a 34 34 20 50 53 54 4f 50 4:44 PST OP						

Figure 2: Echo response time

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:44:36.755882097	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:44:39.479950928	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:44:39.490131454	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:44:41.863274842	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:44:41.864509919	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:44:42.978898363	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:44:42.980298519	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:44:44.182104925	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:44:44.209077362	192.168.1.50	155.207.18.208	UDP	55	48032 → 38032 Len=13
10	2020-11-25 22:44:44.446438913	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
11	2020-11-25 22:44:44.483780124	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
12	2020-11-25 22:44:44.522436932	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
13	2020-11-25 22:44:44.560434091	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
14	2020-11-25 22:44:44.599023525	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
15	2020-11-25 22:44:44.636988129	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
16	2020-11-25 22:44:44.675957130	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
17	2020-11-25 22:44:44.714471262	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
18	2020-11-25 22:44:44.753185142	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
19	2020-11-25 22:44:44.790992341	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
20	2020-11-25 22:44:44.829977493	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
21	2020-11-25 22:44:44.868213060	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
22	2020-11-25 22:44:44.906193832	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
23	2020-11-25 22:44:44.945183978	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
24	2020-11-25 22:44:44.982968702	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
▶ Frame 9: 55 bytes on wire (440 bits), 55 bytes captured (440 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6), Dst: zte_1a:b4:0a (d4:76:ea:1a:b4:0a) ▶ Internet Protocol Version 4, Src: 192.168.1.50, Dst: 155.207.18.208 ▶ User Datagram Protocol, Src Port: 48032, Dst Port: 38032 ▼ Data (13 bytes) Data: 4d343839385544503d31303234 [Length: 13]						
0000 d4 76 ea 1a b4 0a 40 b0 34 96 9d b6 08 00 45 00 v-----@ 4-----E- 0010 00 29 f5 64 40 00 40 11 d4 e5 c0 a8 01 32 9b cf) d@ @ -----2-- 0020 12 d0 bb a0 94 90 00 15 9b a2 4d 34 38 39 38 55 -----M4898U 0030 44 50 3d 31 30 32 34 DP=1024						

Figure 3: Image request code

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:44:36.755882097	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:44:39.479950928	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:44:39.490131454	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:44:41.863274842	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:44:41.864509919	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:44:42.978898363	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:44:42.980298519	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:44:44.182104925	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:44:44.209077362	192.168.1.50	155.207.18.208	UDP	55	48032 → 38032 Len=13
10	2020-11-25 22:44:44.446438913	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
11	2020-11-25 22:44:44.483780124	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
12	2020-11-25 22:44:44.522436932	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
13	2020-11-25 22:44:44.560434091	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
14	2020-11-25 22:44:44.599023525	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
15	2020-11-25 22:44:44.636988129	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
16	2020-11-25 22:44:44.675957130	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
17	2020-11-25 22:44:44.714471262	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
18	2020-11-25 22:44:44.753185142	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
19	2020-11-25 22:44:44.790992341	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
20	2020-11-25 22:44:44.829977493	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
21	2020-11-25 22:44:44.868213060	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
22	2020-11-25 22:44:44.906193832	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
23	2020-11-25 22:44:44.945183978	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
24	2020-11-25 22:44:44.982968702	155.207.18.208	192.168.1.50	UDP	1066	58032 → 48032 Len=1024
▶ Frame 10: 1066 bytes on wire (8528 bits), 1066 bytes captured (8528 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: zte_1a:b4:0a (d4:76:ea:1a:b4:0a), Dst: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6) ▶ Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.50 ▶ User Datagram Protocol, Src Port: 58032, Dst Port: 48032 ▼ Data (1024 bytes) Data: ffd8ffe000104a46494600010200000100010000ffdb004300080607060508070709... [Length: 1024]						
0020	01 32 e2 b0 bb a0 04 08 e8 5b ff d8 ff e0 00 10	2-----[-----				
0030	4a 46 49 46 00 01 02 00 00 01 00 01 00 00 ff db	JFIF-----				
0040	00 43 00 08 06 06 07 06 05 08 07 07 09 09 08	C-----				
0050	0a 0c 14 0d 0c 0b 0b 0c 19 12 13 0f 14 1d 1a 1f	-----				
0060	1e 1d 1a 1c 1c 20 24 2e 27 20 22 2c 23 1c 1c 28	-----\$. ' * ,#-(-				

Figure 4: Image response data

2 Audio

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:47:30.328674593	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:47:32.114386772	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:47:32.140186516	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:47:33.458661563	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:47:33.460077410	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:47:36.097241622	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:47:36.098714181	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:47:37.259958822	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:47:37.306850992	192.168.1.50	155.207.18.208	UDP	56	48032 → 38032 Len=14
10	2020-11-25 22:47:37.338832183	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
11	2020-11-25 22:47:37.366699218	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
12	2020-11-25 22:47:37.395003143	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
13	2020-11-25 22:47:37.423188365	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
14	2020-11-25 22:47:37.451997629	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
15	2020-11-25 22:47:37.480722964	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
16	2020-11-25 22:47:37.509278038	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
17	2020-11-25 22:47:37.538206999	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
18	2020-11-25 22:47:37.566719183	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
19	2020-11-25 22:47:37.595010032	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
20	2020-11-25 22:47:37.623453327	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
21	2020-11-25 22:47:37.652005322	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
22	2020-11-25 22:47:37.680544797	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
23	2020-11-25 22:47:37.708462704	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
24	2020-11-25 22:47:37.736441695	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
▶ Frame 7: 47 bytes on wire (376 bits), 47 bytes captured (376 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6), Dst: zte_1a:b4:0a (d4:76:ea:1a:b4:0a) ▶ Internet Protocol Version 4, Src: 192.168.1.50, Dst: 155.207.18.208 ▶ User Datagram Protocol, Src Port: 48032, Dst Port: 38032 ▼ Data (5 bytes) Data: 4538313432 [Length: 5]						
0000	d4 76 ea 1a b4 0a 40 b0 34 96 9d b6 08 00 45 00	v---@-4-----E				
0010	00 21 78 1e 40 00 40 11 52 34 c0 a8 01 32 9b cf	!x-@-R4---2--				
0020	12 d0 bb a0 94 90 00 0d 96 bc 45 38 31 34 32	-----E8142				

Figure 5: Echo request code

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:47:30.328674593	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:47:32.114386772	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:47:32.140186516	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:47:33.458661563	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:47:33.460077410	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:47:36.097241622	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:47:36.098714181	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:47:37.259958822	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:47:37.306850992	192.168.1.50	155.207.18.208	UDP	56	48032 → 38032 Len=14
10	2020-11-25 22:47:37.338832183	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
11	2020-11-25 22:47:37.366699218	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
12	2020-11-25 22:47:37.395003143	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
13	2020-11-25 22:47:37.423188365	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
14	2020-11-25 22:47:37.451997629	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
15	2020-11-25 22:47:37.480722964	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
16	2020-11-25 22:47:37.509278038	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
17	2020-11-25 22:47:37.538206999	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
18	2020-11-25 22:47:37.566719183	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
19	2020-11-25 22:47:37.595010032	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
20	2020-11-25 22:47:37.623453327	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
21	2020-11-25 22:47:37.652005322	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
22	2020-11-25 22:47:37.680544797	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
23	2020-11-25 22:47:37.708462704	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
24	2020-11-25 22:47:37.736441695	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
▶ Frame 8: 74 bytes on wire (592 bits), 74 bytes captured (592 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: zte_1a:b4:0a (d4:76:ea:1a:b4:0a), Dst: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6) ▶ Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.50 ▶ User Datagram Protocol, Src Port: 58032, Dst Port: 48032 ▼ Data (32 bytes) Data: 5053544152542032352d31312d323032302032323a34373a3337205053544f50 [Length: 32]						
0000 40 b0 34 96 9d b6 d4 76 ea 1a b4 0a 08 00 45 00 @ 4 --- v ----- E- 0010 00 3c d0 df 00 00 79 11 00 58 9b cf 12 d0 c0 a8 --<--- y - X --- 0020 01 32 e2 b0 bb a0 00 28 4c 08 50 53 54 41 52 54 2----- (L- PSTART 0030 20 32 35 2d 31 31 2d 32 30 32 30 20 32 32 3a 34 25-11-2 020 22:4 0040 37 3a 33 37 20 50 53 54 4f 50 7:37 PST OP						

Figure 6: Echo response time

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:47:30.328674593	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:47:32.114386772	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:47:32.140186516	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:47:33.458661563	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:47:33.460077410	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:47:36.097241622	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:47:36.098714181	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:47:37.259958822	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:47:37.306850992	192.168.1.50	155.207.18.208	UDP	56	48032 → 38032 Len=14
10	2020-11-25 22:47:37.338832183	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
11	2020-11-25 22:47:37.366699218	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
12	2020-11-25 22:47:37.395003143	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
13	2020-11-25 22:47:37.423188365	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
14	2020-11-25 22:47:37.451997629	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
15	2020-11-25 22:47:37.480722964	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
16	2020-11-25 22:47:37.509278038	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
17	2020-11-25 22:47:37.538206999	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
18	2020-11-25 22:47:37.566719183	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
19	2020-11-25 22:47:37.595010032	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
20	2020-11-25 22:47:37.623453327	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
21	2020-11-25 22:47:37.652005322	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
22	2020-11-25 22:47:37.680544797	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
23	2020-11-25 22:47:37.708462704	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
24	2020-11-25 22:47:37.736441695	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
▶ Frame 9: 56 bytes on wire (448 bits), 56 bytes captured (448 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6), Dst: zte_1a:b4:0a (d4:76:ea:1a:b4:0a) ▶ Internet Protocol Version 4, Src: 192.168.1.50, Dst: 155.207.18.208 ▶ User Datagram Protocol, Src Port: 48032, Dst Port: 38032 ▼ Data (14 bytes) Data: 4c32324138363130415146353030 [Length: 14]						
0000 d4 76 ea 1a b4 0a 40 b0 34 96 9d b6 08 00 45 00 -v---@ 4-----E- 0010 00 2a 79 61 40 00 40 11 50 e8 c0 a8 01 32 9b cf --*ya@ @ P---2-- 0020 12 d0 bb a0 94 90 00 16 9f 86 4c 32 32 41 38 36 -----L-22A86 0030 31 30 41 51 46 35 30 30 10AQF500						

Figure 7: Audio request code

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:47:30.328674593	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:47:32.114386772	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:47:32.140186516	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:47:33.458661563	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:47:33.460077410	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:47:36.097241622	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:47:36.098714181	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:47:37.259958822	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:47:37.306850992	192.168.1.50	155.207.18.208	UDP	56	48032 → 38032 Len=14
10	2020-11-25 22:47:37.338832183	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
11	2020-11-25 22:47:37.366699218	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
12	2020-11-25 22:47:37.395003143	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
13	2020-11-25 22:47:37.423188365	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
14	2020-11-25 22:47:37.451997629	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
15	2020-11-25 22:47:37.480722964	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
16	2020-11-25 22:47:37.509278038	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
17	2020-11-25 22:47:37.538206999	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
18	2020-11-25 22:47:37.566719183	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
19	2020-11-25 22:47:37.595010032	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
20	2020-11-25 22:47:37.623453327	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
21	2020-11-25 22:47:37.652005322	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
22	2020-11-25 22:47:37.680544797	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
23	2020-11-25 22:47:37.708462704	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
24	2020-11-25 22:47:37.736441695	155.207.18.208	192.168.1.50	UDP	174	58032 → 48032 Len=132
▶ Frame 10: 174 bytes on wire (1392 bits), 174 bytes captured (1392 bits) on interface enp2s0, id 0						
▶ Ethernet II, Src: zte_1a:b4:0a (d4:76:ea:1a:b4:0a), Dst: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6)						
▶ Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.50						
▶ User Datagram Protocol, Src Port: 58032, Dst Port: 48032						
▶ Data (132 bytes)						
Data: d6ffa502ffb39a47ab8439c86c709ba903a9aab86bb66c836ffba866bd76ac23dca24b5...						
[Length: 132]						

0000	40 b0 34 96 9d b6 d4 76	ea 1a b4 0a 08 00 45 00	@ 4 . . . v E
0010	00 a0 d0 e0 00 00 79 11	ff f2 9b cf 12 d0 c0 a8 y
0020	01 32 e2 b0 bb a0 00 8c	04 34 86 ff a5 02 ff b3	. 2 4
0030	9a 47 ab 84 39 c8 6c 70	9b a9 03 a9 aa b8 6b bb	. G . . 9 . 1 p k .
0040	66 c8 36 ff ba 86 6b d7	6a c2 3d ca 24 b5 77 77	f . 6 . . . k . j . = \$ w w
0050	49 fa 25 b9 14 fc 39 d7	34 7c a7 a8 1a bb 61 bb	I . % . . 9 . 4 a .
0060	57 b6 88 6c 85 a8 99 87	7a 8a 55 66 98 ac 45 9b	w . 1 z . U f . . . E .
0070	97 33 87 b9 58 b7 9b 8a	87 8d 95 ca b5 9f 76 bb	. 3 . . X v
0080	a9 a7 88 7a 54 98 a5 89	79 27 83 8a a6 7b 37 b9	. . . z T y { 7 .
0090	58 bb b4 67 79 48 d4 69	a7 66 9a 7e 75 7a 85 9b	X . g y H - 1 . f . . u z . . .
00a0	a7 44 d8 86 6c 78 76 87	95 8b 88 0b 84 87	. D . 1 x v

Figure 8: Audio response data

3 Ithakicopter TCP version

Αξίζει να σημειωθεί ότι στο input stream , τη στιγμή δημιουργίας TCP socket, δέχομαστε δεδομένα (οδηγίες χρήσης σχετικά με το format του μηνύματος αποστολής για να ληφθούν δεδομένα), προτού γράψουμε κάτι στο output stream. Ενδεικτικά δείχνουμε στο capture (Figure 12) την ωφέλιμη πληροφορία.

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:53:53.737939459	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
245	2020-11-25 22:53:54.737944959	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
489	2020-11-25 22:53:55.738608591	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
723	2020-11-25 22:53:56.630779212	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
724	2020-11-25 22:53:56.647217159	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
725	2020-11-25 22:53:56.647402453	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
726	2020-11-25 22:53:56.647564779	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
730	2020-11-25 22:53:56.739005990	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
917	2020-11-25 22:53:57.738790006	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
10...	2020-11-25 22:53:58.644390499	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
11...	2020-11-25 22:53:58.740137012	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
13...	2020-11-25 22:53:59.738862041	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
15...	2020-11-25 22:54:00.667892266	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
15...	2020-11-25 22:54:00.747674530	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
17...	2020-11-25 22:54:01.740014491	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
19...	2020-11-25 22:54:02.272013586	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
21...	2020-11-25 22:54:02.740138065	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
23...	2020-11-25 22:54:03.324783060	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
24...	2020-11-25 22:54:03.740662854	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
24...	2020-11-25 22:54:04.741231601	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
27...	2020-11-25 22:54:05.741014193	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
27...	2020-11-25 22:54:06.741427283	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
31...	2020-11-25 22:54:07.742364190	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
33...	2020-11-25 22:54:08.743188671	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
▶ Frame 726: 47 bytes on wire (376 bits), 47 bytes captured (376 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6), Dst: zte_1a:b4:0a (d4:76:ea:1a:b4:0a) ▶ Internet Protocol Version 4, Src: 192.168.1.50, Dst: 155.207.18.208 ▶ User Datagram Protocol, Src Port: 48078, Dst Port: 38032 ▼ Data (5 bytes) Data: 4538313432 [Length: 5]						
0000	d4 76 ea 1a b4 0a 40 b0	34 96 9d b6 08 00 45 00	·v·····@ 4·····E·			
0010	00 21 bf 02 40 00 40 11	0b 50 c0 a8 01 32 9b cf	·!·v·····@·P·····2··			
0020	12 d0 bb ce 94 90 00 0d	96 8e 45 38 31 34 32	··········E8142			

Figure 9: Echo request code

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:53:53.737939459	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
245	2020-11-25 22:53:54.737944959	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
489	2020-11-25 22:53:55.738608591	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
723	2020-11-25 22:53:56.630779212	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
724	2020-11-25 22:53:56.647217159	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
725	2020-11-25 22:53:56.647402453	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
726	2020-11-25 22:53:56.647564779	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
730	2020-11-25 22:53:56.739005990	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
917	2020-11-25 22:53:57.738790006	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
10...	2020-11-25 22:53:58.644390499	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
11...	2020-11-25 22:53:58.740137012	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
13...	2020-11-25 22:53:59.738862041	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
15...	2020-11-25 22:54:00.667892266	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
15...	2020-11-25 22:54:00.747674530	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
17...	2020-11-25 22:54:01.740014491	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
19...	2020-11-25 22:54:02.272013586	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
21...	2020-11-25 22:54:02.740138065	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
23...	2020-11-25 22:54:03.324783060	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
24...	2020-11-25 22:54:03.740662854	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
24...	2020-11-25 22:54:04.741231601	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
27...	2020-11-25 22:54:05.741014193	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
27...	2020-11-25 22:54:06.741427283	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
31...	2020-11-25 22:54:07.742364190	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
33...	2020-11-25 22:54:08.743188671	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
▶ Frame 1099: 74 bytes on wire (592 bits), 74 bytes captured (592 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: zte_1a:b4:0a (d4:76:ea:1a:b4:0a), Dst: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6) ▶ Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.50 ▶ User Datagram Protocol, Src Port: 58032, Dst Port: 48032 ▼ Data (32 bytes) Data: 5053544152542032352031312d323032302032323a35333a3539205053544f50 [Length: 32]						
0000	40 b0 34 96 9d b6 d4 76	ea 1a b4 0a 08 00 45 00	@ 4·····v·····E·			
0010	00 3c 6d 6c 00 00 79 11	63 cb 9b cf 12 d0 c0 a8	·<m!·····y·····c·····			
0020	01 32 e2 b0 bb a0 00 28	4e 05 50 53 54 41 52 54	2·····(NUPSTART			
0030	20 32 35 2d 31 31 2d 32	30 32 30 20 32 32 3a 35	25-11-2 020 22:5			
0040	33 3a 35 39 20 50 53 54	4f 50	3:59 PST OP			

Figure 10: Echo response time

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:53:53.737939459	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
245	2020-11-25 22:53:54.737944959	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
489	2020-11-25 22:53:55.738608591	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
723	2020-11-25 22:53:56.630779212	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
724	2020-11-25 22:53:56.647217159	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
725	2020-11-25 22:53:56.647402453	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
726	2020-11-25 22:53:56.647564779	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
730	2020-11-25 22:53:56.739005990	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
917	2020-11-25 22:53:57.738790006	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
10...	2020-11-25 22:53:58.644390499	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
11...	2020-11-25 22:53:58.740137012	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
13...	2020-11-25 22:53:59.738862041	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
15...	2020-11-25 22:54:00.667892266	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
15...	2020-11-25 22:54:00.747674530	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
17...	2020-11-25 22:54:01.740014491	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
19...	2020-11-25 22:54:02.272013586	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
21...	2020-11-25 22:54:02.740138065	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
23...	2020-11-25 22:54:03.324783060	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
24...	2020-11-25 22:54:03.740662854	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
24...	2020-11-25 22:54:04.741231601	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
27...	2020-11-25 22:54:05.741014193	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
27...	2020-11-25 22:54:06.741427283	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
31...	2020-11-25 22:54:07.742364190	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
33...	2020-11-25 22:54:08.743188671	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
▶ Frame 1100: 155 bytes on wire (1240 bits), 155 bytes captured (1240 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: zte_1a:b4:0a (d4:76:ea:1a:b4:0a), Dst: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6) ▶ Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.50 ▶ User Datagram Protocol, Src Port: 56232, Dst Port: 48078 ▼ Data (113 bytes) Data: 495448414b49434f505445522032352d31312d323032302032323a35333a3539204c4d4f... [Length: 113]						

0000	40 b0 34 96 9d b6 d4 76	ea 1a b4 0a 08 00 45 00	@ 4 --- v --- E
0010	00 8d 6d 6d 00 00 79 11	63 79 9b cf 12 d0 c0 a8	--- n --- y b ---
0020	01 32 db a8 bb ce 00 79	bd bf 49 54 48 41 4b 49	2 --- y --- ITHAKI
0030	43 4f 50 54 45 52 20 32	35 2d 31 31 2d 32 30 32	COPTER 2 5-11-202
0040	30 20 32 32 3a 35 33 3a	35 39 20 4c 4d 4f 54 4f	0 22:53: 59 LMOTO
0050	52 3d 30 30 30 20 52 4d	4f 54 4f 52 3d 30 30 30	R=000 RM OTOR=000
0060	20 41 4c 54 49 54 55 44	45 3d 30 37 32 20 54 45	ALTITUD E=072 TE
0070	4d 50 45 52 41 54 55 52	45 3d 2b 32 33 2e 36 36	MPERATUR E=+23.66
0080	20 50 52 45 53 53 55 52	45 3d 31 30 31 38 2e 35	PRESSUR E=1018.5
0090	31 20 54 45 4c 45 4d 45	54 52 59	1 TELEME TRY

Figure 11: Copter output stream

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:53:53.737939459	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
245	2020-11-25 22:53:54.737944959	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
489	2020-11-25 22:53:55.738608591	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
723	2020-11-25 22:53:56.630779212	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
724	2020-11-25 22:53:56.647217159	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
725	2020-11-25 22:53:56.647402453	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
726	2020-11-25 22:53:56.647564779	192.168.1.50	155.207.18.208	UDP	47	48078 → 38032 Len=5
730	2020-11-25 22:53:56.739005990	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
917	2020-11-25 22:53:57.738790006	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
10...	2020-11-25 22:53:58.644390499	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
11...	2020-11-25 22:53:58.740137012	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
13...	2020-11-25 22:53:59.738862041	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
15...	2020-11-25 22:54:00.667892266	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
15...	2020-11-25 22:54:00.747674530	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
17...	2020-11-25 22:54:01.740014491	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
19...	2020-11-25 22:54:02.272013586	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
21...	2020-11-25 22:54:02.740138065	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
23...	2020-11-25 22:54:03.324783060	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
24...	2020-11-25 22:54:03.740662854	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
24...	2020-11-25 22:54:04.741231601	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
27...	2020-11-25 22:54:05.741014193	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
27...	2020-11-25 22:54:06.741427283	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
31...	2020-11-25 22:54:07.742364190	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
33...	2020-11-25 22:54:08.743188671	155.207.18.208	192.168.1.50	UDP	155	56232 → 48078 Len=113
▶ Frame 1344: 155 bytes on wire (1240 bits), 155 bytes captured (1240 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: zte_1a:b4:0a (d4:76:ea:1a:b4:0a), Dst: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6) ▶ Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.50 ▶ User Datagram Protocol, Src Port: 56232, Dst Port: 48078 ▼ Data (113 bytes) Data: 495448414b49434f505445522032352d31312d323032302032323a35333a3030204c4d4f... [Length: 113]						

0000	40 b0 34 96 9d b6 d4 76	ea 1a b4 0a 08 00 45 00	@ 4 --- v --- E
0010	00 8d 6e 01 00 00 79 11	62 e5 9b cf 12 d0 c0 a8	--- n --- y b ---
0020	01 32 db a8 bb ce 00 79	c0 02 49 54 48 41 4b 49	2 --- y --- ITHAKI
0030	43 4f 50 54 45 52 20 32	35 2d 31 31 2d 32 30 32	COPTER 2 5-11-202
0040	30 20 32 32 3a 35 34 3a	30 30 20 4c 4d 4f 54 4f	0 22:54: 00 LMOTO
0050	52 3d 30 30 30 20 52 4d	4f 54 4f 52 3d 30 30 30	R=000 RM OTOR=000
0060	20 41 4c 54 49 54 55 44	45 3d 30 37 32 20 54 45	ALTITUD E=072 TE
0070	4d 50 45 52 41 54 55 52	45 3d 2b 32 33 2e 36 36	MPERATUR E=+23.68
0080	20 50 52 45 53 53 55 52	45 3d 31 30 31 38 2e 35	PRESSUR E=1018.5
0090	33 20 54 45 4c 45 4d 45	54 52 59	3 TELEME TRY

Figure 12: Copter input stream

4 Car fault diagnostics

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:58:36.827361474	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:58:38.724108987	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:58:38.732034004	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:58:39.551515824	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:58:39.552621370	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:58:40.546148960	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:58:40.547722002	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:58:42.145132983	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:58:42.154111779	192.168.1.50	155.207.18.208	TCP	74	43394 → 29078 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 SACK_PERM=1 TSval=2077519728 TSecr=0 WS=128
10	2020-11-25 22:58:42.185594454	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1436 WS=256 SACK_PERM=1
11	2020-11-25 22:58:42.185594139	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=1 Ack=1 Win=64256 Len=0
12	2020-11-25 22:58:42.243785727	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=1 Ack=1 Win=64256 Len=6
13	2020-11-25 22:58:42.283315234	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [PSH, ACK] Seq=1 Ack=7 Win=262656 Len=12
14	2020-11-25 22:58:42.283422638	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=7 Ack=13 Win=64256 Len=0
15	2020-11-25 22:58:42.318721389	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=7 Ack=13 Win=64256 Len=6
16	2020-11-25 22:58:42.383088433	155.207.18.208	192.168.1.50	TCP	63	29078 → 43394 [PSH, ACK] Seq=13 Ack=13 Win=262656 Len=9
17	2020-11-25 22:58:42.383158352	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=13 Ack=22 Win=64256 Len=0
18	2020-11-25 22:58:42.385849580	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=13 Ack=22 Win=64256 Len=6
19	2020-11-25 22:58:42.461345217	155.207.18.208	192.168.1.50	TCP	60	29078 → 43394 [ACK] Seq=22 Ack=19 Win=262656 Len=0
20	2020-11-25 22:58:42.491162776	155.207.18.208	192.168.1.50	TCP	63	29078 → 43394 [PSH, ACK] Seq=22 Ack=19 Win=262656 Len=9
21	2020-11-25 22:58:42.491236569	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=19 Ack=31 Win=64256 Len=0
22	2020-11-25 22:58:42.494805336	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=19 Ack=31 Win=64256 Len=6
23	2020-11-25 22:58:42.572124543	155.207.18.208	192.168.1.50	TCP	60	29078 → 43394 [ACK] Seq=31 Ack=25 Win=262656 Len=0
24	2020-11-25 22:58:42.592297738	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [PSH, ACK] Seq=31 Ack=25 Win=262656 Len=12
▶ Frame 7: 47 bytes on wire (376 bits), 47 bytes captured (376 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6), Dst: zte_1a:b4:0a (d4:76:ea:1a:b4:0a) ▶ Internet Protocol Version 4, Src: 192.168.1.50, Dst: 155.207.18.208 ▶ User Datagram Protocol, Src Port: 48032, Dst Port: 38032 ▼ Data (5 bytes) Data: 4538313432 [Length: 5]						
0000	d4 76 ea 1a b4 0a 40 b0 34 96 9d b6 08 00 45 00	v.....@: 4.....E-				
0010	00 21 22 9a 40 00 40 11 a7 b8 c0 a8 01 32 9b cf	-I*%@.....2...				
0020	12 d0 bb a0 94 90 00 d0 96 bc 45 38 31 34 32E8142				

Figure 13: Echo request code

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:58:36.827361474	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:58:38.724108987	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:58:38.732034004	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:58:39.551515824	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:58:39.552621370	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:58:40.546148960	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:58:40.547722002	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:58:42.145132983	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:58:42.154111779	192.168.1.50	155.207.18.208	TCP	74	43394 → 29078 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 SACK_PERM=1 TSval=2077519728 TSecr=0 WS=128
10	2020-11-25 22:58:42.185594454	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1436 WS=256 SACK_PERM=1
11	2020-11-25 22:58:42.185594139	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=1 Ack=1 Win=64256 Len=0
12	2020-11-25 22:58:42.243785727	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=1 Ack=1 Win=64256 Len=6
13	2020-11-25 22:58:42.283315234	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [PSH, ACK] Seq=1 Ack=7 Win=262656 Len=12
14	2020-11-25 22:58:42.283422638	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=7 Ack=13 Win=64256 Len=0
15	2020-11-25 22:58:42.318721389	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=7 Ack=13 Win=64256 Len=6
16	2020-11-25 22:58:42.383088433	155.207.18.208	192.168.1.50	TCP	63	29078 → 43394 [PSH, ACK] Seq=13 Ack=13 Win=262656 Len=9
17	2020-11-25 22:58:42.383158352	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=13 Ack=22 Win=64256 Len=0
18	2020-11-25 22:58:42.385849580	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=13 Ack=22 Win=64256 Len=6
19	2020-11-25 22:58:42.461345217	155.207.18.208	192.168.1.50	TCP	60	29078 → 43394 [ACK] Seq=22 Ack=19 Win=262656 Len=0
20	2020-11-25 22:58:42.491162776	155.207.18.208	192.168.1.50	TCP	63	29078 → 43394 [PSH, ACK] Seq=22 Ack=19 Win=262656 Len=9
21	2020-11-25 22:58:42.491236569	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=19 Ack=31 Win=64256 Len=0
22	2020-11-25 22:58:42.494805336	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=19 Ack=31 Win=64256 Len=6
23	2020-11-25 22:58:42.572124543	155.207.18.208	192.168.1.50	TCP	60	29078 → 43394 [ACK] Seq=31 Ack=25 Win=262656 Len=0
24	2020-11-25 22:58:42.592297738	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [PSH, ACK] Seq=31 Ack=25 Win=262656 Len=12
▶ Frame 8: 74 bytes on wire (592 bits), 74 bytes captured (592 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: zte_1a:b4:0a (d4:76:ea:1a:b4:0a), Dst: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6) ▶ Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.50 ▶ User Datagram Protocol, Src Port: 58032, Dst Port: 48032 ▼ Data (32 bytes) Data: 5053544152542032352d31312d3230323032323a35383a3432205053544f50 [Length: 32]						
0000	40 b0 34 96 9d b6 d4 76 ea 1a b4 0a 08 00 45 00	@4.....v.....E-				
0010	00 3c 0b 47 00 00 79 11 c5 f0 9b cf 12 d0 c0 a8	<G:y.....				
0020	01 32 e2 b0 bb a0 00 28 4a 0c 50 53 54 41 52 54	.2.....(J.PSTART				
0030	20 32 35 2d 31 31 2d 32 30 32 30 20 32 32 3a 35	.25-11-2 020 22:5				
0040	38 3a 34 32 20 50 53 54 4f 50	8:42 PST OF				

Figure 14: Echo response time

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:58:36.827361474	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:58:38.724108987	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:58:38.732034004	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:58:39.551515824	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:58:39.552621370	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:58:40.546148960	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:58:40.547722002	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:58:42.145132983	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:58:42.154111779	192.168.1.50	155.207.18.208	TCP	74	43394 → 29078 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 SACK_PERM=1 TSval=2077519728 TSecr=0 WS=128
10	2020-11-25 22:58:42.185504454	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1436 WS=256 SACK_PERM=1
11	2020-11-25 22:58:42.185594139	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=1 Ack=1 Win=64256 Len=0
12	2020-11-25 22:58:42.243785727	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=1 Ack=1 Win=64256 Len=6
13	2020-11-25 22:58:42.283315234	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [PSH, ACK] Seq=1 Ack=7 Win=262656 Len=12
14	2020-11-25 22:58:42.283422638	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=7 Ack=13 Win=64256 Len=0
15	2020-11-25 22:58:42.318721389	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=7 Ack=13 Win=64256 Len=6
16	2020-11-25 22:58:42.383088433	155.207.18.208	192.168.1.50	TCP	63	29078 → 43394 [PSH, ACK] Seq=13 Ack=13 Win=262656 Len=9
17	2020-11-25 22:58:42.383158352	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=13 Ack=22 Win=64256 Len=0
18	2020-11-25 22:58:42.385849580	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=13 Ack=22 Win=64256 Len=6
19	2020-11-25 22:58:42.461345217	155.207.18.208	192.168.1.50	TCP	60	29078 → 43394 [ACK] Seq=22 Ack=19 Win=262656 Len=0
20	2020-11-25 22:58:42.491162776	155.207.18.208	192.168.1.50	TCP	63	29078 → 43394 [PSH, ACK] Seq=22 Ack=19 Win=262656 Len=9
21	2020-11-25 22:58:42.491236569	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=19 Ack=31 Win=64256 Len=0
22	2020-11-25 22:58:42.494805336	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=19 Ack=31 Win=64256 Len=6
23	2020-11-25 22:58:42.572124543	155.207.18.208	192.168.1.50	TCP	60	29078 → 43394 [ACK] Seq=31 Ack=25 Win=262656 Len=0
24	2020-11-25 22:58:42.592297738	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [PSH, ACK] Seq=31 Ack=25 Win=262656 Len=12
▶ Frame 12: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6), Dst: zte_1a:b4:0a (d4:76:ea:1a:b4:0a) ▶ Internet Protocol Version 4, Src: 192.168.1.50, Dst: 155.207.18.208 ▶ Transmission Control Protocol, Src Port: 43394, Dst Port: 29078, Seq: 1, Ack: 1, Len: 6 ▼ Data (6 bytes) Data: 30312031460d [Length: 6]						
0000	d4 76 ea 1a b4 0a 40 b0 34 96 9d b6 08 00 45 00	v---0-4---E-				
0010	00 2e c3 be 40 00 40 06 06 92 c0 a8 01 32 9b cf	---0-0-----2-				
0020	12 d0 a9 82 71 96 a2 53 a3 dd 24 41 15 d0 50 18	---q-S---\$A-P-				
0030	01 f6 70 9a 00 00 30 31 20 31 46 0d	-p---01-1F-				

Figure 15: Vehicle output stream

No.	Time	Source	Destination	Protocol	Length	Info
1	2020-11-25 22:58:36.827361474	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
2	2020-11-25 22:58:38.724108987	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
3	2020-11-25 22:58:38.732034004	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
4	2020-11-25 22:58:39.551515824	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
5	2020-11-25 22:58:39.552621370	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
6	2020-11-25 22:58:40.546148960	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
7	2020-11-25 22:58:40.547722002	192.168.1.50	155.207.18.208	UDP	47	48032 → 38032 Len=5
8	2020-11-25 22:58:42.145132983	155.207.18.208	192.168.1.50	UDP	74	58032 → 48032 Len=32
9	2020-11-25 22:58:42.154111779	192.168.1.50	155.207.18.208	TCP	74	43394 → 29078 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 SACK_PERM=1 TSval=2077519728 TSecr=0 WS=128
10	2020-11-25 22:58:42.185504454	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1436 WS=256 SACK_PERM=1
11	2020-11-25 22:58:42.185594139	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=1 Ack=1 Win=64256 Len=0
12	2020-11-25 22:58:42.243785727	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=1 Ack=1 Win=64256 Len=6
13	2020-11-25 22:58:42.283315234	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [PSH, ACK] Seq=1 Ack=7 Win=262656 Len=12
14	2020-11-25 22:58:42.283422638	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=7 Ack=13 Win=64256 Len=0
15	2020-11-25 22:58:42.318721389	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=7 Ack=13 Win=64256 Len=6
16	2020-11-25 22:58:42.383088433	155.207.18.208	192.168.1.50	TCP	63	29078 → 43394 [PSH, ACK] Seq=13 Ack=13 Win=262656 Len=9
17	2020-11-25 22:58:42.383158352	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=13 Ack=22 Win=64256 Len=0
18	2020-11-25 22:58:42.385849580	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=13 Ack=22 Win=64256 Len=6
19	2020-11-25 22:58:42.461345217	155.207.18.208	192.168.1.50	TCP	60	29078 → 43394 [ACK] Seq=22 Ack=19 Win=262656 Len=0
20	2020-11-25 22:58:42.491162776	155.207.18.208	192.168.1.50	TCP	63	29078 → 43394 [PSH, ACK] Seq=22 Ack=19 Win=262656 Len=9
21	2020-11-25 22:58:42.491236569	192.168.1.50	155.207.18.208	TCP	54	43394 → 29078 [ACK] Seq=19 Ack=31 Win=64256 Len=0
22	2020-11-25 22:58:42.494805336	192.168.1.50	155.207.18.208	TCP	60	43394 → 29078 [PSH, ACK] Seq=19 Ack=31 Win=64256 Len=6
23	2020-11-25 22:58:42.572124543	155.207.18.208	192.168.1.50	TCP	60	29078 → 43394 [ACK] Seq=31 Ack=25 Win=262656 Len=0
24	2020-11-25 22:58:42.592297738	155.207.18.208	192.168.1.50	TCP	66	29078 → 43394 [PSH, ACK] Seq=31 Ack=25 Win=262656 Len=12
▶ Frame 13: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface enp2s0, id 0 ▶ Ethernet II, Src: zte_1a:b4:0a (d4:76:ea:1a:b4:0a), Dst: HewlettP_96:9d:b6 (40:b0:34:96:9d:b6) ▶ Internet Protocol Version 4, Src: 155.207.18.208, Dst: 192.168.1.50 ▶ Transmission Control Protocol, Src Port: 29078, Dst Port: 43394, Seq: 1, Ack: 7, Len: 12 ▼ Data (12 bytes) Data: 34312031462030302030300d [Length: 12]						
0000	40 b0 34 96 9d b6 d4 76 ea 1a b4 0a 08 00 45 00	@-4---v-----E-				
0010	00 34 0b 49 40 00 79 06 86 01 9b cf 12 d0 c0 a8	-4-I@-y-----				
0020	01 32 71 96 a9 82 24 41 15 d0 a2 53 a3 e3 50 18	-2q---\$A-----S-P				
0030	04 02 84 f3 00 00 34 31 20 31 46 20 30 30 20 30	-----41-1F-00-0				
0040	30 0d	0-				

Figure 16: Vehicle input stream