

1. What does the Length field include? The UDP payload, UDP payload and UDP header, or UDP payload, UDP header, and lower layer headers?

UDP payload and UDP header

2. How long in bits is the UDP checksum?

16 bits

3. How long in bytes is the entire UDP header?

8 Bytes

4. Give the value of the IP Protocol field that identifies the upper layer protocol as UDP

UDP(17)

5.

The image shows a Wireshark packet capture interface. The top pane displays a list of 189 packets, with packet 184 selected. The bottom pane shows the details of packet 184, which is a UDP packet from 192.168.0.105 to 74.125.197.189 on port 443. The packet length is 65 bytes (header 8 bytes, payload 57 bytes). The checksum is 0x5b85 (unverified).

No.	Time	Source	Destination	Protocol	Length	Info
81	15.975701	74.125.197.189	192.168.0.105	UDP	81	443 → 54167 Len=39
82	15.978703	192.168.0.105	74.125.197.189	UDP	70	54167 → 443 Len=28
83	18.123427	192.168.0.1	255.255.255.255	UDP	215	45378 → 7437 Len=173
120	21.093045	192.168.0.1	255.255.255.255	UDP	215	45378 → 7437 Len=173
127	24.164615	192.168.0.1	255.255.255.255	UDP	215	45378 → 7437 Len=173
150	27.134310	192.168.0.1	255.255.255.255	UDP	215	45378 → 7437 Len=173
181	30.205859	192.168.0.1	255.255.255.255	UDP	215	45378 → 7437 Len=173
184	30.976380	192.168.0.105	74.125.197.189	UDP	65	54167 → 443 Len=23
185	30.988790	74.125.197.189	192.168.0.105	UDP	62	443 → 54167 Len=20

Time to live: 64
Protocol: UDP (17)
Header checksum: 0x60c6 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.0.105
Destination: 74.125.197.189
▼ User Datagram Protocol, Src Port: 54167, Dst Port: 443
Source Port: 54167
Destination Port: 443
Length: 31
Checksum: 0x5b85 [unverified]
0000 ec 08 6b d8 b1 5e ac bc 32 d1 97 ff 08 00 45 00 ..k...^...2....E
0010 00 33 48 a8 00 00 40 11 60 c6 c0 a8 00 69 4a 7d .3H...@...`...iJ
0020 c5 bd d3 97 01 bb 00 1f 5b 85 0c 43 c6 55 5d 80[...C-U].
0030 40 7f b5 76 43 30 52 28 60 b5 71 09 fd 37 1b 2d @..vC0R(...q...7--
0040 58 X

6. What is the typical size of UDP messages in your trace?

23 Bytes