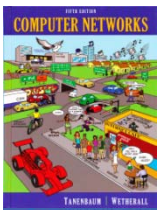
Solutions – UDP



The solutions below are based on our capture and use of tools. Your answers will differ in the details if they are based on your own capture and use of tools in a different network setting. Nonetheless, we expect our solutions to help you understand whether your answers are correct.

Step 3: UDP Message Structure

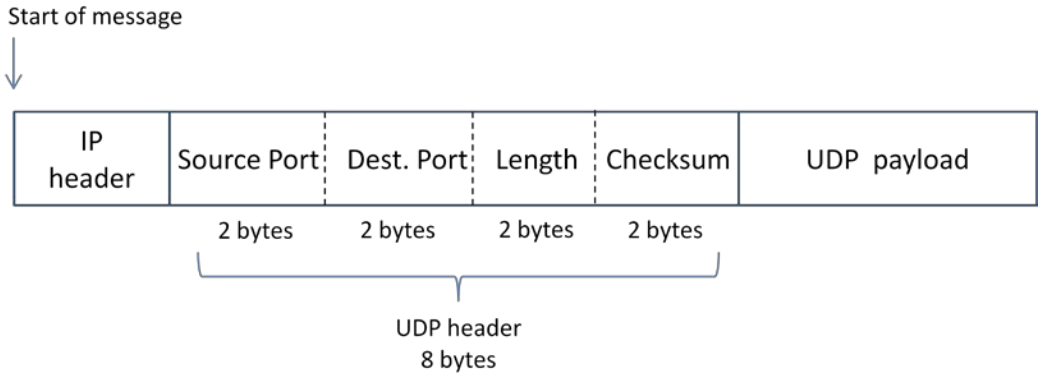


Figure 1: Structure of a UDP message

This drawing shows the same UDP header fields as in Fig. 6-27 in a slightly different format and with lengths given in bytes, not bits. It also shows the relation of the IP header and UDP payload to the UDP header.

The answers to the questions are:

1. The Length field gives the length of the UDP payload plus the UDP header.
2. The checksum is 16 bits long.
3. The UDP header is 8 bytes long.

Step 4: UDP Usage

The answers to the questions are:

1. The IP Protocol field value of 17 indicates UDP.
2. A variety of broadcast and multicast addresses may be found. These include the Internet broadcast address of 255.255.255.255, subnet broadcast addresses such as 192.168.255.255 (where the 192.168 portion is the subnet number and the .255.255 portion means broadcast), and multicast IP addresses such as 224.0.xx.xx (such as 224.0.0.251 for multicast DNS).
3. This answer will vary with your trace. Most often they are a few hundred bytes or less, and often may be around 100 bytes. That is, many messages are relatively short packets.

[END]