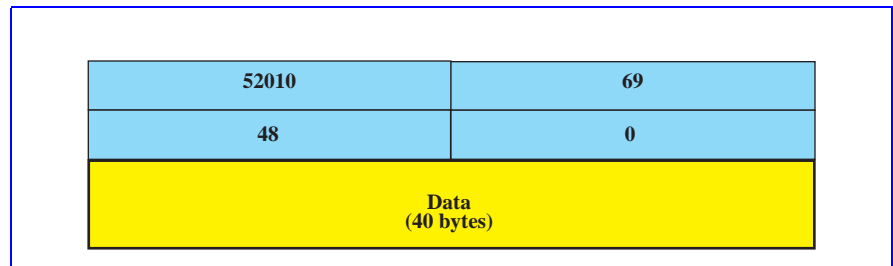# CHAPTER 14

User Datagram Protocol (UDP)

Exercises

1. Reliability is not of primary importance in applications such as echo, daytime, BOOTP, TFTP and SNMP. In custom software, reliability can be built into the client/server applications to provide a more reliable, low overhead service.

3. See Figure 14.E3

Figure 14.E3   *Solution to Exercise 3*

52010	69
48	0
Data (40 bytes)	

5. The server would use the IP address **130.45.12.7**, combined with the well-known port number **69** for its source socket address and the IP address **14.90.90.33**, combined with an **ephemeral port number** as the destination socket address.

7. Efficiency = (16 bytes of data) / (24 bytes of total length) = 0.666 = **66.6** percent.

9. Efficiency = (16 bytes of data) / (72 byte minimum frame size) = 0.222 = **22.2** percent.