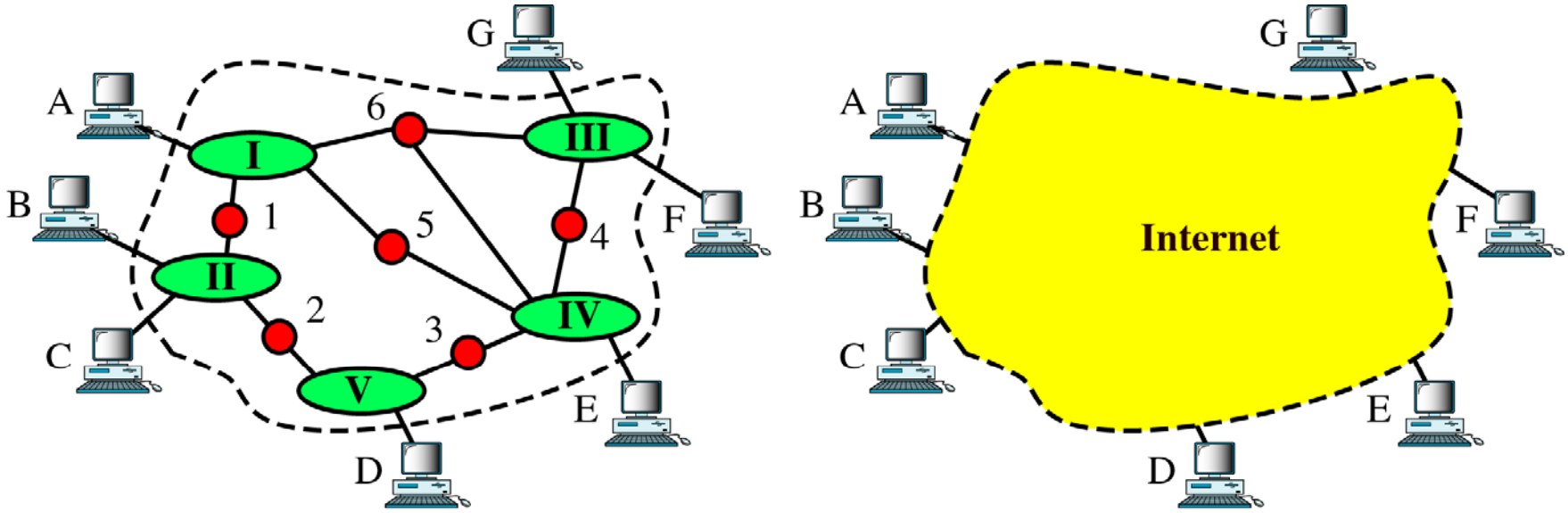
Chapter 24

TCP/IP

Figure 24-1

An Internet According to TCP/IP



a. An actual internet

b. An internet seen by TCP/IP

Figure 24-2

TCP/IP and the OSI Model

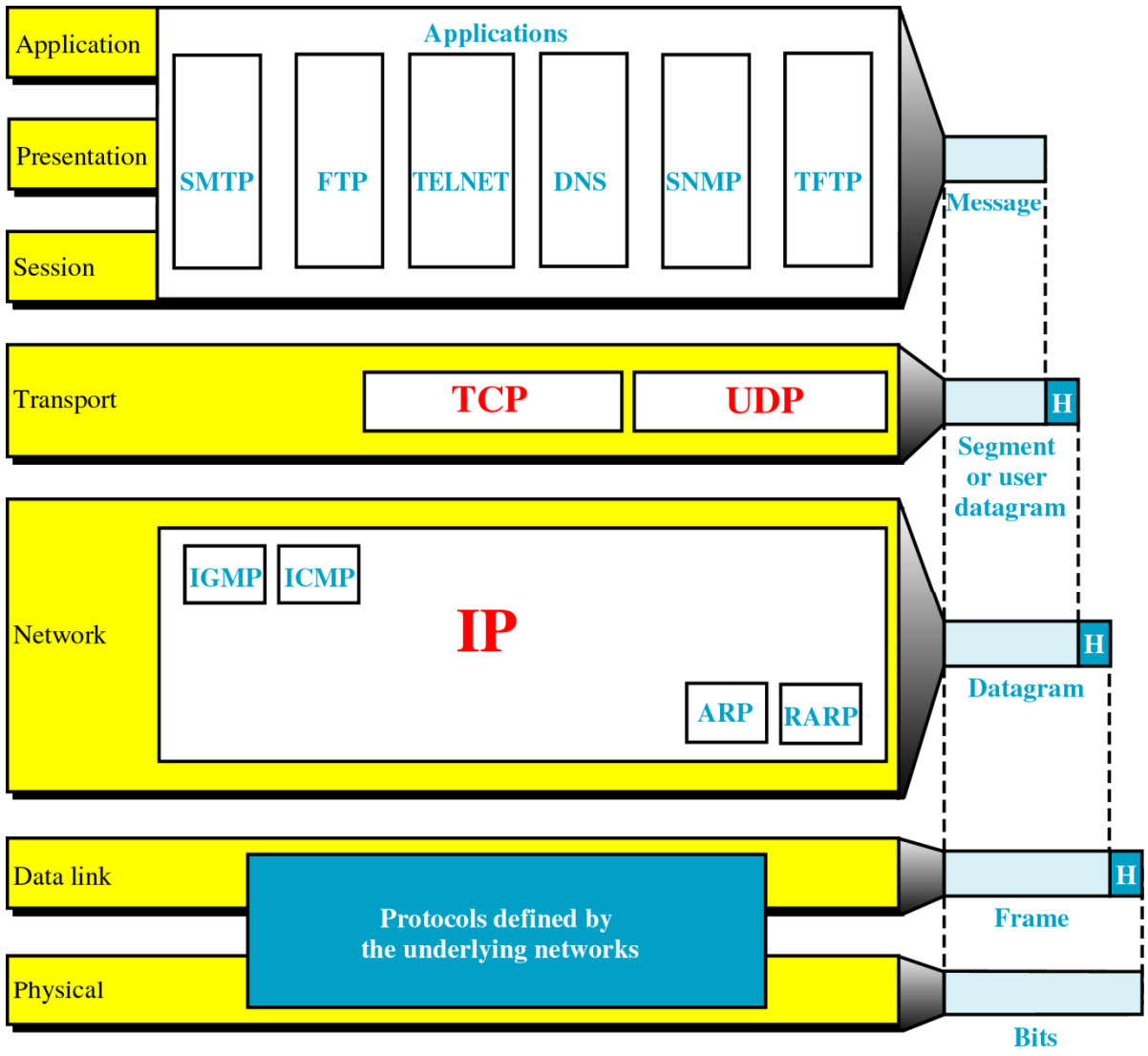


Figure 24-3

Internet Protocol(IP)

1. This is the host to host n/w layer delivery protocol designed for the internet.

2. IP is connectionless datagram protocol with no guarantee of reliability

3. It is unreliable protocol because it does not provide any error control and flow control

4. IP can only detect the error and discards the packet if it is corrupted

Figure 24-3

IP Datagram

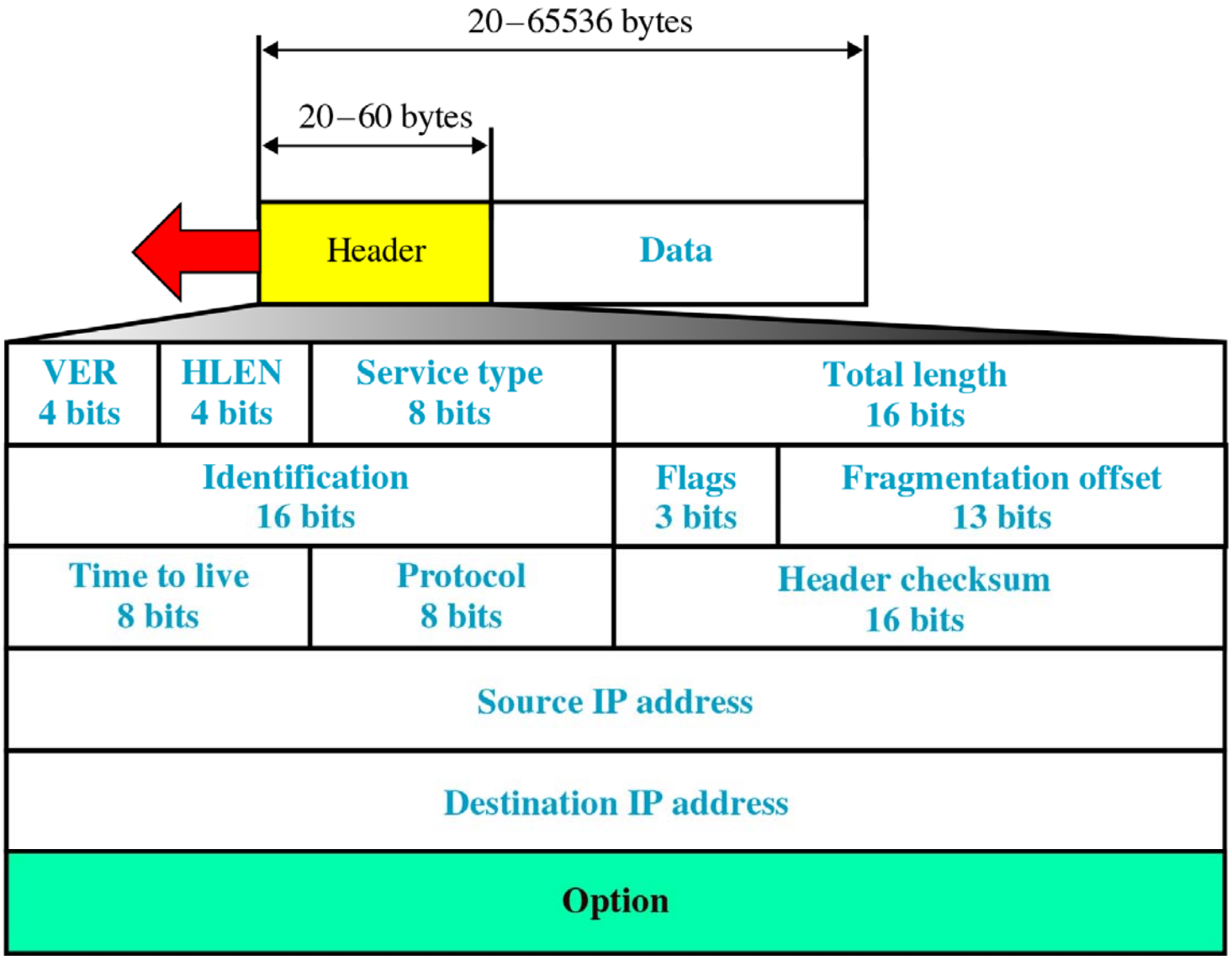


Figure 24-4

Internet Address

An Internet address is made of four bytes (32 bits) that define a host's connection to a network.

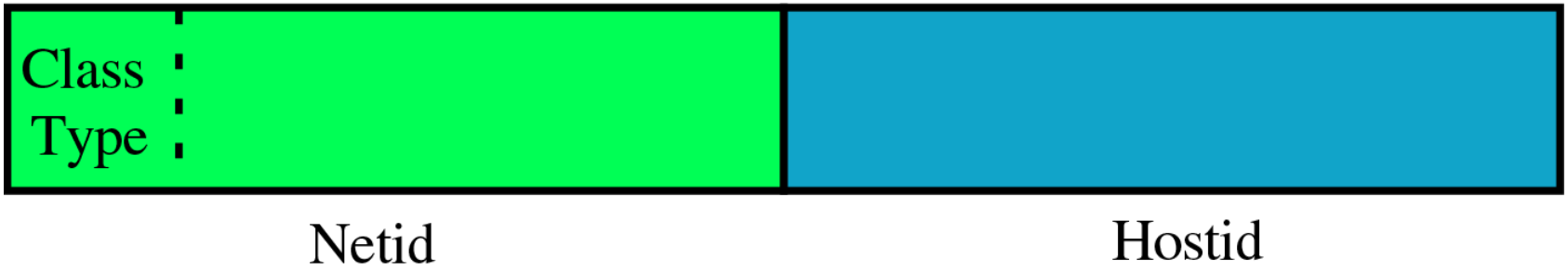


Figure 24-5

Internet Classes

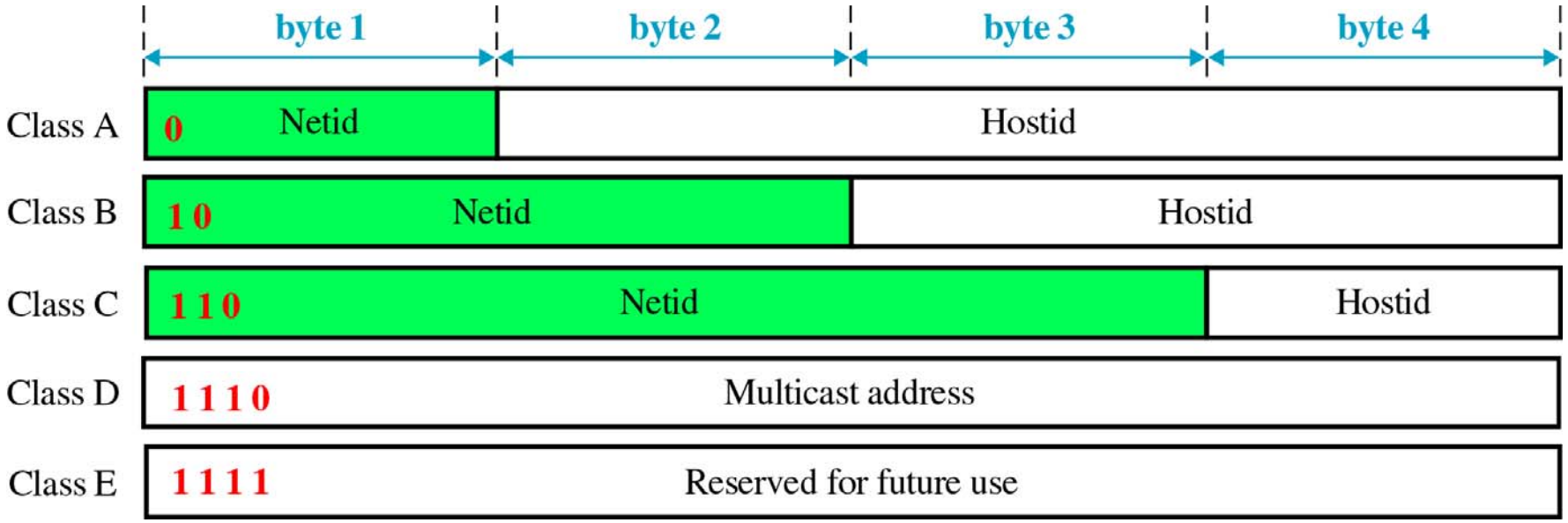


Figure 24-6

IP Addresses in Decimal Notation

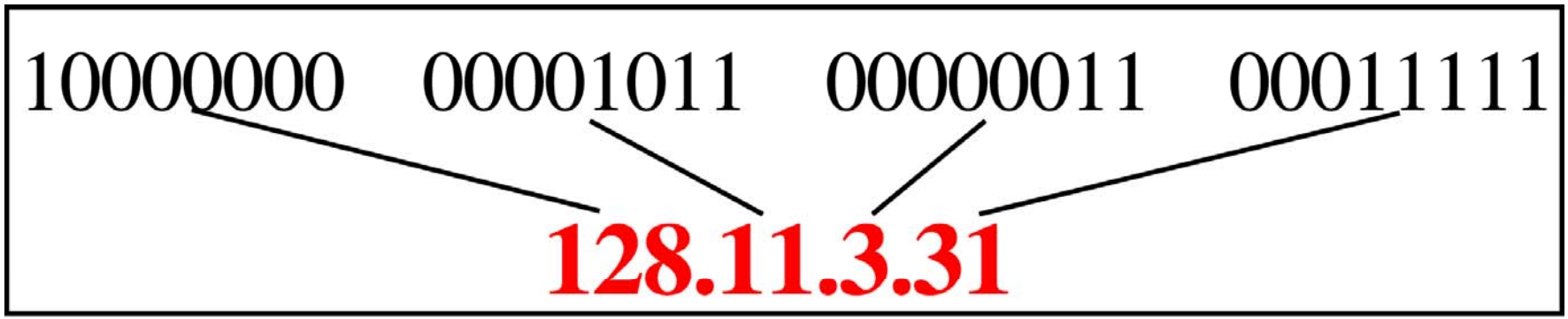


Figure 24-7

Class Ranges of Internet Addresses

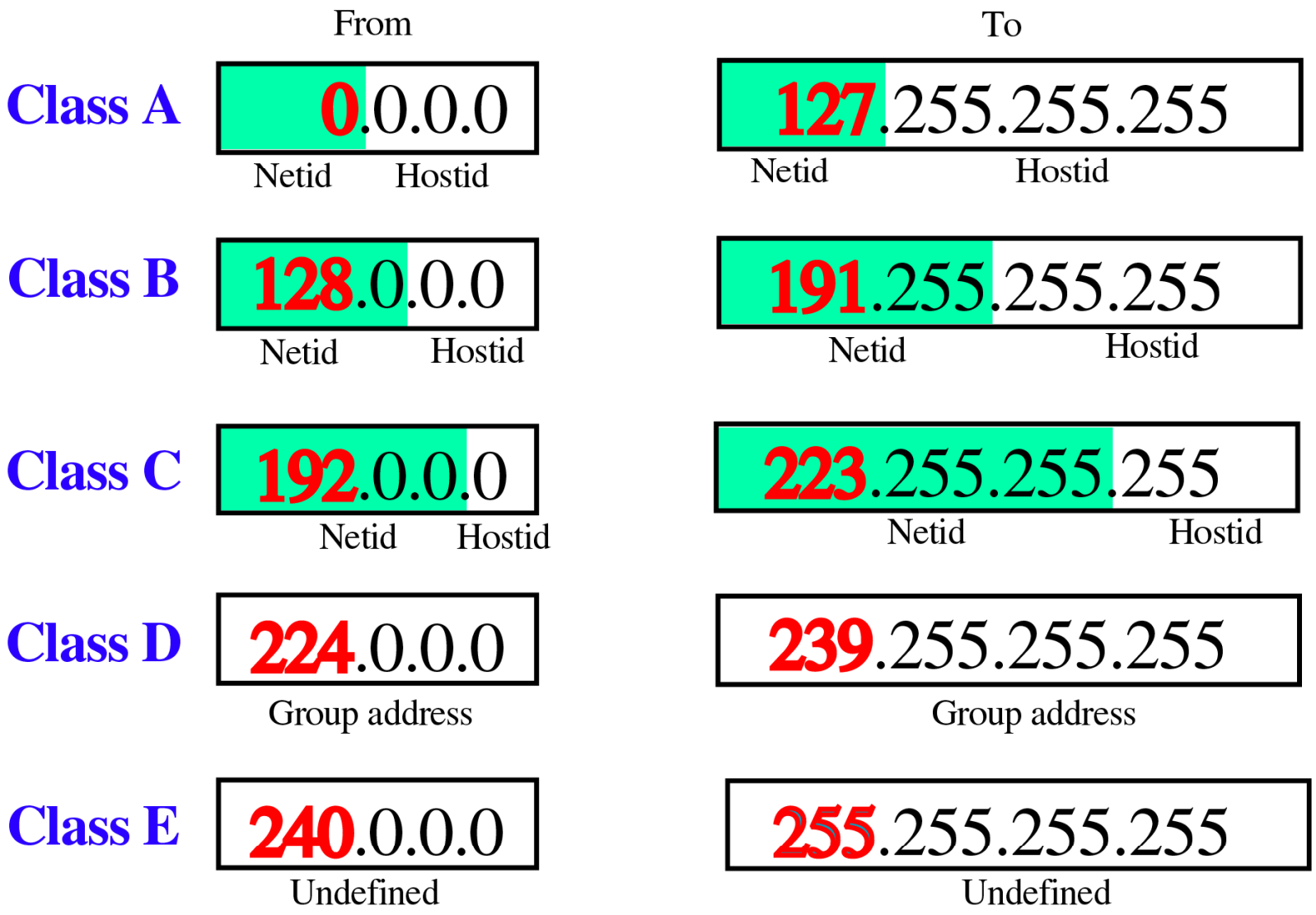


Figure 24-8

Network and Host Addresses

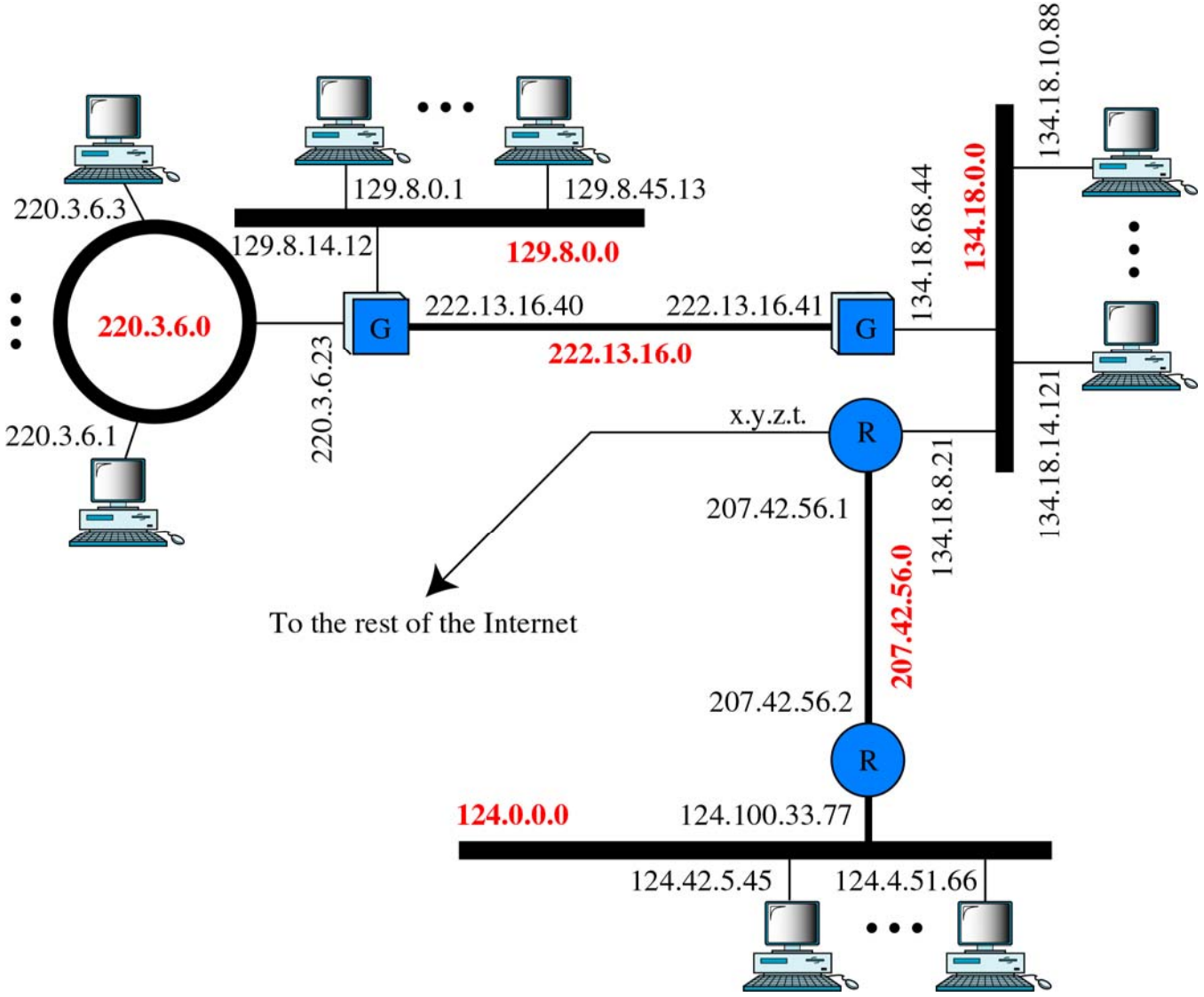


Figure 24-9

A Network with Two Levels of Hierarchy

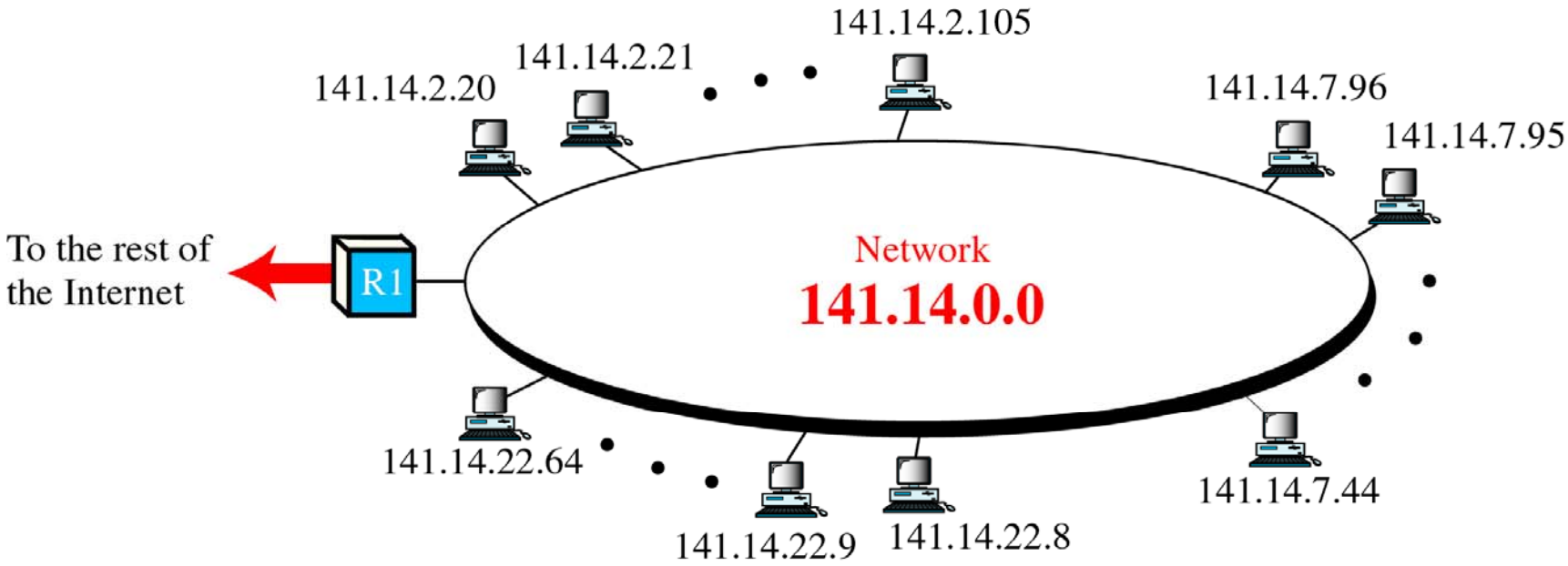


Figure 24-10

A Network with Three Levels of Hierarchy

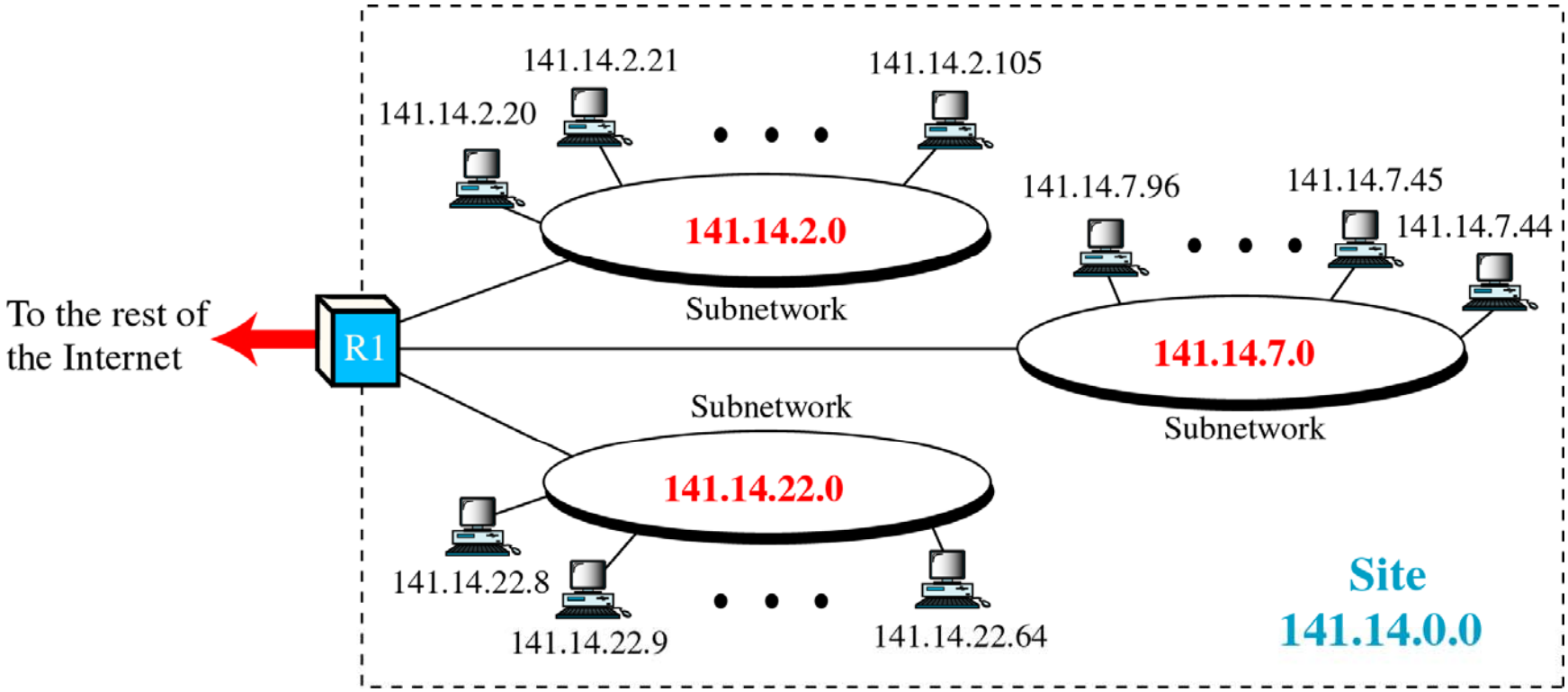
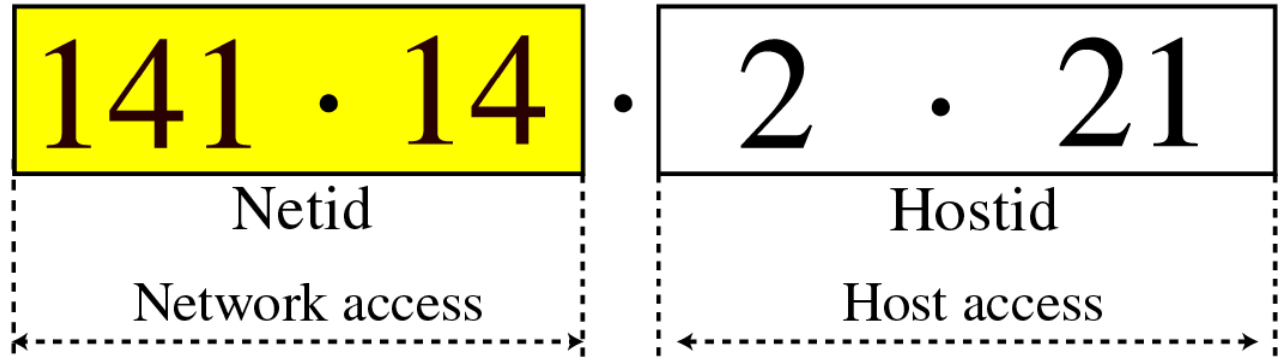
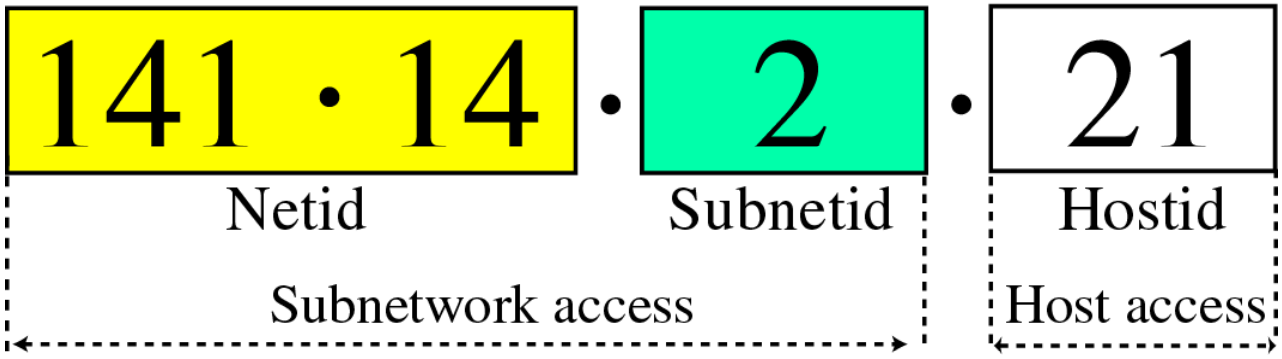


Figure 24-11

Addresses with and without Subnetting



a. Without subnetting



b. With subnetting

Figure 24-12

Masking

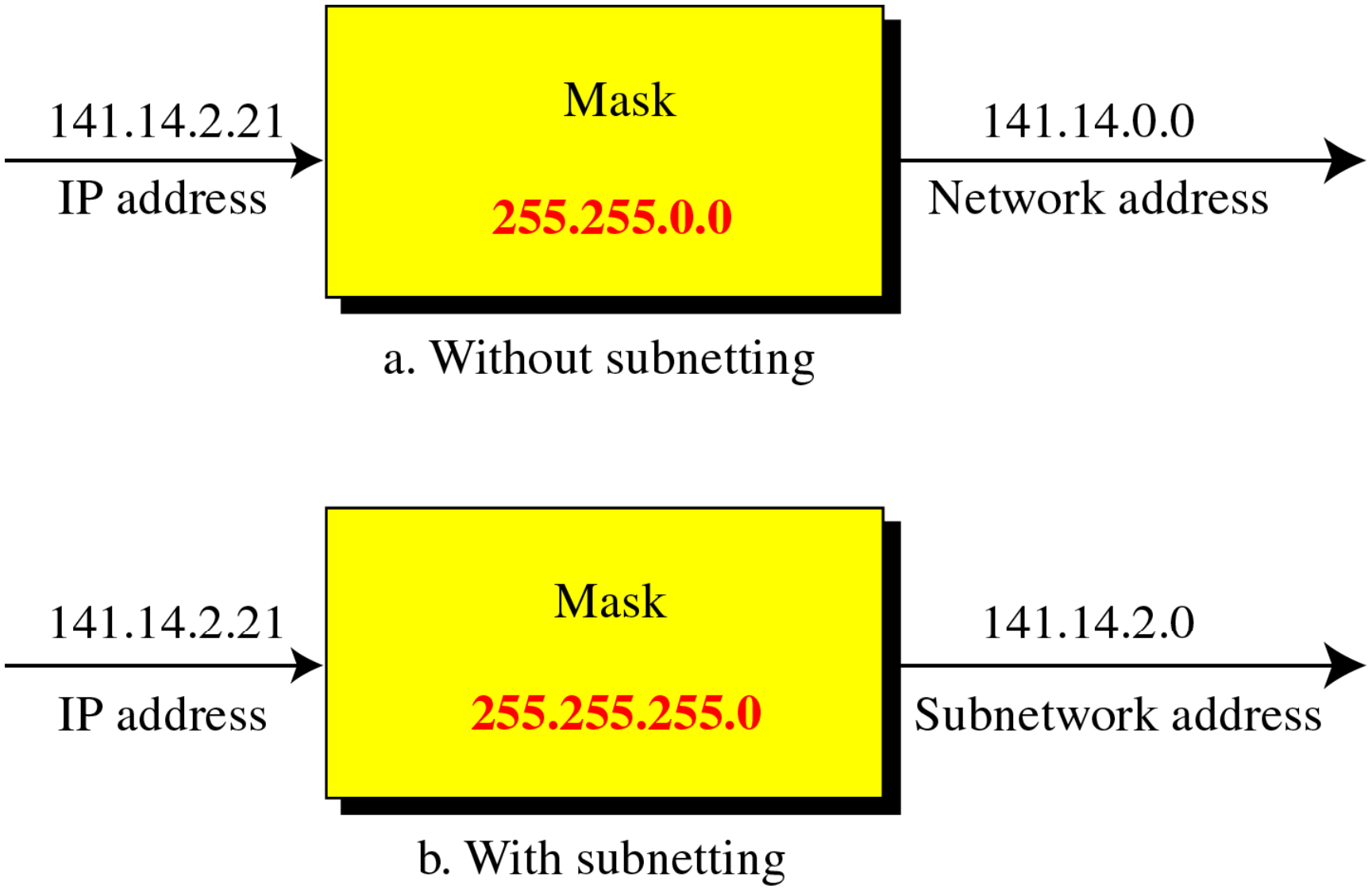
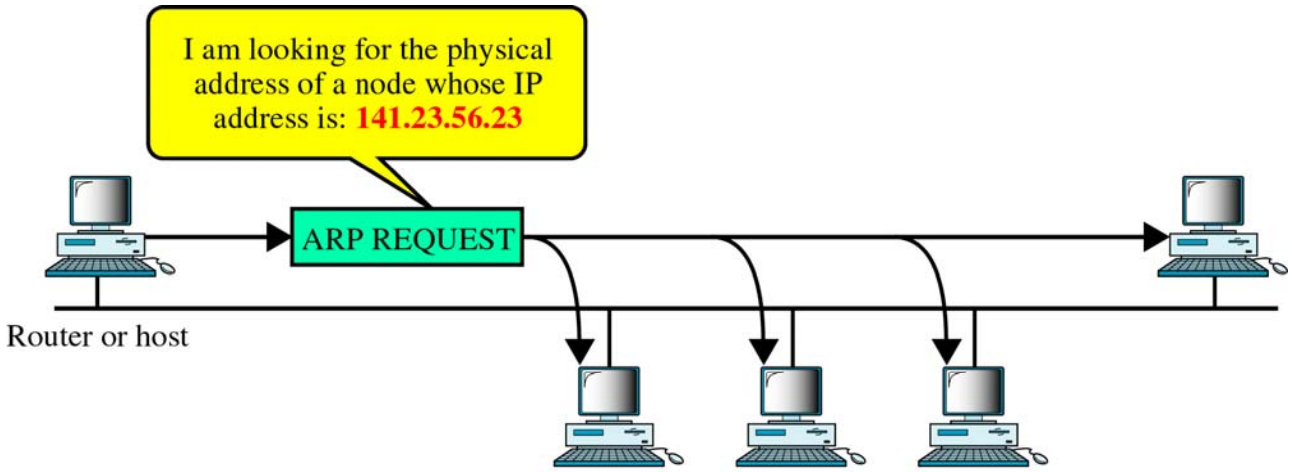
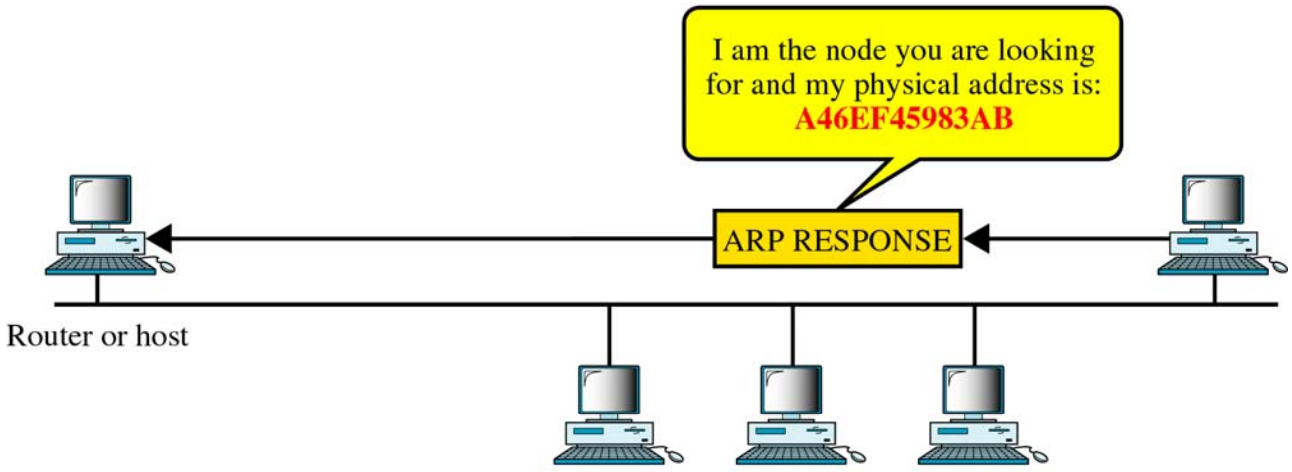


Figure 24-13

ARP



a. ARP request



b. ARP response

Figure 24-14

Port Addresses

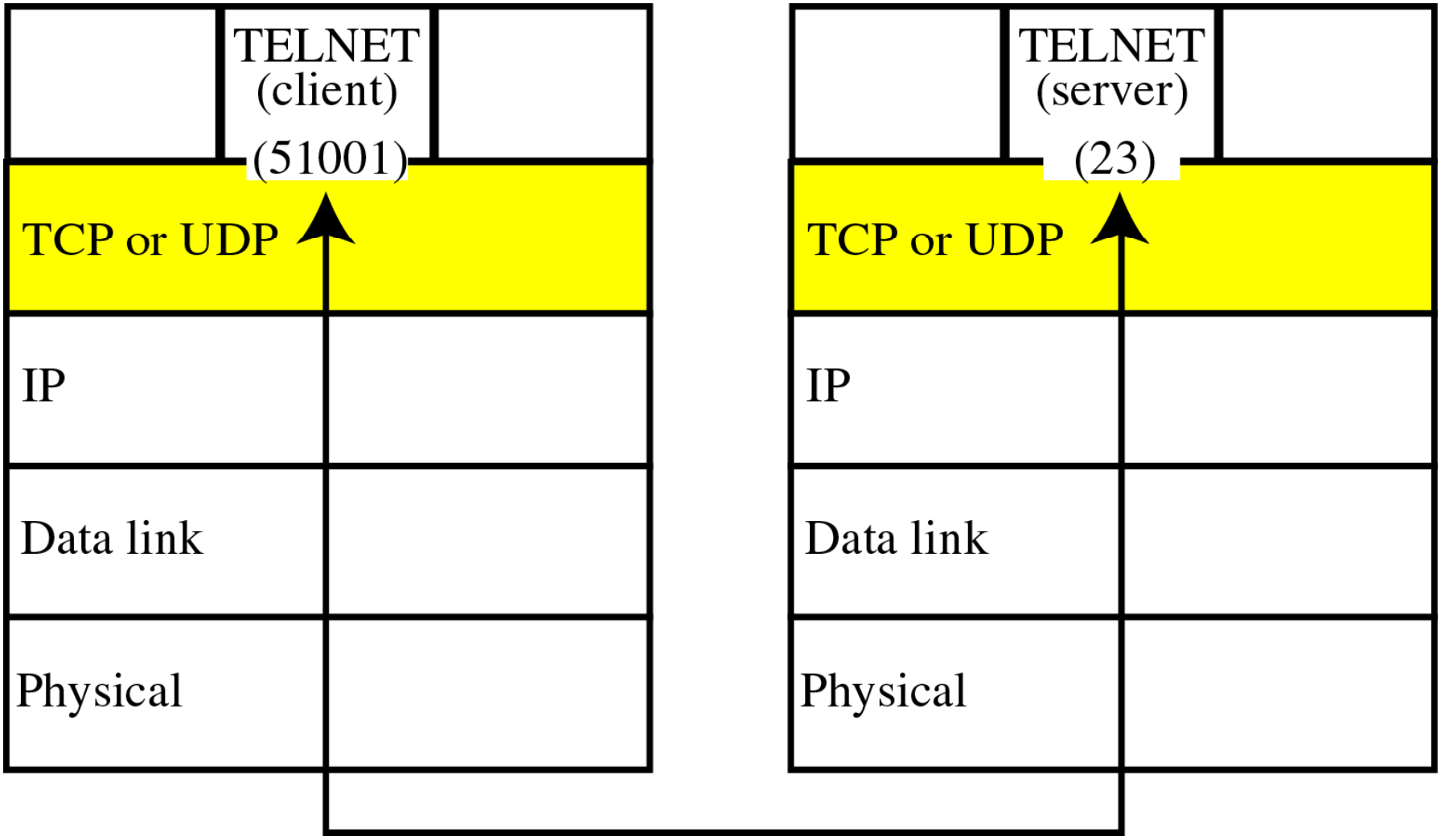


Figure 24-15

UDP Datagram Format

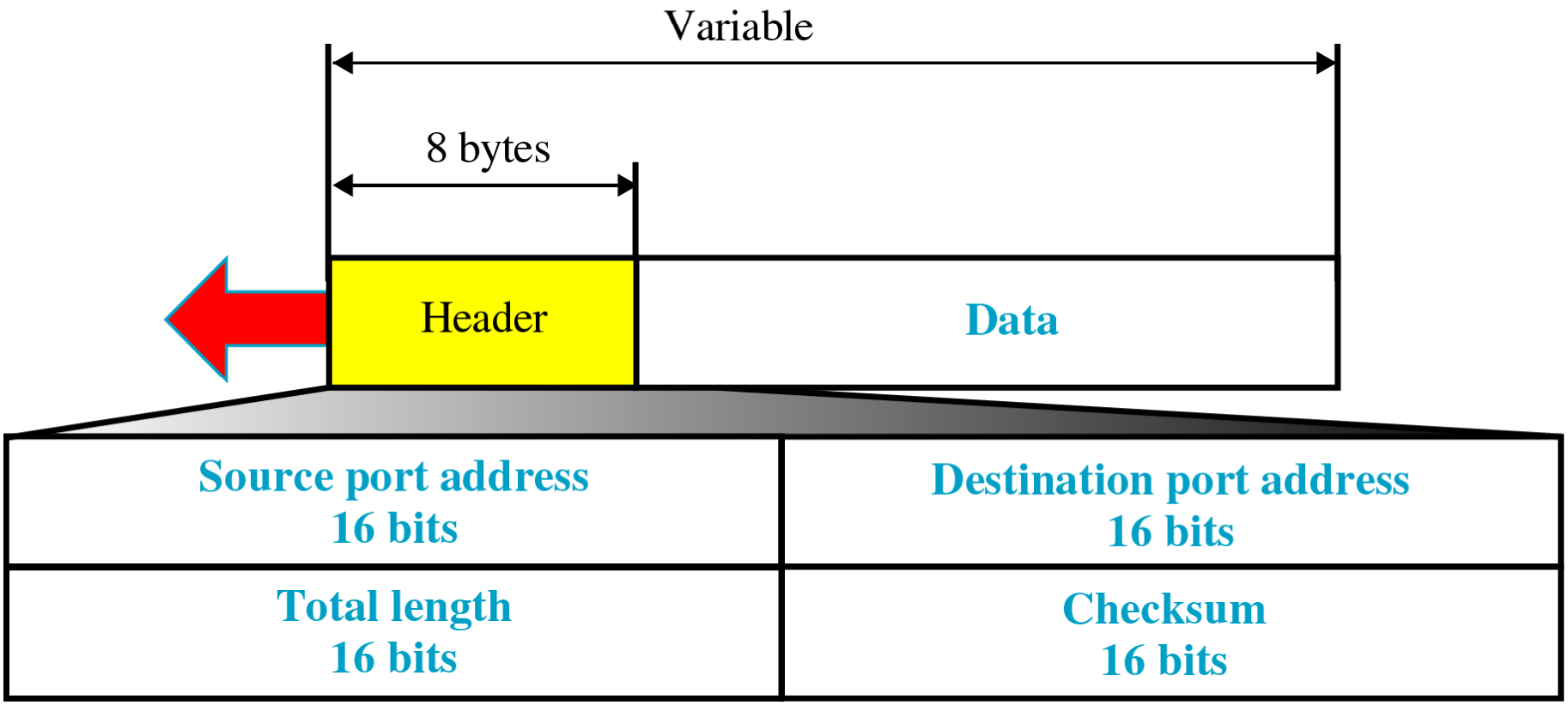


Figure 24-16

TCP Segment Format