

Internet protocols:

Short answers to the second series of exercises:

Chapter 3:

3.45: 40 sec

3.46: a) 200m , b) 20m, c) 2m

3.47: a) 2000bits, b) 20000bits, c)200000 bits

3.48: 1.01000030 sec dominant: transmission time, negligible: processing time

Chapter 21:

21.19: destination unreachable, code 0.

21.20: destination unreachable, code 3.

21.21: 00000001 00000000 01011110 0 0011000 00111100 00001001

21.24:No it doesn't .

4	5	0	Length of IP header plus data	
1			0	0
1		Protocol	Checksum	
185.23.5.6				
185.23.255.255				
4	5	0	Length of IP header plus data	
1			0	0
Time to live		Protocol	Checksum	
185.23.5.6				
226.17.18.4				
Data				

21.25. No action.

21.27:

Ethernet: 8388608, IP:268435456, lost: 260046848 groups.

21.28: a,b show the same Ethernet address:

a) 0x01005E124808

b) 0x01005E124808

c) 0x01005E120658

d) 0x01005E580C08

Internet protocols:

Chapter 23:

23.13:

5215	69
48	0
40 Bytes of Data	

23.16: Not possible.

23.17: 0.666

23.18: 0.364

23.19: 0.25

23.20: a) 1586, b)13, c) 28 Bytes, d) 20 Bytes, e) client to server, f) Daytime.

23.22: 8 Bytes.

23.23:

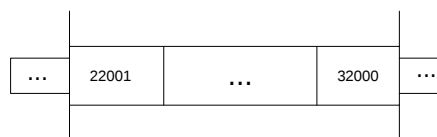
52006			20 or 21
14569			
753			
5	Reserved	011000	2100
0			0
40 Bytes of data			

23.24: a)1330, b) 23, c) 1, d) 0, e) 20 Bytes, f) Syn, g) 2047.

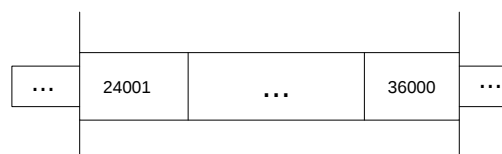
23.26: 1000Bytes.

23.28: a) 0.44, b) 0.29, c) 0.22.

23.30: before :



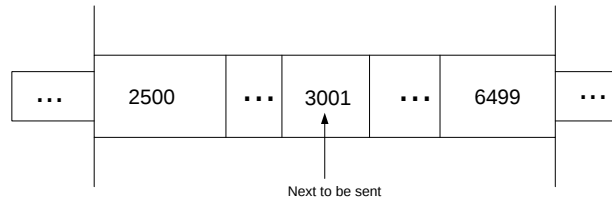
After:



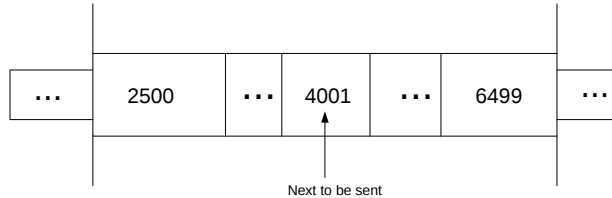
23.31:

a)

Internet protocols:



b)



23.32: The chunk with cumTSN=23 was delayed.

23.33: look at figure 23.39.

23.34: look at figure 23.37. next to be sent 20. 18 chunks can be sent but only 4 available.

Chapter 4:

24.19: 15 Gallons.

24.20:

Second 1: Initial: $\rightarrow n = 8000$

Frame 1 is sent $\rightarrow n = 4000$

Frame 2 is sent $\rightarrow n = 0$ Stop: $n < \text{Frame 3}$

Second 2:

Initial: $\rightarrow n = 8000$

Frame 3 is sent $\rightarrow n = 4000$

Frame 4 is sent $\rightarrow n = 0$ Stop: $n < \text{Frame 5}$

Second 3:

Initial: $\rightarrow n = 8000$

Frame 5 is sent $\rightarrow n = 4800$

Frame 6 is sent $\rightarrow n = 1600$ Stop: $n < \text{Frame 7}$

Internet protocols:

Second 4:

Initial: $\rightarrow n = 8000$

Frame 7 is sent $\rightarrow n = 4800$

Frame 8 is sent $\rightarrow n = 4400$

Frame 9 is sent $\rightarrow n = 4000$

Frame 10 is sent $\rightarrow n = 2000$

Frame 11 is sent $\rightarrow n = 0$ Stop: $n < \text{Frame 12}$

Second 5:

Initial: $\rightarrow n = 8000$

Frame 12 is sent $\rightarrow n = 6000$ Stop: no more frames to send.