Homework 6

1

A is higher A: 800 kbps B: 200 kbps

2

UDP provides port mux and demux

3

Process IDs are not predictable, they change and are reused with port numbers, a single process can handle multiple connections

4

40 ms

5

16 KB

6

66 KB

7

7.1

EstimatedRTT: 100.75 ms

DevRTT: 5.06 ms

TimeoutInterval: 121.00 ms

7.2

EstimatedRTT: 103.16 ms

DevRTT: 8.01 ms

TimeoutInterval: 135.19 ms

7.3

EstimatedRTT: 107.76 ms

DevRTT: 14.07 ms

TimeoutInterval: 164.02 ms

7.4

EstimatedRTT: 105.54 ms

DevRTT: 14.43 ms

TimeoutInterval: 163.28 ms

7.5

EstimatedRTT: 106.72 ms

DevRTT: 12.89 ms

TimeoutInterval: 158.30 ms

8

a

1-6 and 23-26

b

6-16 and 17-22

c

Triple Duplicate ACK

d

timeout

e

32 segments

f

21

g

14

h

7

i

ssthresh = 21 cwnd = 4

j

52

9

$$RTT_1 + RTT_2 + \cdots + RTT_n + 2RTT_0$$

10

a

Alice's key:
$$S = T_B^{S_A} \% P = (g^{S_B} \% p)^{S_A} \% p = g^{S_A S_B} \% p$$

Bob's key:
$$S' = T_A^{S_B} \% P = (g^{S_A} \% p)^{S_B} \% p = g^{S_B S_A} \% p$$

b

Alice's key:
$$T_A = g^{S_A} \% p = 32 \% 11 = 10$$

Bob's key:
$$T_B = g^{S_B} \% p = 4096 \% 11 = 4$$

c

using Alice's key:
$$S = T_B^{S_A} \% p = 4^5 : \% 11 = 1$$

11

a

n: 33 z: 20

b

$$1 < e < z$$
$$1 < 3 < 20$$

gcd(e,z) = 1

c

7

d

17