ISE 316 HW 2

Name: Mustafa Isik, 113080465

1 (.3) not changed (.7) have changed

total transmission delay = $(.5\text{ ms})(100) = 50\text{ ms}$

$(\overset{10\text{ms}}{RTT})(100) = 1000\text{ms}$) prop delay

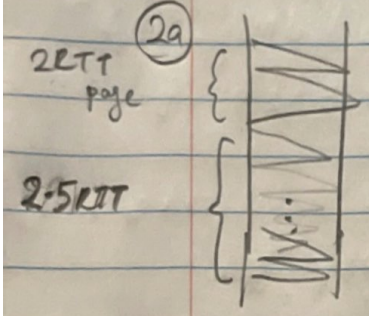
$\underbrace{(.3)(100)(0)}_{\approx 0} + (.7)(5\text{ms})(100) = 350\text{ms}$) transmission delay

$+$ 1350 ms

---

2 $L = 400K$ $\quad$ $obj = 100K$ $\quad$ $R = 100\text{ Mbps}$ $\quad$ $RTT = 150\text{ms}$

2a



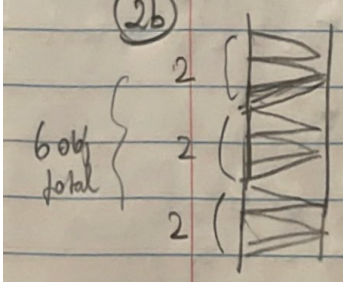
$$\left(2RTT + \frac{400Kb}{100Mbps}\right) + \left(10RTT + 5\cdot\frac{100kb}{100Mbps}\right)$$

$$= \left(300\text{ms} + \frac{4}{1000}s\right) + \left(1500\text{ms} + \frac{5}{1000}s\right) = 304\text{ms} + 1505\text{ms}$$

$$= 1809\text{ ms}$$

OR 1.809 s

2b



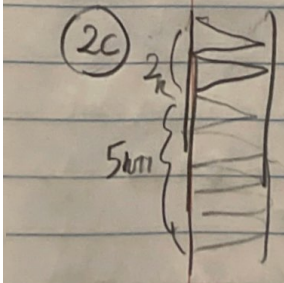
$$\left(2RTT + \frac{400k}{100M}\right) + \left(2RTT + \frac{2(100k)}{100M}\right)\cdot 2 + \left(2RTT + \frac{100k}{100M}\right)$$

$$= (300\text{ms} + 4\text{ms}) + (300\text{ms} + 2\text{ms})\cdot 2 + (300\text{ms} + 1\text{ms})$$

$$= 304\text{ms} + (302\text{ms})\cdot 2 + 301\text{ms} = 1209\text{ ms}$$

OR 1.209 seca

2c



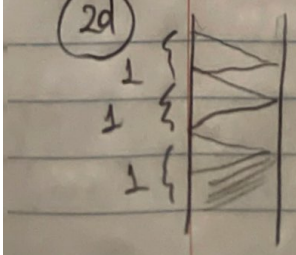
$$\left(2RTT + \frac{400K}{100M}\right) + \left(5RTT + \frac{5(100k)}{100M}\right)$$

$$= \left(300\text{ms} + \frac{4}{1000}s\right) + \left(750\text{ms} + \frac{5}{1000}s\right) = 304\text{ms} + 755\text{ms}$$

$$= 1059\text{ ms}$$

OR 1.059 seconds

2d



$$RTT + \left(RTT + \frac{400k}{100M}\right) + \left(RTT + \frac{5(100k)}{100M}\right)$$

$$= \underbrace{3RTT}_{150\text{ms}} + 4\text{ms} + 5\text{ms} = 459\text{ ms}$$

OR .459 seconds

Scanned with CamScanner