Nov-13-2014

Note Title 8/28/2014

HW #10

#3 $DBP = 2\tau R$

$R = 1 Mb/s$ $2\tau = 1 ms \rightarrow DBP = 1000$ = # bits in RTT

$R = 1 Gb/s$ $2\tau = 1 ms \rightarrow DBP = 1 \times 10^6$

b) $S/N = 16$ bits counting frames (packets)

$N = 2^n - 1 = 65,535$

$$\frac{(65,535)\,10^4}{10^6} = 653 \text{ sec}$$

Note Title 8/28/2014

c) Count Bytes $\frac{65,535 \cdot 8}{100} = .52 \text{ sec}$

7. $R = 2 Mb/s$ $2T = 12 ms$ $n_f = 2000 bits$

$\frac{2TR}{n_f} = 12$ $\xleftarrow{1+12}$ $N > 13$

a) $n = 4 bits$ $N_{max} = 2^n - 1 = 15 > 13$ $\Rightarrow 100\%$

b) $R_{eff} = 1.2 Mb/s$

$\eta = \frac{R_{eff}}{R} = \frac{1.2}{2} = .6 = \frac{N}{1 + \frac{2TR}{n_f}}$

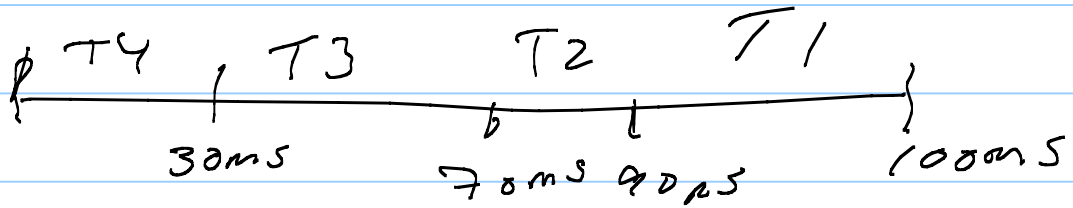
$= \frac{N}{13}$

Note Title 8/28/2014

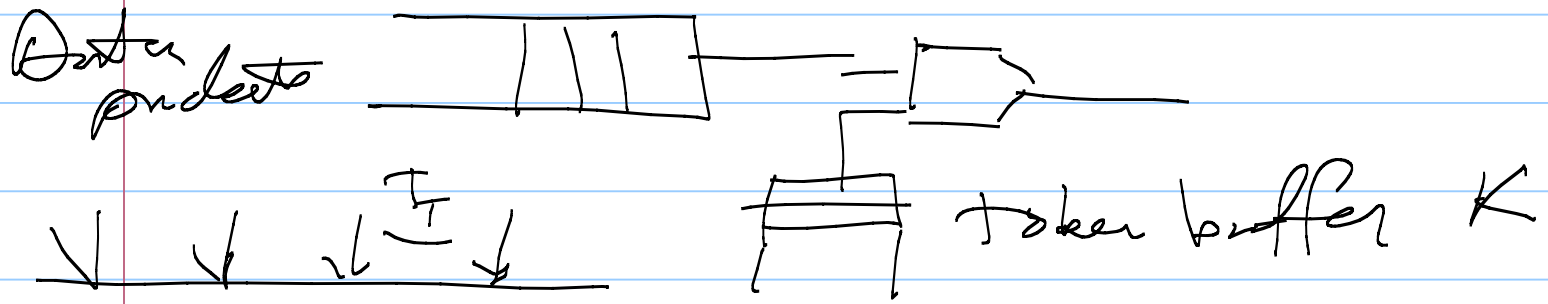
$N = 8$

H/W #9 #4 at Station (node) i

Token arrives



- Open loop rate control
  - Average & max burst size
  - Implementation token bucket



Note Title 8/28/2014

- Loss priority Bit DE = 0
  do not drop
  DE = 1
  drop if congestion

- HDLC
  Frame types + I, S (w/ — Set
  + Frame structure
- PPP

TCP
+ Socket = IP address + Port #

Note Title 8/28/2014

— UDP

— TCP

+ Units in Bytes
+ Flow control
+ Congestion control
+ Error recovery