Homework 1 pg.1 Cratriel Emerson Due 9/2 R16: Processing, transmission, propagation and queucing delays. Constant are: Processing, transmission, Propagation. Variable: queueing. R18: It takes 10 msec

No it doesn't depend on packet length

No it doesn't depend on transmission rate

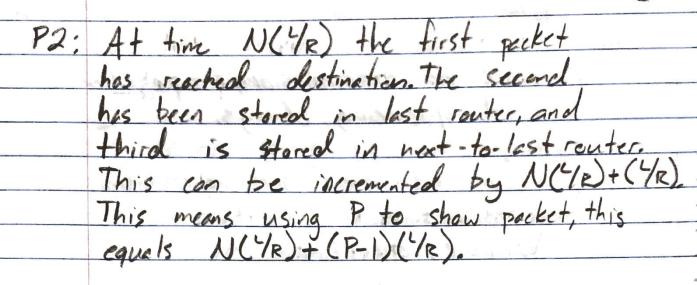
R19: a.) 500 Kbps

b.) 64 seconds

c.) 100 kbps & 320 seconds

R26: Virus requires human interaction to speed

Worms don't need user replication. These scan IP's and Ports looking for vulnerabilities.



P3:0) Circuit switching would be better because it takes a long time and is a steady transmission.

b.) Worst case all application will Simultaneously transmit over one or more networks. However each link has enough bandwidth to handle the sum of all data rates. This means we do not need congestion control mechanisms.

PG: a) dpiep = m/s b) dtiens = L/R c) dend-to-end = (m/s + L/R) d) the bit is leaving Host

d.) the bit is leaving Host A.
e.) the first bit is in link, has not reached
Host B

PG: f.) the first bit has reached Host B.
g.) (4/E)s = 120 (2.5×108) = 536 Km PIO: This will be equal to the 5 delays sum. dend-te-end = 1/2, + 1/s, + 1/Re+ 02/se + 1/Rs + 03/s3 => 6+6+6+20+16+4+3+3=64ms P31: a.) - 8×10 = 4sec. = Host to first pucketsw Source to destination = 4sec. 3 = 12s. t.) First packet Hest to packet switch

=> 1x104 = 5ms Time second is recieved at first switch =>2.5ms = -10ms THE WELL THIS ELLE WAS ELLE FOR c.) First packet to destinction Host => 5ms - 3 = 15ms After First packet, new one will be secieved, every 5ms. This means the last will be recieved at 15ms + (799.5ms) =4.015. H mys has known, This shows without segmentation delay is significantly less.

P31: d.) Without segmentation if there is any bit errors, the whole message must be retiansmitted, as opposed to just one packet.

Also without segmentation, huge packets being sent to network cause big delays even it it is followed by small packets

e.) 1.) Packets have to be put in sequence.
2.) They cause smaller packets. This leads to the amount of header bytes is more.

P33: Each pack is S=80 bits.

Last pecket is at first router = 3 This means \frac{1}{8}-2 is at destination.

The delay then = (S+80)+(F+2)

S=min delay = 0 => S=- 140F

P34 Telephone are internet are connected through
gateways. Skype voice is sent to gateway, is
reconstructed and sent through. This can be
done since both are circuit-switched, we sent
packets from internet to gateway. In other way
voice goes to gateway and is packetized, then sent
to internet circuit (skype)