Computer Networks Group

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Homework #8

- TCP Congestion Control. Suppose that in TCP, the sender window is of segment size N = 200, the base of the window is at sequence number 600, and the sender has just sent a complete window size of segments. Let RTT be the sender-to-receiver-to-sender round trip time of 200 ms and Maximum Segment Size MSS = 1 000 bytes.
 - a. Assuming no loss, what is the throughput (in terms of MSS and RTT and in terms of Megabit/s) of this message exchange?
 - b. Suppose TCP is in its congestion avoidance phase. Assuming no loss, what is the window size (in terms of segment) after the $N=200\ segments$ are acknowledged?
- 2. What is the difference between the two congestion control algorithms TCP-Tahoe and TCP-Reno?
- 3. Please explain the selective repeat dilemma and name a solution to prevent its occurrence.
- 4. Please name at least three differences between UDP and TCP.
- 5. If you would like to transfer a file, which transport protocol would you use? Which protocol would you use for voice traffic?
- 6. Please explain TCP fast retransmit.
- 7. What is the difference between flow control and congestion control?
- 8. Why is an EstimatedRTT used to calculate the TCP timeout instead of the recently sampled RTT?