CSE 473S – Introduction to Computer Networks – Fall 2008

Solutions for Quiz 3

Question 1: Consider sending a large file from Host A to Host B over an error-free bidirectional link that is dedicated to your traffic. The link has *one-way propagation delay* of P seconds and capacity of C bits per second. Host A segments the file into packets of length L bits before transmission and initially sends out W packets without waiting for a response from Host B. Host B returns an acknowledgment packet to Host A for every received packet. After Host A sends out its first W packets, it will only send one new packet for each acknowledgment packet. Assume that transmission and node processing delays are negligible.

Which value of W minimizes the time of transmitting the file?

f) $W = 2PC/L$

Question 2: Which of the following statements is most accurate in the context of reliable delivery over a lossy channel?

c) Retransmission triggered by timeout is sufficient

Question 3: Which of the following statements describes the situation of congestion collapse most accurately?

b) A sender retransmits too many packets redundantly

Question 4: Which of the following services is provided by UDP?

b) Error detection