Past Exam Question

- Suppose two hosts, A and B are separated by 10,000 kms and are connected by a direct link of R = 1Mbps. Suppose the propagation speed over the link is 2.5×10^8 m/s.
  - Calculate the bandwidth-delay product, $R*t_{prop}$
  - Consider sending a file of 400,000 bits from A to B. Suppose the file is sent continuously as one big message. What is the maximum number of bits that will be in the link at any given time?
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Past Exam Question (contd.)

- How long does it take to send the above file if it is sent continuously?

- Suppose now that the file is broken up into 10 packets with each packet containing 40,000 bits. Suppose that each packet is acknowledged by the receiver and the transmission time of an acknowledgement packet is negligible. Finally, assume that the sender cannot send a packet until the preceding packet is acknowledged. How long does it take to send the file?