

Assignment#2: Due date - February 21st 3pm.

1. I would like to send three packets, of size 1500 bytes each, from point A to point B. A is connected to Router 1 with a link of length l_1 meters and bandwidth b_1 bytes/s. Router 1 is connected to Router 2 with a link of length l_2 and bandwidth b_2 bytes/s. Router 2 is connected to B with a link of length l_3 and bandwidth b_3 bytes/s. The speed of a bit in the medium is c meters/s. How many seconds does it take for all of my data to reach B? Assume that there is no congestion, processing delay is 0. A node could be putting bits of an outgoing packet on an outgoing link while simultaneously receiving a packet on an incoming link.
2. The telnet protocol does not encrypt its packets, thus, anyone could intercept your messages to learn your username and password. Suppose you decide to make it more secure by re-writing a client so that the client encrypts the password and the username? What would happen? Explain.
3. Assume that I want to write an application which requires reliable transmission, but I also want to use UDP. How do I handle this?
4. How many TLD DNS servers are there? Research. Give a few examples of not-so-common ones.