

Tutorial 1

Question 1

List several types of end system.

Question 2

Name one home access technology, one enterprise access technology, and one wireless access technology.

Question 3

DSL, HFC and FTTH are all used for residential access. For each of these access technologies, provide a range of transmission rates and comment on whether the transmission rate is shared or dedicated.

Question 4

Suppose there is exactly one packet switch between a sending host and a receiving host. The transmission rates between the sending host and the switch, and between the switch and the receiving host, are R_1 and R_2 , respectively. Assuming that the switch uses store-and-forward packet switching, what is the total end-to-end delay to send a packet of length L ?

Question 5

There are 4 routers between the sending host and the receiving host. Each link has the transmission rate of 1.5 Mbps. Suppose that all routers use store-and-forward packet switching. The packet size is 8 Mbits. Assuming zero propagation delay, determine the total end-to-end delay to send the packet.

Question 6

Derive the formula for the end-to-end delay of sending P packets of length L over N links of transmission rate R .