Quiz 1

Due Mar 17 at 2:15pm   **Points** 7   **Questions** 2
Available Mar 17 at 2pm - May 3 at 9:15am   **Time Limit** 15 Minutes

Instructions

Please provide as many details as possible, so we may give your partial credits (in case the final answer is not correct).

Attempt History

	Attempt	Time	Score
LATEST	[Attempt 1](#)	15 minutes	7 out of 7

⚠ Correct answers are hidden.

Score for this quiz: **7** out of 7
Submitted Mar 20 at 10:24pm
This attempt took 15 minutes.

Question 1	4 / 4 pts

Aren't Time Division Multiplexing (TDM) and packet switching the same thing? Why or why not? (4 points)

Your Answer:

Packet Switching occurs when multiple users transmit packets through a packet switcher. The packets are broken down into smaller units and sent individually from the user to the destination and they contain both the information that has to be transmitted and the routing address. When multiple packets are sent from multiple users, the packets are stored in a buffer in a queue format (First-in-first-out) and are sent according to the destionation address in the packet header.

Whereas TDM is a circuit switching method where a confined number of users can send and recieve data along the network. In TDM, the transmission channel is divided into multiple time slot and each time slot is allocated to each user proptionally. Therefore not only TDM comes with multiple consraints, but it's different from packet switching.

Question 2
3 / 3 pts

Consider a scenario with N users sharing a 200 Mbps link, where each user requires 50 Mbps when transmitting. Then:

1. How many users can be supported under *circuit switching*? (2 points)

2. Under *packet switching*, suppose that each user only needs to transmit 20% of the time. If N = 4 (u1, u2, u3, and u4), what is the probability that u1,u2,u3 are currently transmitting, while the u4 is not? (1 point)

Please show the steps. Don't just write down the answers.

Your Answer:

1. Given that there are N number of users sharing a 200Mbps link and each required 50Mbps - the link has to be split across the N number of users proportionally.

Therefore 200(Mbps link) / 50(Mbps per user) = 4 user. With the given scenario, it can accommodate only 4 users.

2. The following scenario could be represented as follows:

= (0.2)*(0.2)*(0.2)*(1-0.2)
= ((0.2)^3)*0.8

Quiz Score: **7** out of 7

Alt+Q