Quiz 1.3 - The Network Core

Started: Jan 19 at 11:04am

Quiz Instructions

- This quiz is open-note. You are encouraged to watch the relevant video for this quiz before and during the quiz.
- You have unlimited attempts to complete the quiz. Only the highest grade will be kept.

Question 1 — 1 pts

How does a switch know which output link is appropriate for a given packet?

- ○ By looking up the packet's source in the forwarding table.
- ○ By looking up the packet's destination in the packet header.
- ○ By looking up the packet's source in the packet header.
- ◉ By looking up the packet's destination in the forwarding table.

Question 2 — 1 pts

When does queueing occur in routers?

- ◉ When the packet arrival rate exceeds transmission rate.
- ○ When the router is under maintenance.
- ○ When a malfunction occurs in the router.
- ○ When an arriving packet will not fit in the router's memory.

Question 3 — 1 pts

What happens to an incoming packet when the queue is already full?

- ○ It may be sent to a random port.
- ○ It may be broadcast to all ports.
- ◉ It may be dropped or lost.
- ○ It may be sent to the first port.

Question 4

1 pts

Suppose there is exactly one packet switch between a sending host and a receiving host. Let R1 equal the transmission rate between the sending host and the switch. Let R2 equal the transmission rate between the switch and the receiving host. 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?

- Ignore queuing, propagation, and processing delays.
- Do not use spaces in the formula.

Question 5

1 pts

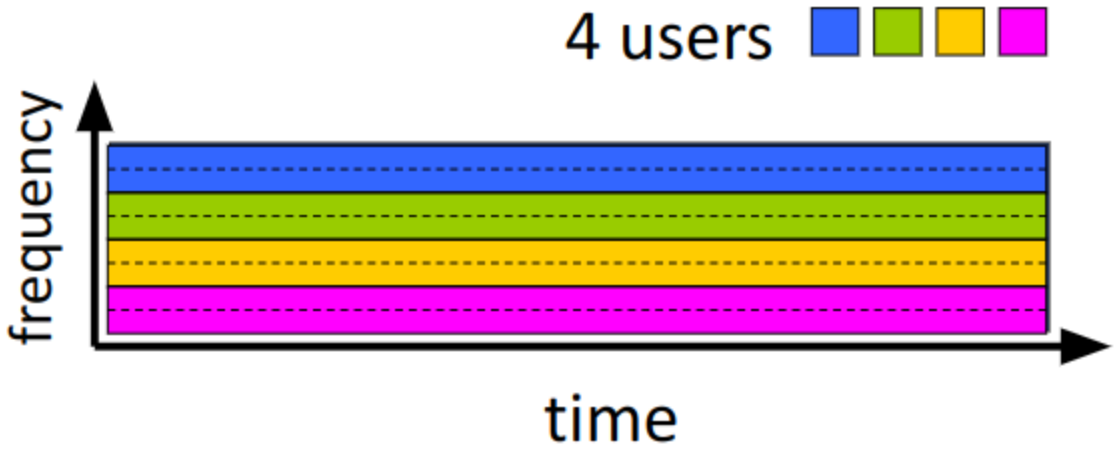
Referring to the same scenario as the last question, what would be the total delay in seconds if R1 is 10 Kbps, R2 is 100 Kbps, and the packet size is 1000 bits?

Question 6

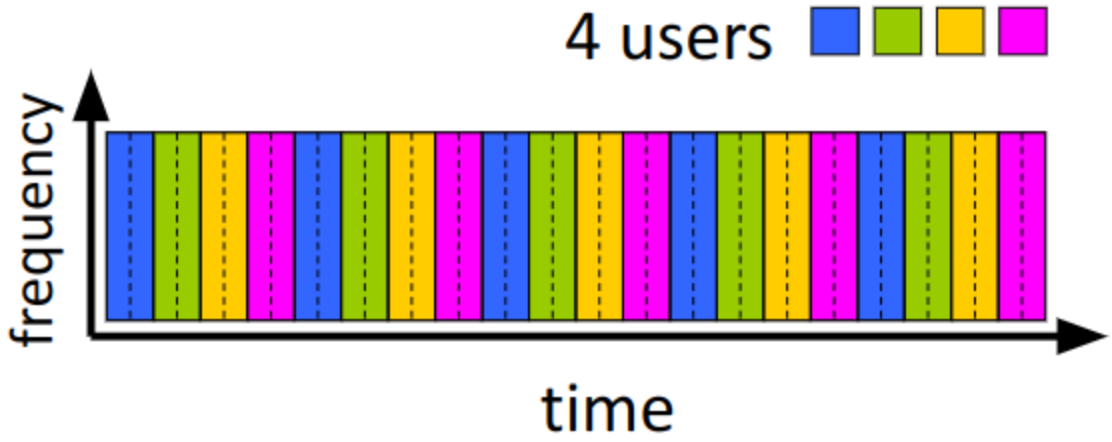
1 pts

Correctly label the multiplexing strategies below:

[Select]



[Select]



For the next three questions, suppose the following:

- users share a 2 Mbps link
- each user transmits continuously at 1 Mbps when transmitting
- each user transmits only 20 percent of the time

Question 7

1 pts

When circuit switching is used, how many users can be supported?

Question 8

1 pts

For the remaining questions in this section, suppose packet switching is used.

Will there be a queuing delay before the link if two or fewer users transmit at the same time?

- ◯ Yes
- ◯ No

Question 9

1 pts

Will there be a queuing delay if three users transmit at the same time?

- ◯ No
- ◯ Yes

End of section.

Question 10

1 pts

Order the internet architectural components hierarchically from local/edge (1) to global/core (4).

1 (most local/edge)	[Choose]
2	[Choose]
3	[Choose]
4 (most global/core)	[Choose]

Question 11

3 pts

Match the definition with its term (mostly as defined in the video).

Moving incoming packets from the input link to the appropriate output link.	[Choose]
Determining the global path to the intended destination.	[Choose]
The entire packet must arrive at a router before it can be transmitted onto the next link.	[Choose]

Quiz saved at 10:00am Submit Quiz