Quiz questions

Q1. Packet switching, instead of circuit switching, is generally used to transfer data in the Internet. True or false?

Q2. Propagation delay depends on the size of the packet. True or false?

Q3. Which of the following delays is significantly affected by the load in the network?

A. Processing delay

B. Queuing delay

C. Transmission delay

D. Propagation delay

Q4. Consider a packet that has just arrived at a router. What is the correct order of the delays encountered by the packet until it reaches the next-hop router?

A. Transmission, processing, propagation, queuing

B. Propagation, processing, transmission, queuing

C. Processing, queuing, transmission, propagation

D. Queuing, processing, propagation, transmission

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Daniel Hocking (/users/z5184128) 28 days ago (Wed Jul 25 2018 16:19:10 GMT+1000 (Australian Eastern Standard Time))

1. True. Packet switching has lower overhead and can make much better use of the available network links as it does not need to reserve bandwidth, so it is able to scale much better.
2. False. Propagation delays depends on the physical length of the link, and how fast the signal travels along that link. The size of the packet will affect the transmission delay.
3. Queuing delay. Greater load on the network will mean that the packet spends a longer time waiting in the queue/buffer.
4. C: Processing, queuing, transmission, propagation. As can be seen on page 85 of the week 1 lecture notes.

Reply

Nadeem Ahmed (/users/z1058484) 23 days ago (Mon Jul 30 2018 09:17:00 GMT+1000 (Australian Eastern Standard Time))

Good explanations. Could you please elaborate more on "Packet switching has lower overhead" as we discussed in the lecture that it requires the introduction of control information (headers) for every chunk of data.

Reply

Daniel Hocking (/users/z5184128) 22 days ago (Tue Jul 31 2018 11:22:42 GMT+1000 (Australian Eastern Standard Time))

Well with circuit switching the overhead was referring to the time spent setting up/ending the circuit as shown on slide 37, which would be a significant overhead for a quick burst of data transmission, and if the circuit was held open then it would quickly lead to scaling issues as all this reserved bandwidth goes to waste.

Also doesn't each router need to store state information about the circuits it is maintaining at that time, which would be another part of the overhead.

Reply

Nadeem Ahmed (/users/z1058484) 21 days ago (Wed Aug 01 2018 09:33:20 GMT+1000 (Australian Eastern Standard Time))

Excellent. Your explanation is indeed comprehensive.

Reply

Ali Dorri (/users/z5095883) 24 days ago (Sun Jul 29 2018 00:03:14 GMT+1000 (Australian Eastern Standard Time))

Well done Daniel.

Reply

Nan Li (/users/z5182060) 25 days ago (Sat Jul 28 2018 20:06:22 GMT+1000 (Australian Eastern Standard Time))

:)

Reply