



HKUSTx: ELEC1200.3x A System View of Communications: From Signals to Packets (Part 3)


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5.1 Transport Layer
Week 3 Quiz due Feb 15,
2016 at 15:30 UTC



Topic 5: The Transport Layer > 5.2 User Datagram Protocol (UDP) > 5.2 Quiz

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5.2 QUIZ QUESTION 1 (1/1 point)

Which of the following application is least likely to use the UDP protocol?

☐ Voice over IP (VoIP), e.g. Skype



☐ The Domain Name System

☒ Email ✓

☐ Live video streaming

EXPLANATION

UDP is often used for streaming multimedia (e.g. audio/video) apps, which can tolerate loss and are rate sensitive. DNS usually uses UDP since it's connectionless, faster, and user can simply re-request the data on failure. However, DNS may also use TCP.

5.2 User Datagram Protocol (UDP)Week 3 Quiz due Feb 15, 2016 at 15:30 UTC **5.3 Transmission Control Protocol (TCP)**Week 3 Quiz due Feb 15, 2016 at 15:30 UTC 

- ▶ Topic 6: Reliable Transfer Protocols
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On the other hand, email is not loss tolerant, since users do not want their messages to be corrupted when received. They are also not rate sensitive, since users would rather wait to get a complete correct message.

You have used 2 of 2 submissions

5.2 QUIZ QUESTION 2 (3/3 points)

Consider the following descriptions of different operations:

- A. The receiving host checks the destination port information from the UDP header and sends the UDP segment to application at the corresponding port.
- B. The receiving host uses the header and application data from a received segment to compute a checksum and compares it with the checksum in the received header.
- C. The transmitting host determines which link it should send the application packets out on so that they take the best path to the receiving host
- D. The transmitting host adds UDP headers to the messages from different applications and passes the resulting segments to the network layer.

Which operation corresponds to multiplexing?

✓ Answer: D

Which operation corresponds to demultiplexing?

A ▼



Answer: A

Which operation corresponds to error detection?

B ▼



Answer: B

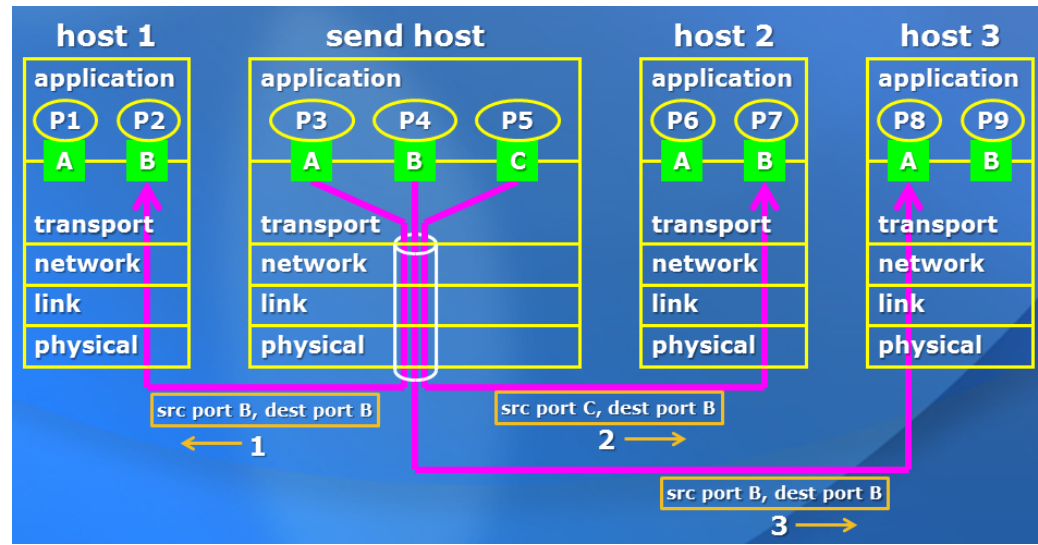
EXPLANATION

Choice C corresponds to forwarding, which is a network rather than transport layer function.

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5.2 QUIZ QUESTION 3 (2/2 points)

Consider the following figure showing the operation of the transport layer. The pink lines show the paths followed by transport layer segments, with each line labelled by the source and header information extracted from the transport layer header.



Which segment was incorrectly demultiplexed?

3 ▼



Answer: 3

EXPLANATION

If segment 3 is encapsulated correctly (src port B, dest port B), then it should be sent to port B, not A, at the receiving host.

Which segment was incorrectly encapsulated?

1 ▼



Answer: 1

EXPLANATION

Source port should be encapsulated as A, not B. If correctly encapsulated, the header information should be src port A, dest port B.

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