

Which statement(s) on UDP are incorrect?

- UDP uses the 4-tuple of...
- UDP implements congestion control

Which mechanism is not absolutely required to ensure reliable data transfer with corrupted packets (but not packet loss)

- Error detection via checksum
- MAYBE: pipelined transmission of data packets

A geo-stationary satellite at an altitude of 36000 km...

- 400ms

Which is a benefit of packet switching but not circuit switching?

- Statistical multiplexing

Assume that host A and host B are directly connected by single error-free, loss-free 1 Mbps..

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Suppose that there are only 300 clients in the world managed by Alice...

- Yes

Which protocol is not used when Joe uses a smartphone to browse ESPN?

- IMAP

Consider congestion control and TCP. Select all statements that are true

- When timer expires at sender, the value of ssthresh is set to one half the current value of the congestion window
- When the timer expires at the sender, the value of dupACKcount is reset

Which mechanism is not absolutely required to ensure reliable data transfer with packet loss (but not packet corruption)

- Checksum
- Negative Acknowledgements

Which of these statements is true regarding DASH over HTTP for video streaming

- It allows clients with different internet access rates to stream videos

Assume that a client wants to request 1000 large, equal-sized objects...

- HTTP 2 with up to a single connection and frame size = 1 Mb
- Could be all though

Assume that in a peer-to-peer system there are 20 peers each having some files that they...Select all that are correct.

- A requesting peer might not be able to receive a file completely
- The earliest to receive a file is 40ms
- The worst case is 60ms

Which HTTP operation model typically consumes a larger amount of server resources

- Nonpersistent HTTP with parallel TCP connections: each connection requires a separate TCP connection which is resource intensive

Which mechanism is not absolutely necessary to ensure reliable data transfer upon packet loss (but without packet corruption)

- Error detection via checksum

Which of these is a correct feature of a file distribution application using the P2P model rather than the client-server model

- A peer can act as a client by issuing requests while serving other peers

Select all statements on application-layer protocols that are correct

- DNS provides the translation service...

Assume a TCP sender transmits multiple segments back to back, with only the first one being lost and all others arriving at the receiver in order...

- 8

Which mechanism is not absolutely required to ensure reliable data transfer with corrupted data packets (but not packet loss)

- Pipelined transmission of data packets

Which field in the UDP header is used in connectionless demultiplexing?

- Source port number

Select all that are features of packet switching

- Packets from the same app with identical source and...
- No reservation is needed in advance

Which of the following statements about DNS is true?

- DNS uses caching to improve performance

Which mechanism of HTTP is used to allow a cache to verify that its objects are up to date?

- Conditional GET

The user on Host A wants to access www.flights.google.com...

- 440 ms

Select all statements that are incorrect

- Servers are at the network core but not at the network edge

The four delay components of packet delay are...Which are correct

- Only queueing delays are variable...

Select all statements that are incorrect

- With nonpersistent connections between the browser and the server, it is possible for a single TCP segment to carry 2 distinct HTTP request messages
- The HTTP response message with status code 200 can never have an empty message body
- The "Date" field...

Joe has a UCLA account and reads his email from his account via outlook application. Which protocols are used...

- DNS, HTTP
- HTTP, TCP
- UDP, POP3/IMAP

Suppose that a TCP segment header size is 54 bytes...

- The sequence number for the next segment is 1056
- The header length is 54 bytes

Select all statements on reliable data transfer that are correct

- In the TCP protocol, upon receiving a duplicate data packet, the receiver sends a cumulative ACK of the last byte it has received
- In the Go-Back-N protocol, suppose that timeout is triggered at the sender side...

What is the main goal of persistent connections in HTTP

- Reducing latency and improving performance of subsequent requests

Mr. Alan Attacker...

- ?

In the Go-Back-N protocol, given that $N = 2$...

- 203
- 204

Select all that are limitations layers of protocol layering:

- Introduces overhead via added protocol header at each layer

Suppose host A wants to send a large file to host B. There are 4 links in the path

- ?

Assume the selected repeat protocol uses a window size of 10...

- 20

Suppose you can access the caches in a local DNS server of your department...

- Yes, the Web server that appears most frequently...

Consider that amazon.com uses a session cookie...

- No and no

When Joe enters <https://www.cnn.com> into his browser...Select all correct steps

- First, the client runs DNS to retrieve the IP address..
- Upon receiving the correct DNS...
- The browser receives the HTTP response...

Which field will appear in one but not both UDP and TCP segment headers

- Sequence number

When can the first TCP data segment start its transmission during the TCP 3-way handshake

- Together with the third message