

CSCI-376-01 S23 Computer Networking

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A solution to the Test #2

1. F F F F T F F F T T

2. Web browsing is done with TCP to ensure correct data is viewed in the Web page.

Cloud storage uses TCP to ensure correct data is stored in the cloud.

YouTube video is done with UDP to take advantage of speed over accuracy.

3. The headers give at least 4 points of information:

1. The payload was last modified on August 9, 2022 at 2:27:49pm.
2. The payload is encoded using gzip.
3. The payload is 133 bytes long.
4. The payload, once decoded is in HTML.

There is other information, but that info does address the HTTP packet.

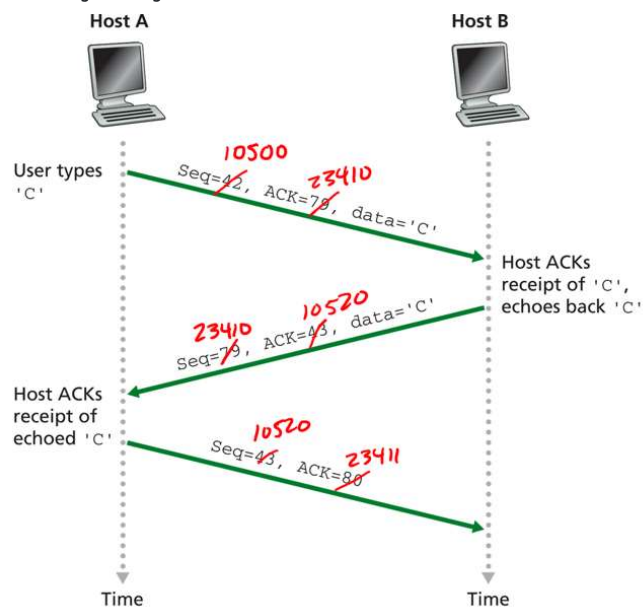
4. 1. For a lost packet, the sender would timeout waiting for an acknowledgement and resend the packet.

2. For a corrupt packet, the checksum would be used by the receiver to determine if the packet was corrupt and the packet would be discarded. The sender would then timeout and resend the packet.

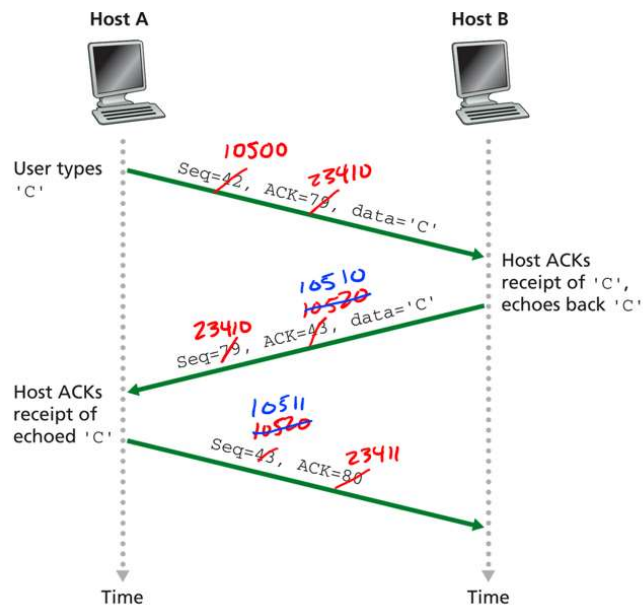
3. Slow packets would imply that the receiver eventually would send an acknowledgement, but the sender will timeout and resend. The receiver would ignore the duplicate packet.

4. The receiver will ignore the duplicate packet but will acknowledge it. The sender will ignore duplicate acknowledgements.

5. Let's change a diagram we used in class:



and



6. The UDP packet begins at byte 0x22. Each 2-digit item in the Wireshark display is a byte in hexadecimal. So the data parts look like this...

Beginning of packet

0000	ac f2 c5 ac 96 43 00 68	eb b8 44 c4 08 00 45 00C..h..D...E..
0010	00 34 b6 a5 40 00 80 11	00 00 d1 8c d1 8c 8e fb@.....
0020	20 0a f9 f9 01 bb 00 29	52 59 4a ce 50 88 b8 04) RYJ.P...
0030	d4 99 e3 76 61 0e fd 19	85 07 9a a8 7a cd 72 31	...va...e...z.r1
0040	85 e6 6c 67 79 f9 08 a5	06 c4 36	..lgy... ..6

destination port (points to 0000-0010)
length of packet (points to 0010-0020)
checksum (points to 0020-0030)

1. The destination port is 0x01bb = 443 decimal.
2. The length of the payload is 0x0029 = 41 bytes decimal.
3. The checksum is 0x5259.

7. A port is a number, a tag that informs the operating system as to which program to send the data in the packet to.

Last modified: Monday, 20 February 2023, 12:58 PM

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