

WIRESHARK ASSIGNMENT 2

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1. I observed that TCP segments are get and reassembled after starting playing video on YouTube. For example, from packet number 3621 to 3631, TCP segments are sent by YouTube, and they are reassembled in packet number 3632. Thus, YouTube use TCP. For real-time live streaming, using UDP is the best choice since the most important thing is transferring data real-timely faster, and there can be some loss, -loss tolerable-. However, in YouTube, videos are not live videos. The quality of those videos is desired, and timing is not that important. On the other hand, on-demand video streaming like YouTube is not loss tolerable, which TCP overcomes it. Moreover, to achieve obtaining a smoother video, buffering is needed, and TCP provides this buffering.

2. My computer's IP address is 192.168.1.34, YouTube's IP address is 172.217.17.202 and ceng.metu.edu.tr's IP address is 144.122.171.44.

3. There are 5 GET requests to ceng.metu.edu.tr in my .pcap file.

Packet Number	Source Port	Destination Port
5364	46700	80
5374	46700	80
5393	46700	80
5399	46702	80
5418	46702	80

4. The numbers of packets in the first 3-Way handshake with the ceng.metu.edu.tr are 5359, 5362 and 5363. For the packet number 5359, the SEQ number is 0, and the ACK number is 0. For the packet number 5362, the SEQ number is 0, and the ACK number is 1. For the packet number 5363, the SEQ number is 1, and the ACK number is 1.

5. The packet numbers of the first 5 packets of all packets transmitting the image 'ceng.png' are 5400, 5401, 5403, 5410 and 5411, and the segment numbers are 4813, 6213, 9013, 18813 and 20213, respectively. The length of each segment is differs for my consecutive packets. The length of the 1st segment is 1400 bytes, the

2nd segment is 2800 bytes, the 3rd segment is 9800 bytes, the 4th segment is 1400 bytes, the 5th segment is 4200 bytes, the 6th segment is 2800 bytes, the 7th segment is remaining 8045 bytes.

6. The minimum amount of available buffer space advertised at the receiver, ceng.metu.edu.tr, for the entire trace is 28960, which is the window size of the first ACK from the ceng.metu.edu.tr, the packet number 5362. The available buffer space is the calculated window size of ACKs from the server. By observing the trace, the available buffer size (calculated window size) is never equal to 0, and so the lack of receiver buffer space never throttles the sender.