WSA-2

1- Youtube uses TCP for streaming video. Although UDP is preferred for multi-media applications for not being network throttled like TCP, advantages of using TCP begins to shine once we think about a network with loss and congestion where a lot of packets will be dropped without recovering, but using TCP we have a reliable stream without losses , which can be buffered and replayed if wanted. TCP also does a lot of optimizations , such as transmit pacing, duplicate rejection , receive windows, reordering, slow start, exponential backoff, etc. which tries to achieve optimal speed.

2- My computer : 144.122.227.154
   Youtube :172.217.169.142 (as given in dns query with no 30)
   ceng.metu.edu.tr IP: 144.122.145.146 redirects to 144.122.171.44

3-

No	Source Port	Destination Port
7670	51107	80
7695	51108	80
7707	51108	80
7716	51108	80
7736	51109	80
7780	51110	80

4- 7664 Seq : 0 , Ack : 0,
   7668 Seq : 0 , Ack : 1,
   7669 Seq : 1 , Ack : 1

5- 7726 Seq : 4813 , Size : 1374 bytes
   7727 Seq : 6187 , Size : 1374 bytes
   7729 Seq : 7561 , Size : 1374 bytes
   7731 Seq : 8935 , Size : 1374 bytes
   7733 Seq : 10309 , Size : 1374 bytes

6- Minimum available buffer space is 28960 (at no 7692). In my trace , there is an evidence to throttling as available window size starts at 28960 and grows until 31104 but after that it comes down back to 28960, which points to some degree of throttling.