

Lab3 Handout

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- What is the normal time required to download the webpage on h1 from h2?

Normal time required is around 1s.

- What was your initial expectation for the congestion window size over time?

Congestion window size would become smaller with time elapsed.

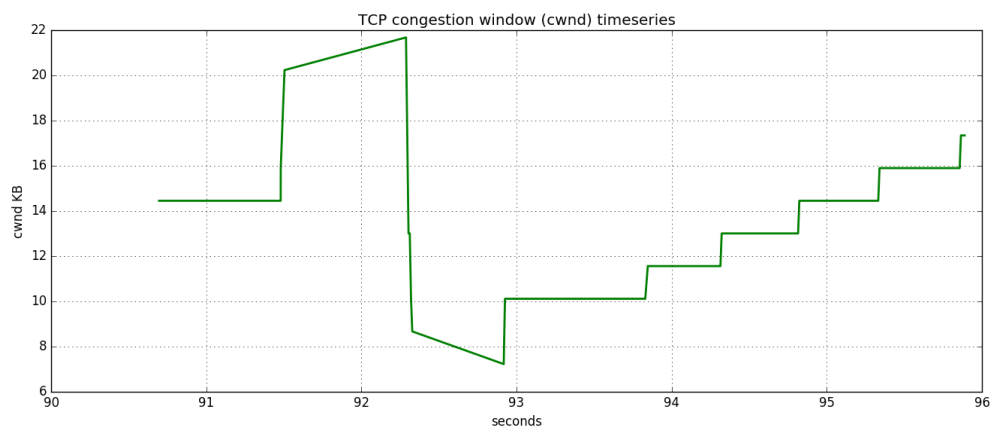
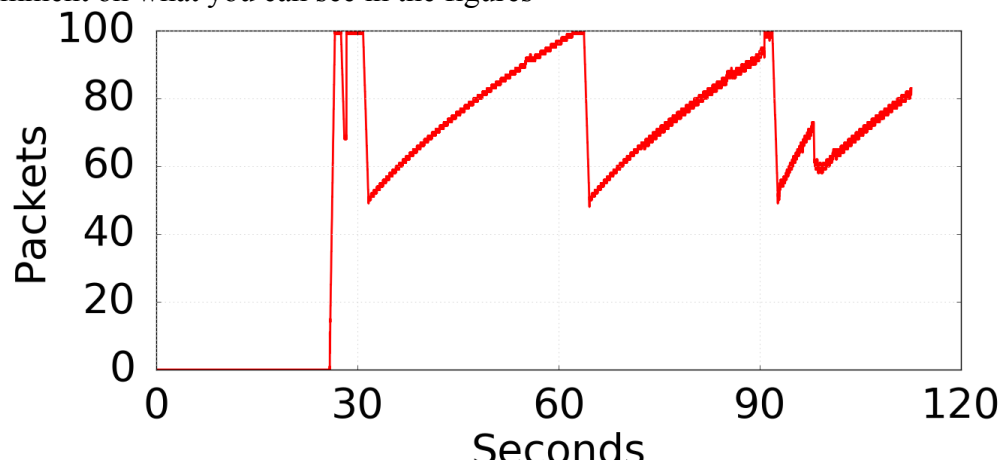
- After starting iperf on h1, did you observe something interesting in the ping RTT?

Ping response much slower (around 100ms slower)

- After starting iperf on h1, why does the web page take so much longer to download?

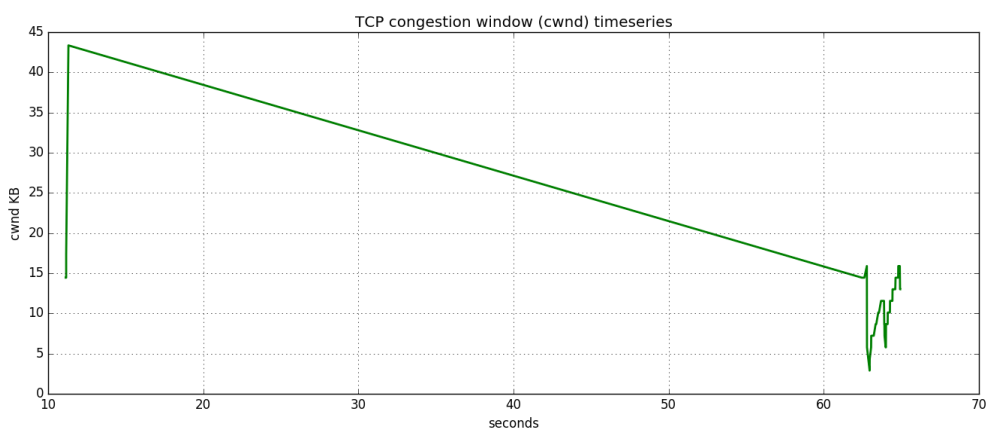
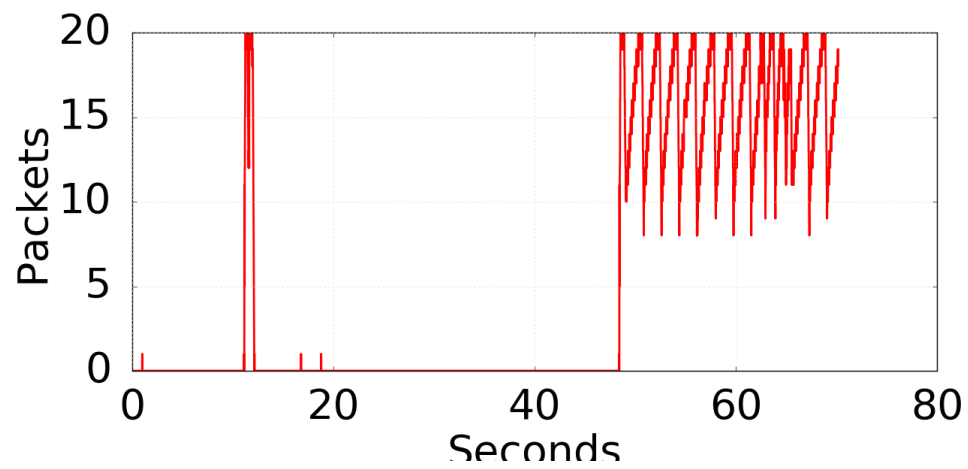
Iperf occupied some available source of the port so that congestion is caused. In this case, the download process will long for a longer period since they are less throughput it can utilize.

- Please provide the figures for the first experiment (with qlen 100 and only one queue)
- * Please comment on what you can see in the figures



Lower Frequency bouncing between h1 and h2 when download started since iperf has occupied most of the available throughput.

- Please provide the figures for the second experiment (with qlen 20 and only one queue)
- * Please comment on what you can see in the figures, and what is different (and why)



Higher Frequency bouncing between h1 and h2 when download started since small buffer has facilitated the throughput. Hence, the congestion got reduced and it performed a better download speed.

- UDP part

Client:

1. Should run after server running
2. Will print out total process time for transmission and How many byte we pack in per package

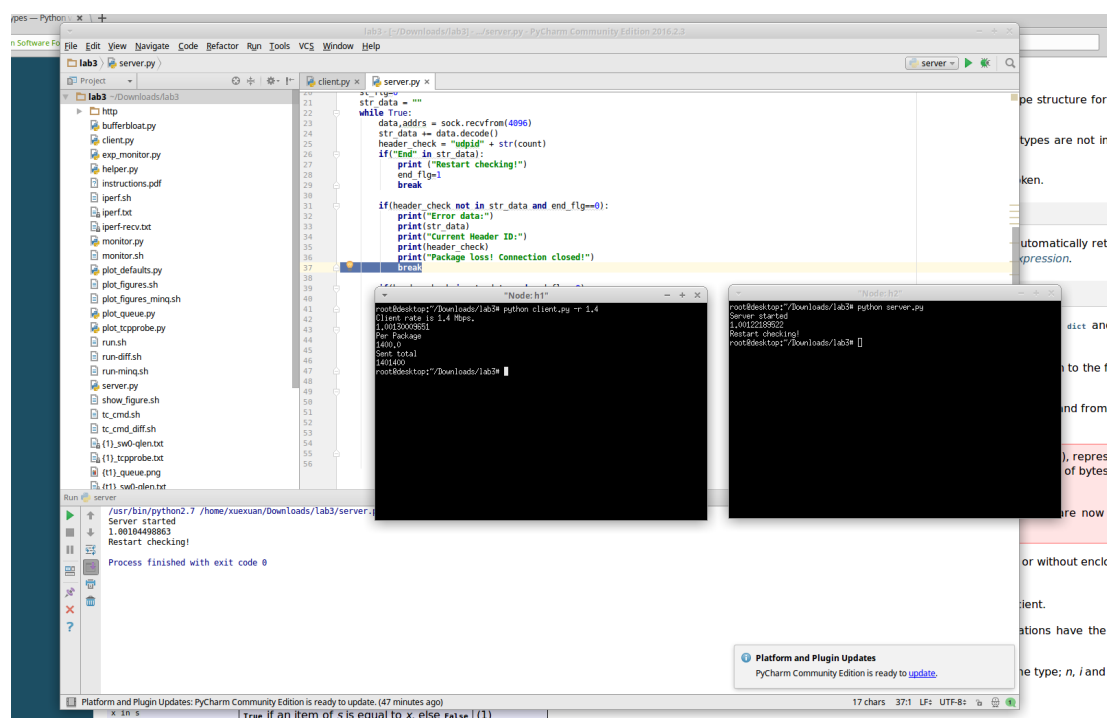
Server:

1. Should run first
2. After a successful listening and receiving process over all the package from client, it will print out total time of the process and then terminate itself
3. If there are any package over-heading or package missing happens, it will immediately print out current receive header and expected header then terminate itself

Relate Source Code: https://github.com/Joe627487136/NW_Lab3

First attempt:

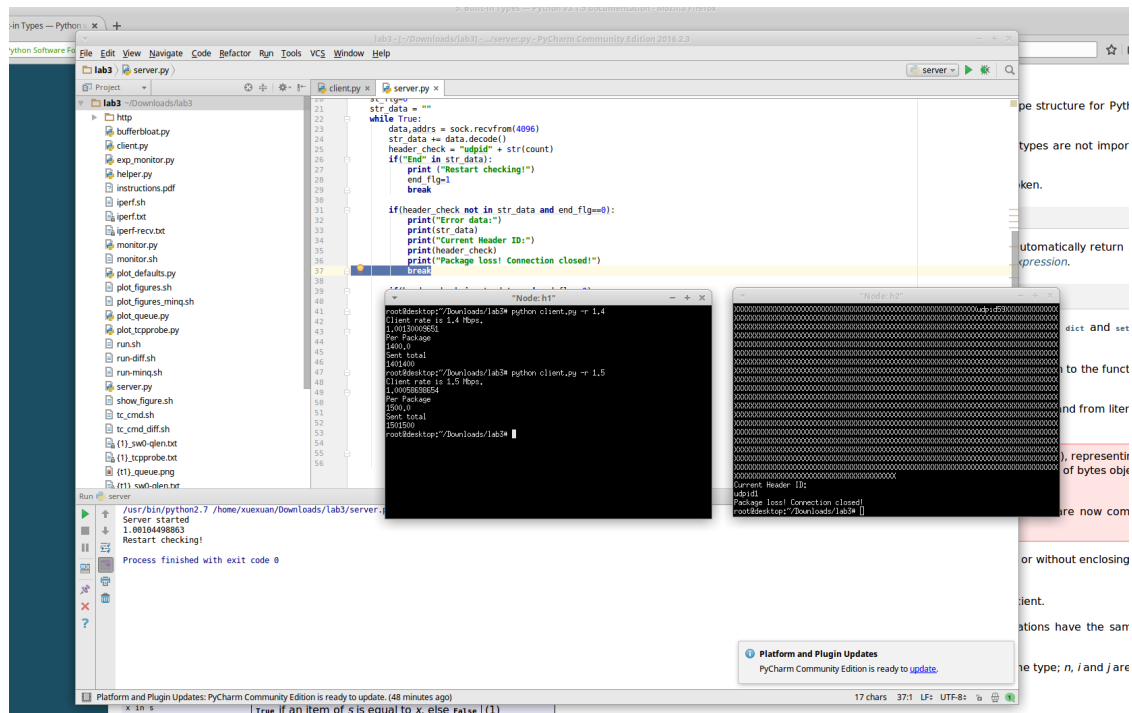
Setting up a send rate of 1.4 (Since my Mininet throughput runs around this value but not 1.5)



Response with server has finish receiving the data and took a total period of 1.00122s as shown in the h2 terminal.

Second attempt:

Setting up a send rate of 1.5



Response with server could not finish receiving the data and encountered miss matched sequence of one of the headers which is indicating a package loss.