Section 7: Midterm Overview and Project 3 Intro

CSE 461 Computer Networks

Administrivia

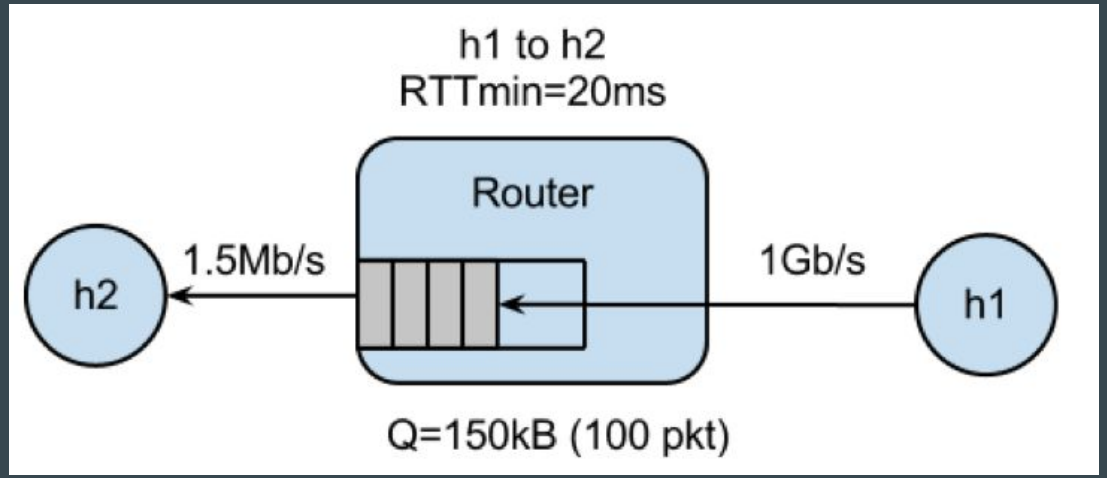
- Project 3 was released on 2/21, and is due on 3/12

- Assignment 5 based on Chapter 5 from the textbook will be released on 2/26 and is due on 3/10

Project 3: Bufferbloat

What is Bufferbloat?

From Wikipedia, “bufferbloat is a cause of high latency in packet-switched networks caused by excess buffering of packets”



Project 3

- Part 1: Setup
  - The same vagrant VM for project 2
  - We'll be using python3
- Part 2: TCP
  - Modify `run.sh` and `bufferbloat.py` to set up the network and do the measurement on two queue length: q=20 and q=100
- Part 3: QUIC
  - Install an experimental version of curl and HTTP/3 server
  - Modify Part 2 to run the experiment using QUIC

Starter Code

- `run.sh`
  - Run the entire experiment
    - Run bufferbloat.py on q=20 and q=100
    - Generate latency and queue length graphs
- `bufferbloat.py`
  - Complete the TODOs
    - Setup the mininet topology and the experiment
    - Write shell commands to do the measurements

Part 3

- Install an experimental version of curl and HTTP/3 server
- Run the same experiment but using QUIC connection

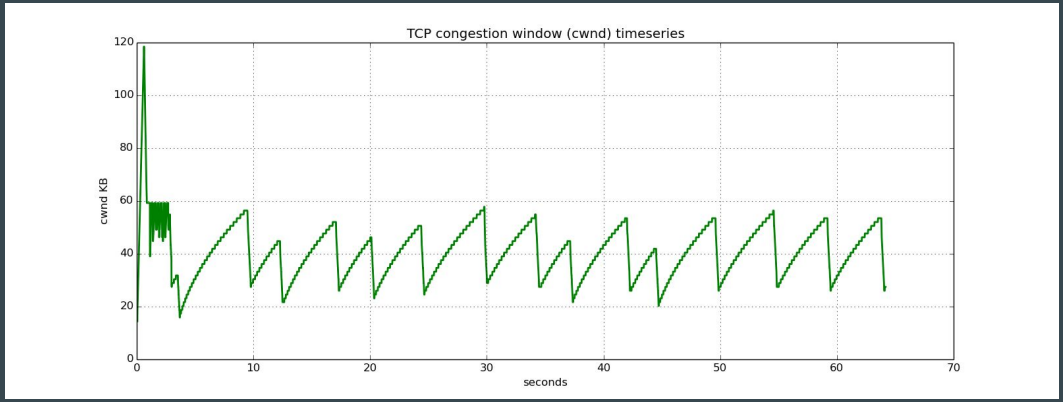
Note

- `Sudo mn -c` to restart mininet
- Run `CLI()` in python to enter an interactive shell. This will be useful for debugging/ testing commands to run in h1/h2.
- Make sure that your curl command receives a valid response from the server before you use its time measurement

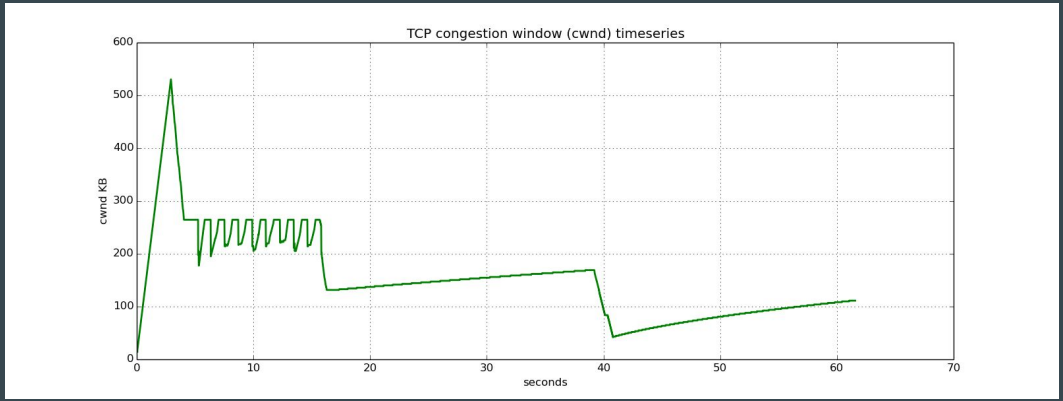
Deliverables

- A zip file of
  - Final Code
  - README
  - 8 Plots

Example Plots (TCP CWND)



Q = 20



Q = 100