Network Simulation Assignment #2

ECEN 602, Fall 2015
Due Nov. 24, 2015 NLT 5:00 pm

You will repeat the simulation exercise from Network Simulation Assignment #1; however, this time with different buffer management strategies.

Consider two strategies:

1) DROPTAIL management (p. 493, *Computer Networks, 5th Edition*)

2) RED, using RED parameters (10, 15, 50) for (thresh_, maxthresh_, linterm_) (pp. 516-523, *Computer Networks, 5th Edition*).

These simulations will each be run for 180 seconds. Ignore the first 30 seconds of simulation output. For the two scenarios in the figure on page 2, plot the instantaneous throughput (in Kbps) for the connections and find the average throughput for both buffer strategies.

You will have a total of four simulations (the two scenarios using both DROPTAIL and RED). Include tables and plots showing instantaneous throughput per time (interval ~1 sec) and average throughput per time for each of the four simulations. The x-axis should be in seconds and the y-axis should be in Kbps.

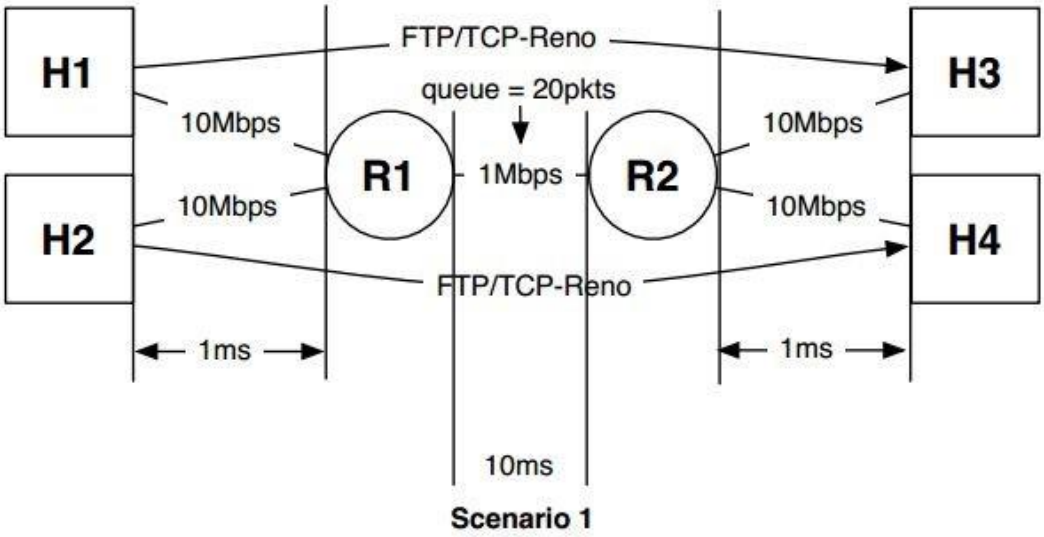
Usage Syntax:

ns ns2.tcl <queue_mechanism> <senario_no>

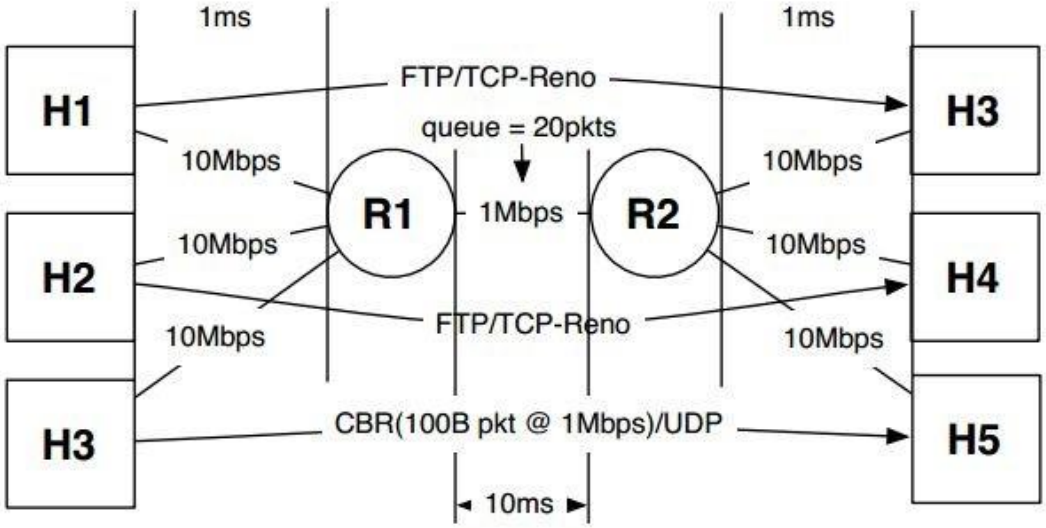
Note: Use uppercase letters for queue mechanism in the command line.

Examples: **ns ns2.tcl DROPTAIL 1**

ns ns2.tcl RED 2



Scenario 1



Scenario 2

Submission Guidelines

1. The NS-2 simulation report (**report.pdf**), code (**ns2.tcl**) and readme file (**readme.txt**) should be uploaded to the Google drive folder before 5:00 pm on the due date. The Google drive folder (teamxx) has been shared to each team. A NS2 folder will be added shortly.
2. Report (**report.pdf**) explaining your test setup, procedure, results, and conclusions. Include tables showing throughput of each test.
3. Make sure your code (**ns2.tcl**) takes command line arguments as mentioned above. Your code should display throughput on the terminal.

4. The **readme.txt** should contain a summary of your code: architecture, usage, and errata, etc.
5. When submitting, delete all the demo files and upload only these file: **report.pdf**, **ns2.tcl** and **readme.txt**
6. Make sure all binaries and object code have been cleaned from your project before you submit.
7. This assignment does not require you to use the machines in 213A, you may install the simulator on your own machines (Ubuntu) for development.
8. Should you have any doubts, please ask questions.
9. All submissions will go through Stanford Moss to detect plagiarism. Don't copy code from somewhere else.