Lab-Sheet 7

1 RED Queue Monitor using NS2

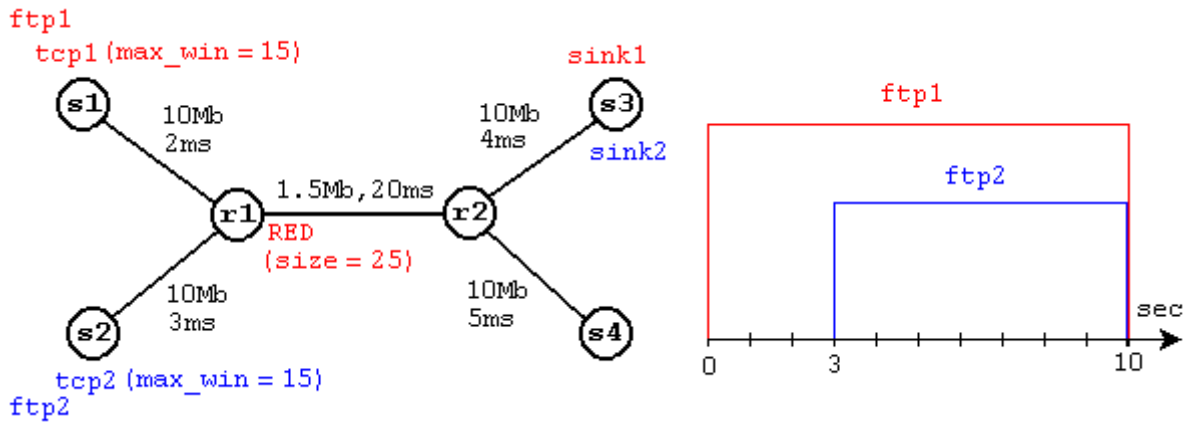
Note: We will cover and study RED in details in the next lecture, so you can try it today, then write your thoughts/understanding (report) later after the next lecture "Computer Network congestion"

- TCP Congestion Control
- Congestion — cures
  - ✓ **Random Early Detection (RED)**
  - ✓ Leaky Bucket Algorithm

For today's lab-session 7, the goal is to become familiar with the concept of RED Queue Monitor and its implementation in NS2.

Open up your browser and go to http://nile.wpi.edu/NS/ . On the left-hand side there should be a list of links, follow the link that says RED Queue Monitor Example.

Exercise 1: Download red.tcl from the above, and try to understand what the code is doing, and understand what the simulator doing also. A network structure of the code example is shown below, with r1 and r2 being routers, and s1-s4 being network nodes.



Exercise 2: Change the queue size and see the difference in the graph. Then change transmission rate between s1, r1 and s2, r1 by Increase/decrease link bandwidth. Also, increase scenario's time *from 10sec to 15, 20 and 25 seconds.* See what will happen in each case and try to understand that?

Exercise 3: What is the RED mechanism (how does work), and what differences can you identify between RED and Droptail queue? (Hint: search and find)

Note: Complete the observation/results and discussion sheet for each lab (it is on vision), also keep your Tcl files (labs' scenarios) in a safe place. You need to submit both (results discussion sheet and Tcl files) later on as part of coursework.

Remember, for all the lab sessions the observation and discussion (report) is an individual work which means that **MUST** be your own work.