



research school of informatics

Simulation of Network Performance with QoS Constraints

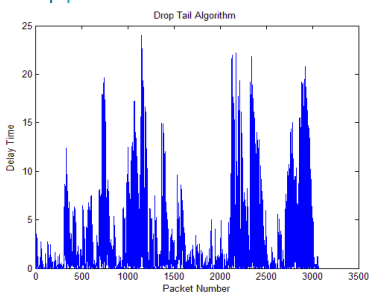
Congestion control is a very important issue that must be confronted by the users and network researchers. Queue scheduling mechanism and active queue management scheme are two effective ways to solve the congestion problems so as to improve network performance and enhance network QoS.

MATLAB SIMULATION

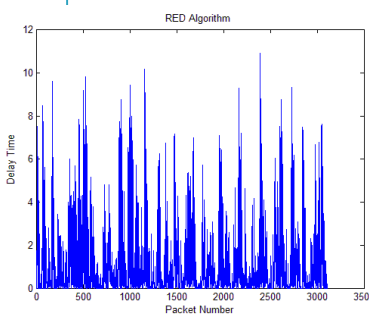
TESTBED

RED

Drop Tail is proved to suffer from the "lock out" and "full queue" problems; RED(Random Early Detection) as one of AQM

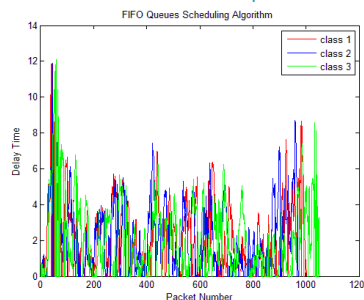


The mean value of delay time is 2.0875 using DT.

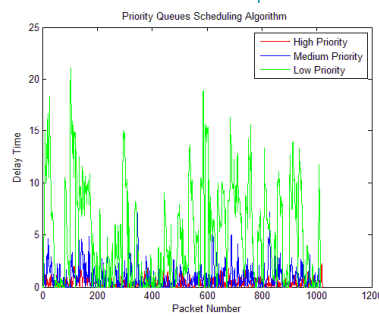


The mean value of delay time is 1.0850 using RED.

FIFO is the First In First Out queue; PQ (priority queue) can be looked at as a modified queue, but when one would get the next element off the queue, the highest-priority one is

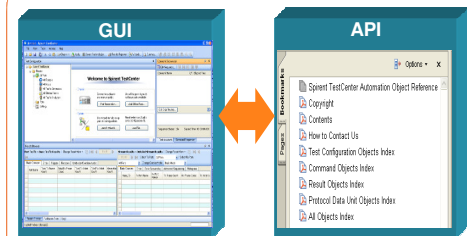


Delay time of three classes traffic are nearly same.



Different priority has different delay time.

Spirent TestCenter



System Logic/State



SPT-2000A



- 4-ports of 10GigE in chassis
- Bench top chassis
- Module hot swap
- GigE backplane for control and results

FUTURE WORK

Extend a single buffer system to queuing networks

Matlab Simulation

Implement simulation scenario on the SPT-2000A testbed

Spirent Testbed

Compare the results of matlab simulation with SPT-2000A testbed

Results Comparison