CS 252: Lab 6

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Observed Throughput Plots

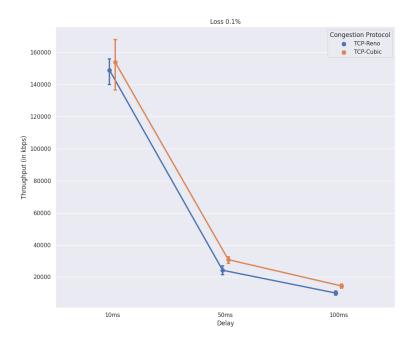


Figure 1: Loss: 0.1%

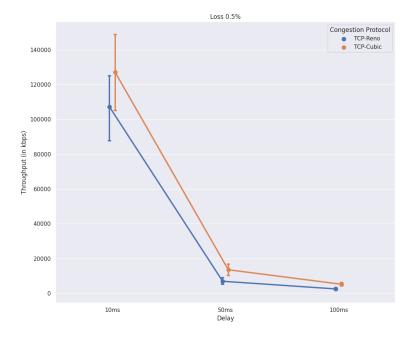


Figure 2: Loss: 0.5%

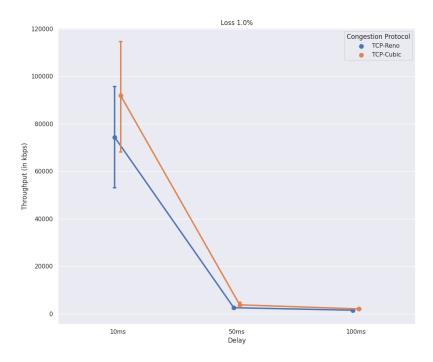


Figure 3: Loss: 1.0%

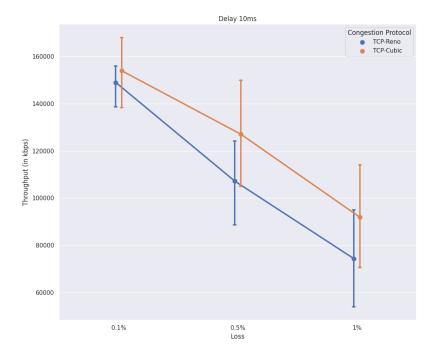


Figure 4: Delay: 10ms

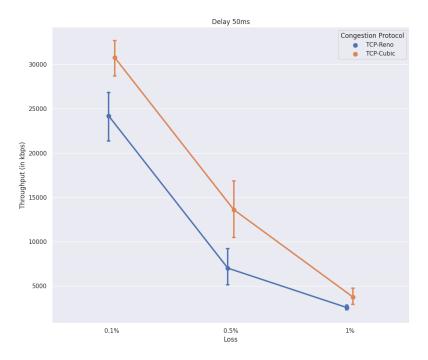


Figure 5: Delay: 50ms

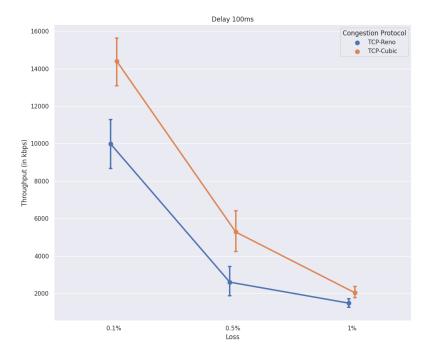


Figure 6: Delay: 100ms

Comments on Observed Throughput

- As we can see, TCP Cubic outperforms TCP Reno w.r.t. throughput, irrespective of how much delay or packet loss is.
- Thus, the observed throughput data confirms that TCP Cubic is indeed more aggressive than TCP Reno.
- We observe that with increase in delay, throughput decreases.
- We observe that with increase in proportion of packet loss, throughput decreases.

Window Scaling Graphs

Window Scaling for 127.0.0.1:55404 → 127.0.0.1:5432 Loopback: lo Slow Start Congestion Avoidance TCP Cubic Delay=10ms Loss=0.1% 450000 Packet loss Packet loss Packet loss

Figure 7: Delay: 10ms, Loss: 0.1%, Congestion Protocol: TCP-Cubic

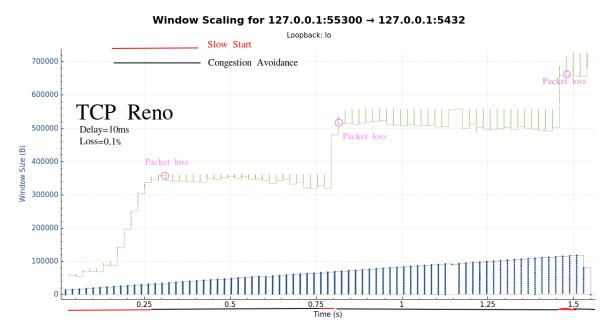


Figure 8: Delay: 10ms, Loss: 0.1%, Congestion Protocol: TCP-Reno

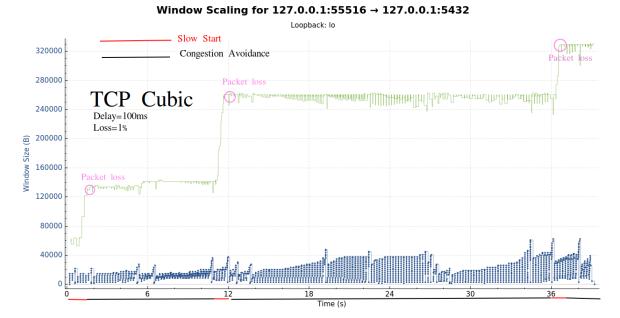


Figure 9: Delay: 100ms, Loss: 1%, Congestion Protocol: TCP-Cubic

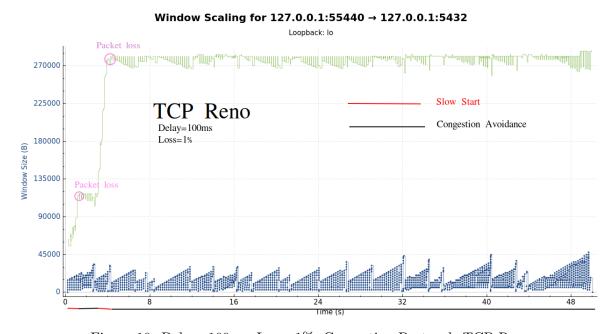


Figure 10: Delay: 100ms, Loss: 1%, Congestion Protocol: TCP-Reno