

| Incast number | Egress bandwidth | Parameter (Initial sending rate) |
|---------------|------------------|--|
| 10 | 25Mbps | double Alpha = 0.2; double AI = 1.0; double MD = 0.05; double Hth = 4500; double Lth = 500; double initial_rate = 1.5; uint32_t n = 5; // HAI |
| 10 | 25Mbps | double Alpha = 0.2; double AI = 1.0; double MD = 0.05; double Hth = 4500; double Lth = 500; double initial_rate = 5; uint32_t n = 5; // HAI |
| 10 | 25Mbps | double Alpha = 0.2; double AI = 1.0; double MD = 0.05; double Hth = 4500; double Lth = 500; double initial_rate = 10; uint32_t n = 5; // HAI |
| 10 | 25Mbps | double Alpha = 0.2; double AI = 1.0; double MD = 0.05; double Hth = 4500; double Lth = 500; double initial_rate = 0; uint32_t n = 5; // HAI |

TCP TIMELY

99-percentile RTT: 6774 μ s
Median RTT: 4911 μ s
Average RTT: 5357.13 μ s
AVG queue occupancy: 18.0019 pkts
AVG Throughput: 19.9502Mbps

99-percentile RTT: 9760 μ s
Median RTT: 5009 μ s
Average RTT: 5846.36 μ s
AVG queue occupancy: 18.218 pkts
AVG Throughput: 20.6901Mbps

99-percentile RTT: 18047 μ s
Median RTT: 5101 μ s
Average RTT: 6264.79 μ s
AVG queue occupancy: 19.6958 pkts
AVG Throughput: 20.6922Mbps

99-percentile RTT: 35842 μ s
Median RTT: 9125 μ s
Average RTT: 12547.8 μ s
AVG queue occupancy: 8.32857 pkts
AVG Throughput: 0.04288Mbps

Comments

Sending rate grows too slow, which hurts a bit average throughput

Increasing initial rate can help one reach to idea case easily and benefits performance

We should make tradeoffs and be careful not sending initial rate too high as it hurts tail RTT

If intial rate is 0 and congestion happens immediately, there would be no way for sending rate to additively incr

