

CS3205-Assignment 2 : Go Back N and Selective Repeat Protocol

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Experiment Tables :

1. SELECTIVE REPEAT

RTT in milliseconds , RT-ratio (retransmission ratio)

Packet length = 256 , Window size = 25 , Buffer size = 100

1. Package Rate = 20 pk/sec

Number of packets =>	100		500		1000	
Package Error rate	RT-ratio	RTT _{avg}	RT-ratio	RTT _{avg}	RT-ratio	RTT _{avg}
10^{-3}	1.000	0.0203	1.004	0.0243	1.003	0.0247
10^{-5}	1.000	0.0225	1.000	0.0184	1.000	0.0208
10^{-7}	1.000	0.0204	1.000	0.0212	1.000	0.0217

2. Package Rate = 300 pk/sec

Number of packets =>	100		500		1000	
Package Error rate	RT-ratio	RTT _{avg}	RT-ratio	RTT _{avg}	RT-ratio	RTT _{avg}
10^{-3}	1.000	0.0221	1.004	0.0189	1.003	0.0207
10^{-5}	1.000	0.0221	1.000	0.0197	1.000	0.0195
10^{-7}	1.000	0.0178	1.000	0.0189	1.000	0.0193

2. GO BACK N

Window size = 25 , Buffer size = 100

1. packet rate 20 pkt/s , Packet length = 1500

Number of packets =>	100		500		1000	
Package Error rate	RT-ratio	RTT _{avg}	RT-ratio	RTT _{avg}	RT-ratio	RTT _{avg}
10^{-3}	1.001	1.5684	1.102	1.4751	1.076	1.5835
10^{-5}	1.000	1.7831	1.002	1.6587	1.001	1.6791
10^{-7}	1.000	1.6737	1.002	1.6767	1.001	1.5966

2. Package Rate = 300 pk/sec , Packet length = 256

Number of packets =>	100		500		1000	
Package Error rate	RT-ratio	RTT _{avg}	RT-ratio	RTT _{avg}	RT-ratio	RTT _{avg}
10⁻³	1.010	0.5859	1.102	0.6424	1.076	0.6419
10⁻⁵	1.000	0.5569	1.002	0.6306	1.001	0.5948
10⁻⁷	1.000	0.5580	1.002	0.5127	1.001	0.6013

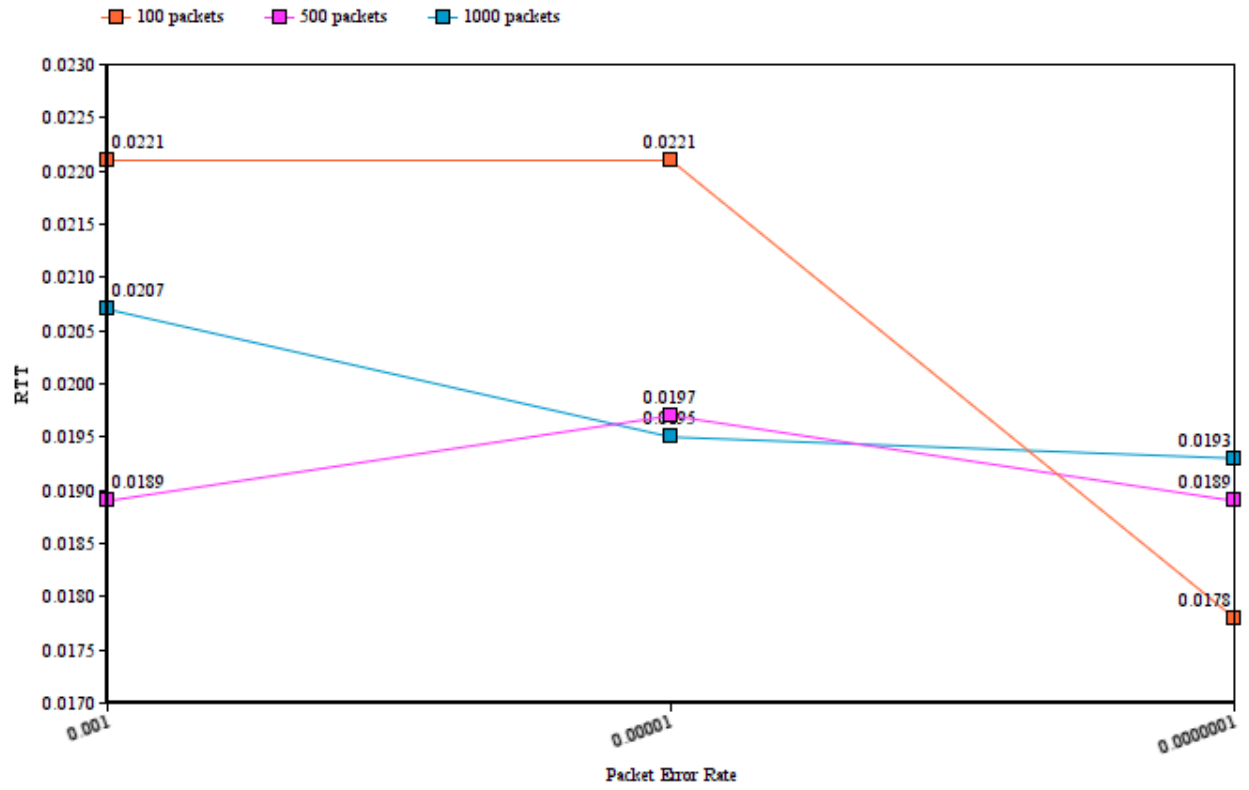
Observations :

1. Selective repeat protocol's round trip time is lesser than Go back N protocol of same window size and same error rate. As we have to retransmit the whole window for a single packet loss in GBN.
2. As the window size increases or the error rate increase the difference of round trip time between them also increases (when error rate is not too small or zero).
3. There is a significant increase in Round Trip time with the increase in packet length (as in table 3 compared to others) .
4. Generally as the error rate decreases the RTT decreases .
5. Generally more transmission ratio takes more RTT .
6. With increase in number of packets there is small increase in RTT as more chances to drop the packets.

Graphs :

from next page onwards -

SELECTIVE REPEAT



GO BACK N

