

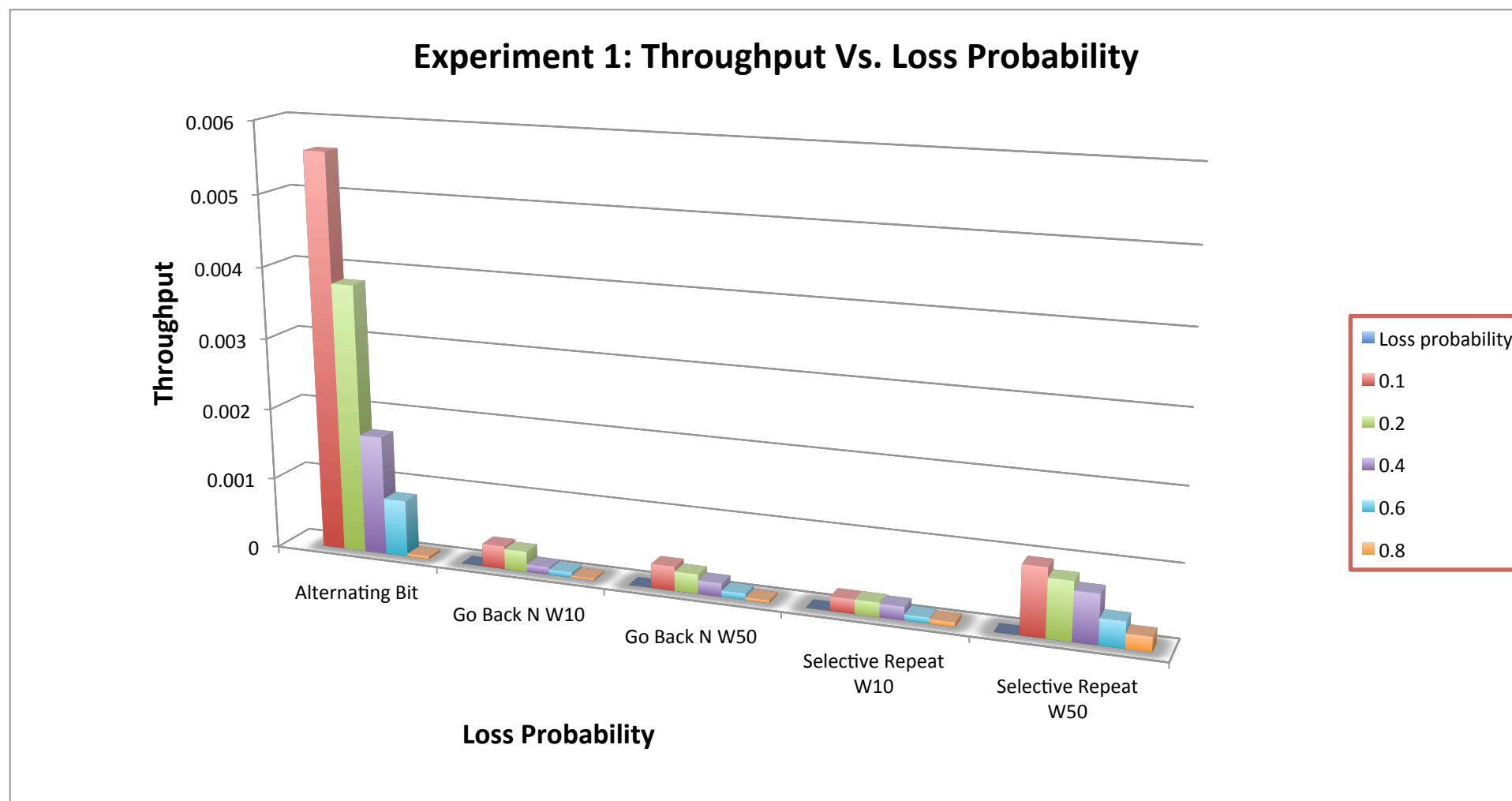
**Experiment 1**

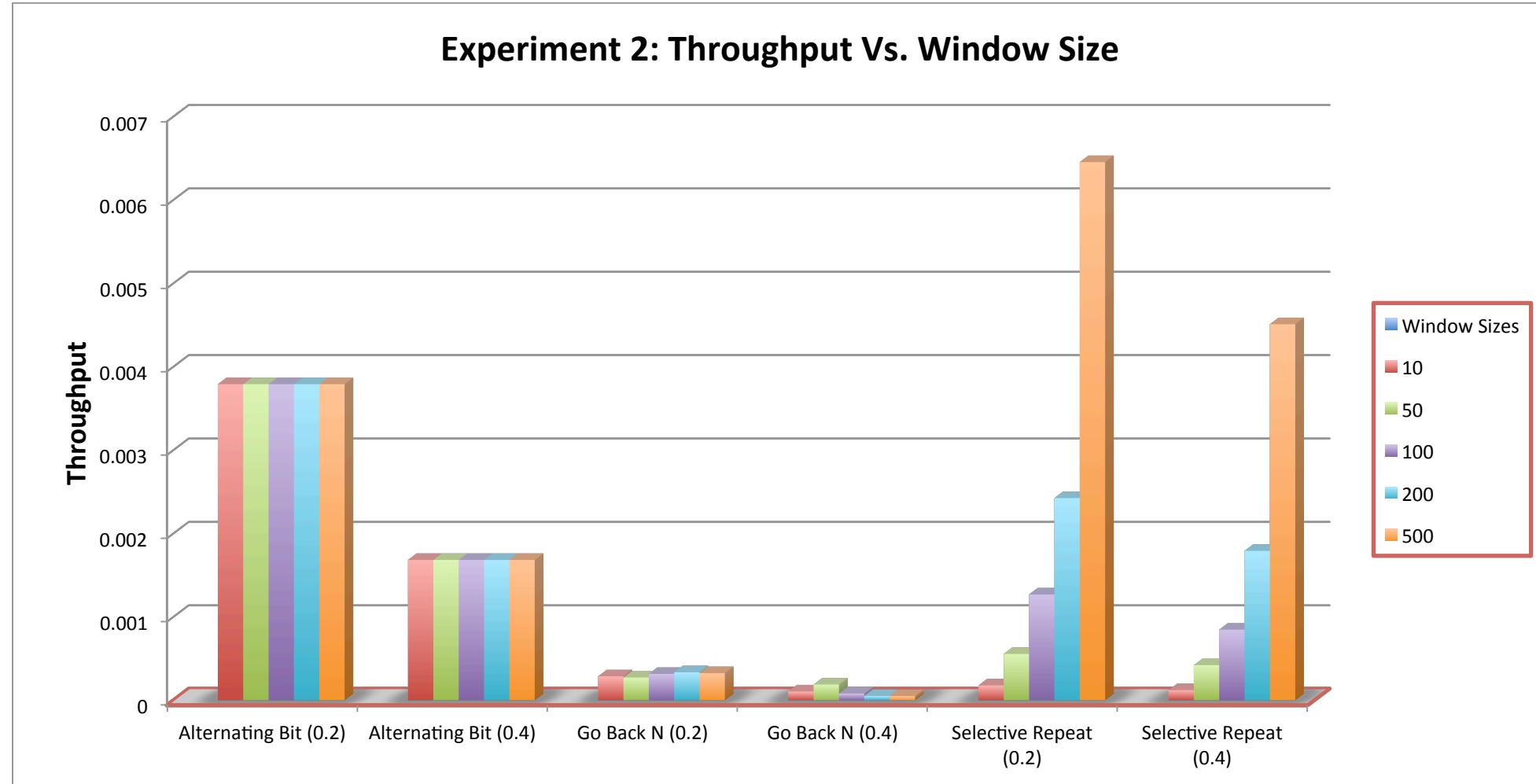
1000 packets PROTOCOLS

|                  | Alternating Bit | Go Back N W10 | Go Back N W50 | Selective Repeat W10 | Selective Repeat W50 |
|------------------|-----------------|---------------|---------------|----------------------|----------------------|
| Loss probability |                 | WINDOW 10     | WINDOW 50     | WINDOW 10            | WINDOW 50            |
| 0.1              | 0.005589        | 0.000323      | 0.000339      | 0.000198             | 0.000945             |
| 0.2              | 0.00379         | 0.000286      | 0.000272      | 0.000198             | 0.000806             |
| 0.4              | 0.001682        | 0.000105      | 0.000188      | 0.000184             | 0.000681             |
| 0.6              | 0.000803        | 0.000072      | 0.000089      | 0.000082             | 0.00036              |
| 0.8              | 0.000039        | 0.000028      | 0.000035      | 0.000061             | 0.000203             |

Experiment 2 PROTOCOLS

|              | Alternating Bit (0.2) | Alternating Bit (0.4) | Go Back N (0.2) | Go Back N (0.4) | Selective Repeat (0.2) | Selective Repeat (0.4) |
|--------------|-----------------------|-----------------------|-----------------|-----------------|------------------------|------------------------|
| Window Sizes |                       |                       |                 |                 |                        |                        |
| 10           | 0.00379               | 0.001682              | 0.000286        | 0.000105        | 0.000177               | 0.00012                |
| 50           | 0.00379               | 0.001682              | 0.000272        | 0.000188        | 0.000555               | 0.00042                |
| 100          | 0.00379               | 0.001682              | 0.000315        | 0.00008         | 0.001268               | 0.000846               |
| 200          | 0.00379               | 0.001682              | 0.000335        | 0.000051        | 0.002424               | 0.001791               |
| 500          | 0.00379               | 0.001682              | 0.000325        | 0.00005         | 0.006453               | 0.004509               |





Reasons:

PTO

| <b>Experiment1</b> | Observations   | Reason   | Agree or not   |
|--------------------|--|--|--|
| Alternating Bit    | Throughput decreases when the loss probability increases                               | It has to resend more packets  | Yes  |
| Go back N          | Throughput decreases when the loss probability increases                               | It sends lesser packets because of the window limitation.<br>However, the throughput should be much higher than the alternating bit protocol. In the experiment, the window size is 10 or 50 which is why the throughput is not really high. | No, Throughput should increase. As it is sending more packets at one go.   |
| Selective Repeat   | Throughput decreases when the loss probability increases                               | It is much better in terms of throughput than go back N, as number of retransmitted packets are lesser as compared to Go Bank N.   | No, Throughput should increase. As it is sending more packets at one go and is not retransmitting all the packets in case of a timer interrupt |
| <b>Experiment2</b> | Observations   | Reason   | Agree or not   |
| Alternating Bit    | Throughput has a difference of 50% as compared to loss probability 0.2 and 0.4         | It is because the loss is increased by 50% and it has to now retransmit 50% more packets   | Yes  |
| Go back N          | For loss 0.2 the throughput increases with the window size and decreases with 0.4 loss | more packets are sent at one go as the window is being increased. Also, for 0.4 loss the throughput decreases as more packets are to be  | Other than the trend of the graph I disagree on the value of throughput, it should be much higher.   |

|                  |  |  |  |
|------------------|--|--|--|
|                  |  | retransmitted as compared to 0.2 loss case   |  |
| Selective Repeat | Throughput increases with the size of window in both the cases | <p>Only those packets are retransmitted which are either lost or corrupt.</p> <p>Hence, the throughput decreases between 0.2 and 0.4 loss cases. However, the throughput increases when the window sizes increase, because more packets are being set at one go.</p> | Other than the trend of the graph I disagree on the value of throughput, it should be much higher. |