CSE 589 – Project 2 Report

Submitted by:

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“I have read and understood the course academic integrity policy located under this link: http://www.cse.buffalo.edu/faculty/dimitrio/courses/cse4589_f14/index.html#integrity”

Experiment 1 -

1.1 Alternating Bit Protocol -

The following graphs present a pictorial view of the variation of throughput in a simulated network based on different network scenarios, which here are governed by the seeds. The seed values chosen for these experiments are given below(the figure numbers for the experiments are given alongside) -

Experiment #	Seed value
1	1234
2	1111
3	2222
4	3333
5	4444
6	5555
7	6666
8	7777
9	8888
10	9999

The graphs shown below compare the throughput variations with the change in the seed values and the loss probabilities.

Experiment #	Loss Probability	Corruption Probability	Fig #
1	0.1	0.2	1
2	0.2	0.2	2
4	0.4	0.2	3

4	0.6	0.2	4
5	0.8	0.2	5

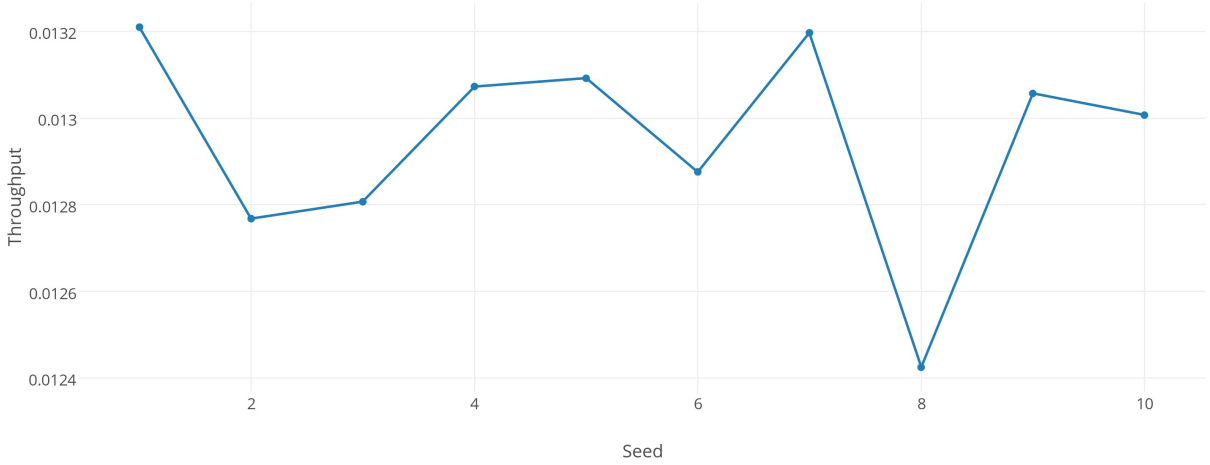
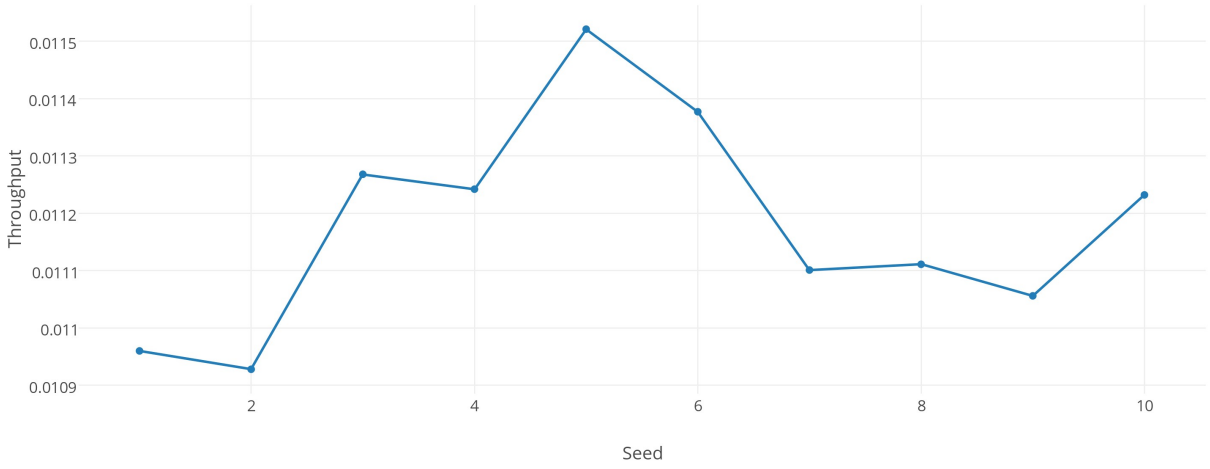
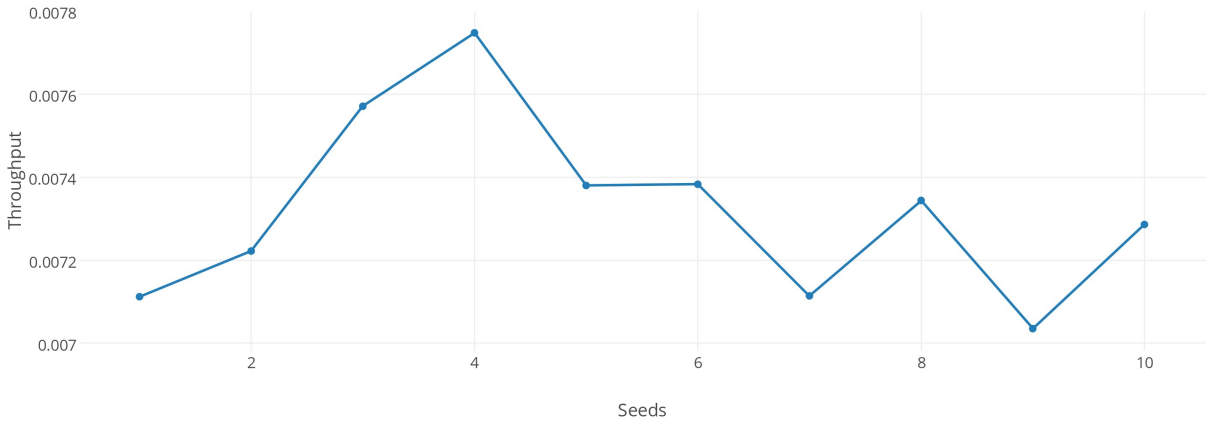


Fig 1



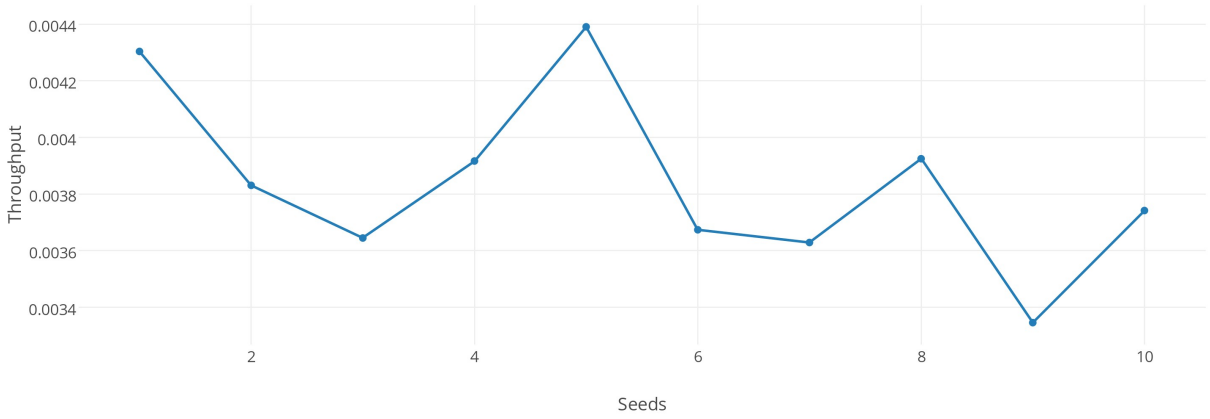
Source: b (1).txt

Fig 2



Source: c.txt

Fig 3



Source: d (2).txt

Fig 4

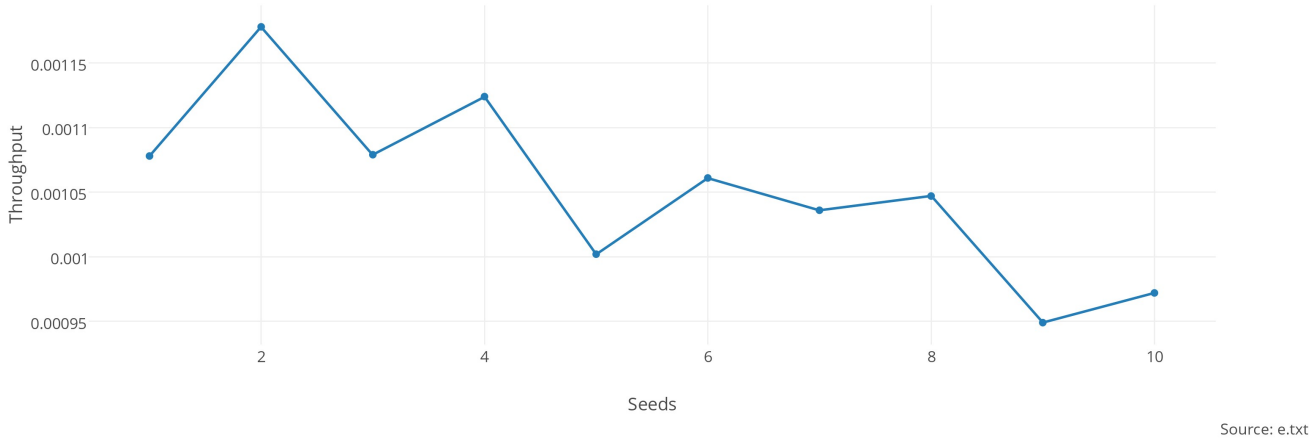


Fig 5

We can see from the graphs that ass we go on increasing the loss probability, the number of packets getting lost are more, and henceforth the throughput decreases considerably.

Furthermore, if we consider the plot of loss probability vs throughput for a given seed and a fixed corruption probability, we observe that the throughput decreases rapidly. The graph below(Fig 6) shows the variation of throughput vs loss probability for Seed 1. Similar behavior is observed for all the remaining seeds.

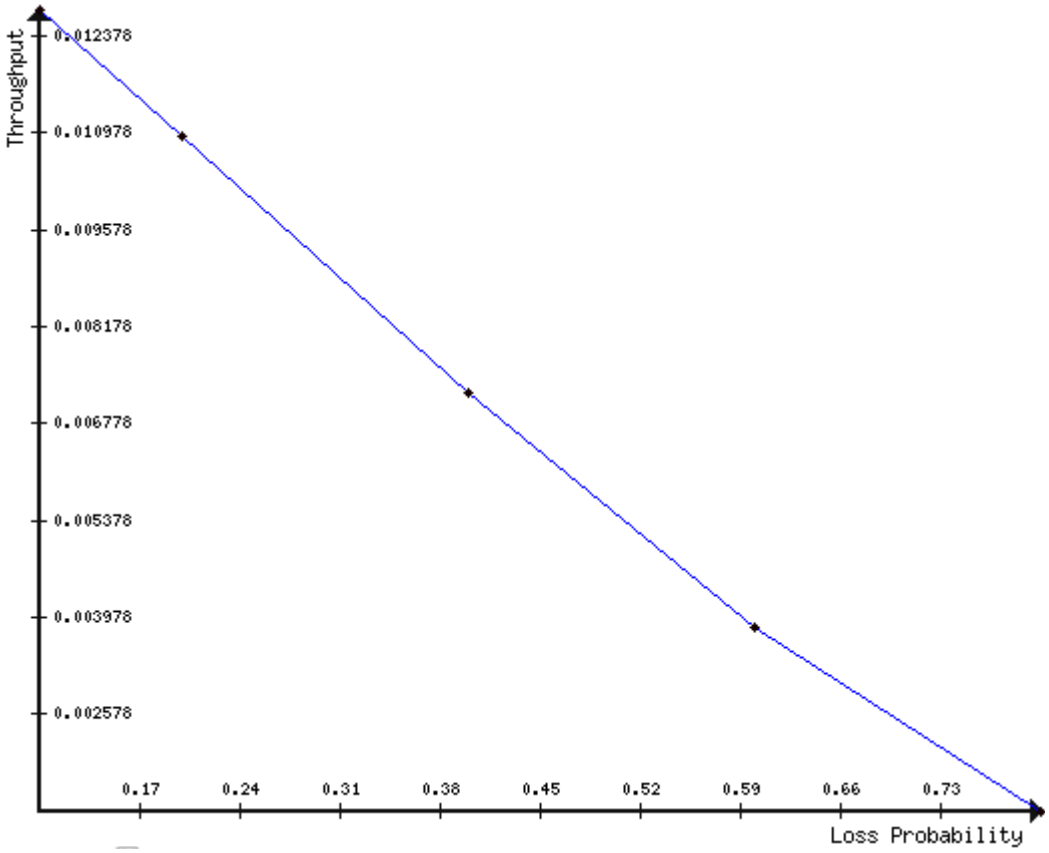


Fig 6 - Variation of throughput with loss probability for Seed = 1

We can see that as the loss probability increases, the throughput gradually decreases. This is the expected behavior as with increase in loss probability, the performance of the network suffers as more packets are getting lost in the network.

Experiment 2 -

2.1 Alternating Bit Protocol

For this experiment, we choose the following values of loss probabilities and corruption probabilities.

Experiment #	Loss Probability	Corruption Probability	Fig #
1	0.2	0.2	7
2	0.5	0.2	8
4	0.8	0.2	9

The graphs shown below show the variation of throughput with change in the seed values for the experiments 1, 2 and 3 mentioned above.

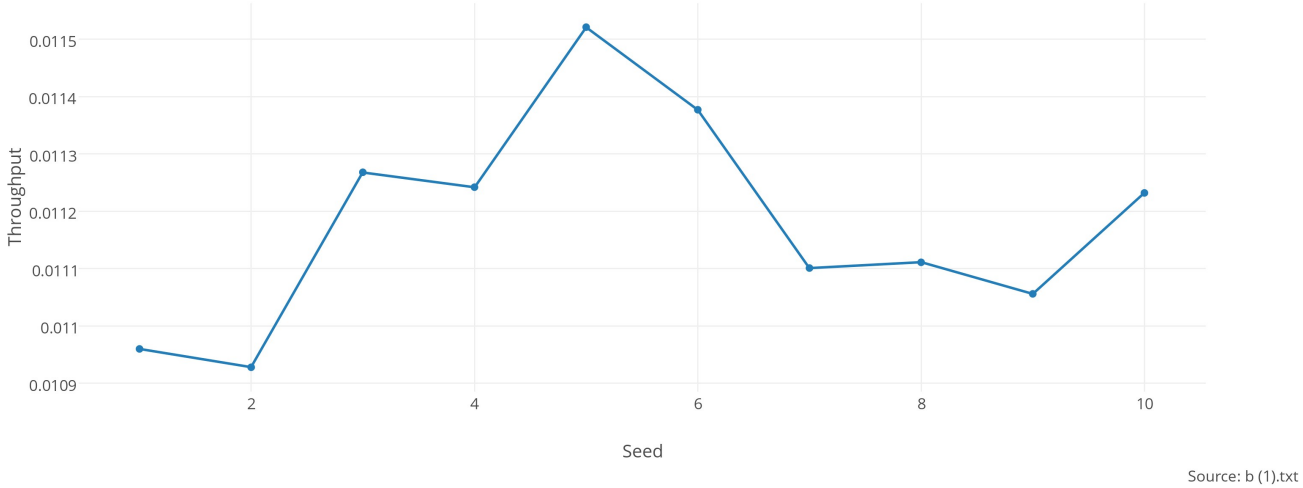


Fig 7

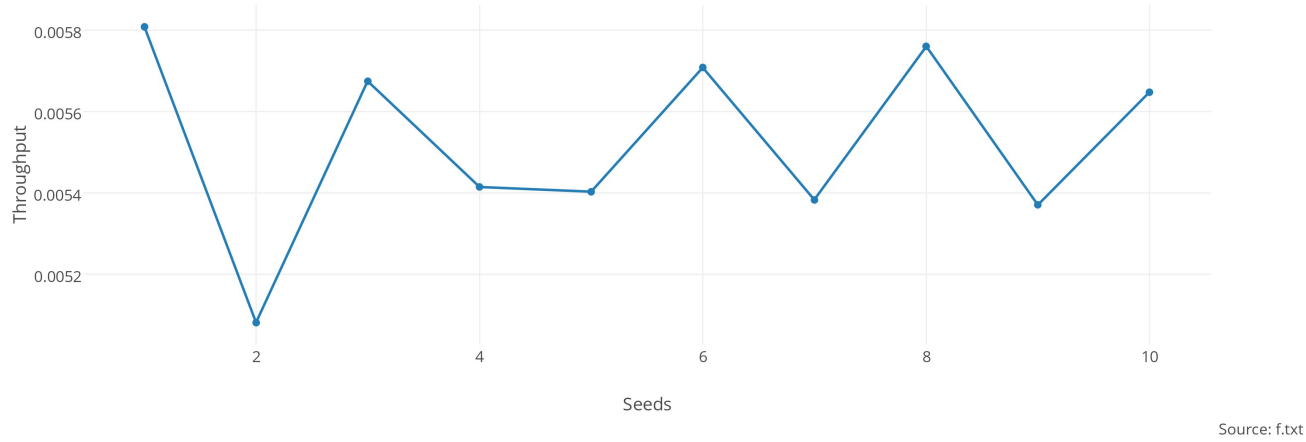


Fig 8

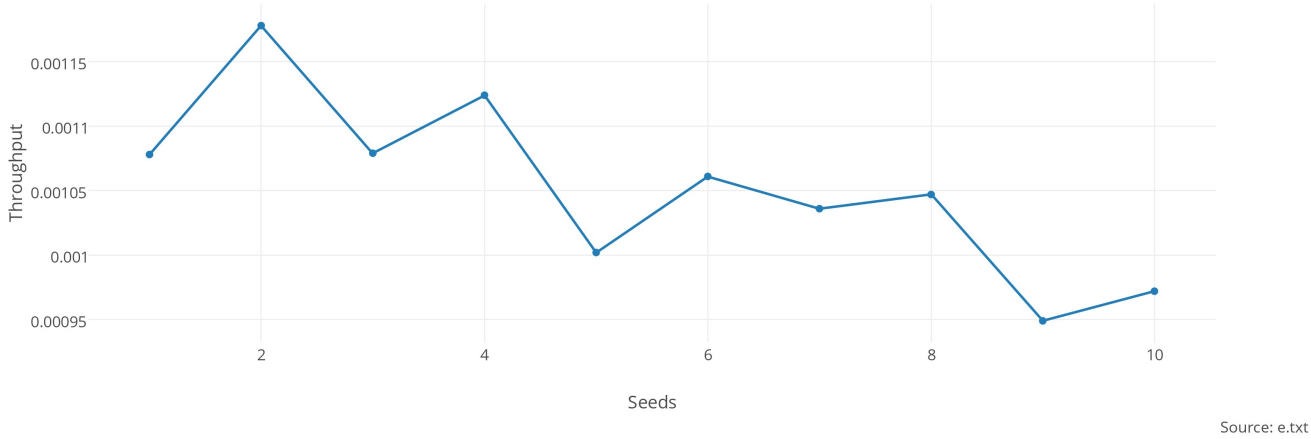


Fig 9

We can see from the graphs that ass we go on increasing the loss probability, the number of packets getting lost are more, and henceforth the throughput decreases considerably.

Furthermore, if we consider the plot of loss probability vs throughput for a given seed and a fixed corruption probability, we observe that the throughput decreases rapidly. The graph below(Fig 10) shows the variation of throughput vs loss probability for Seed 1. Similar behavior is observed for all the

remaining seeds.

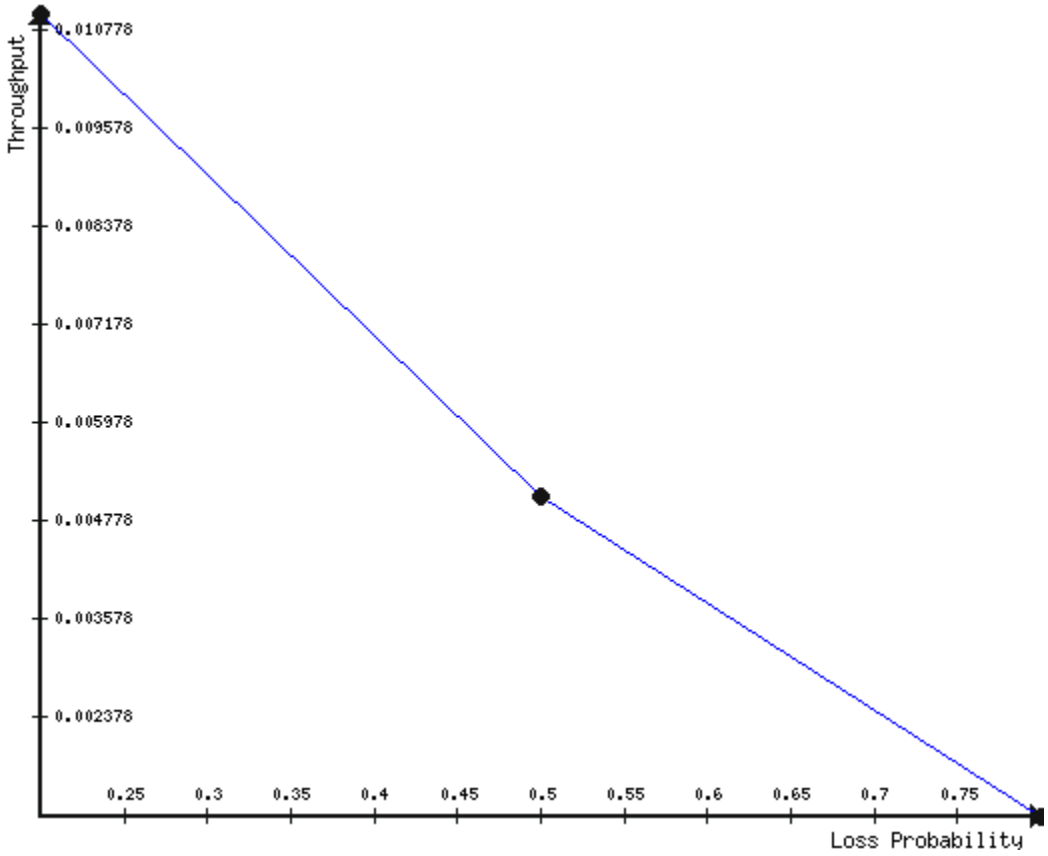


Fig 10 – Variation of throughput with Loss Probability for Seed = 1

Here also, we can see that as the loss probability increases, the throughput gradually decreases. This is the expected behavior as with increase in loss probability, the performance of the network suffers as more packets are getting lost in the network.