COP5615: Project 2

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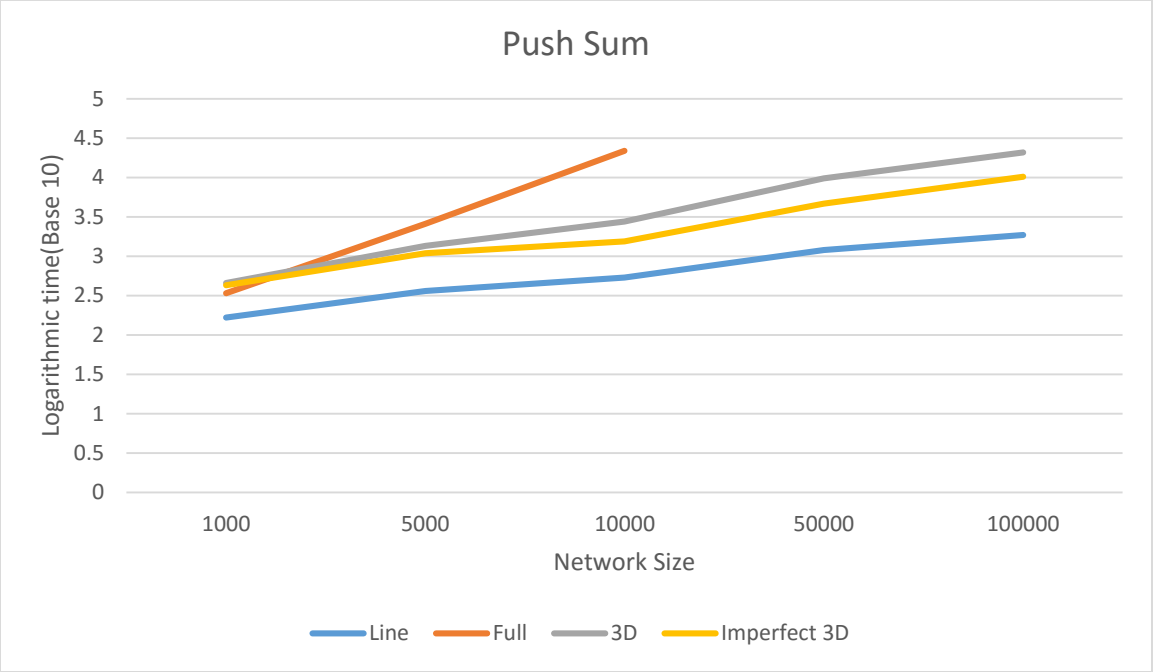
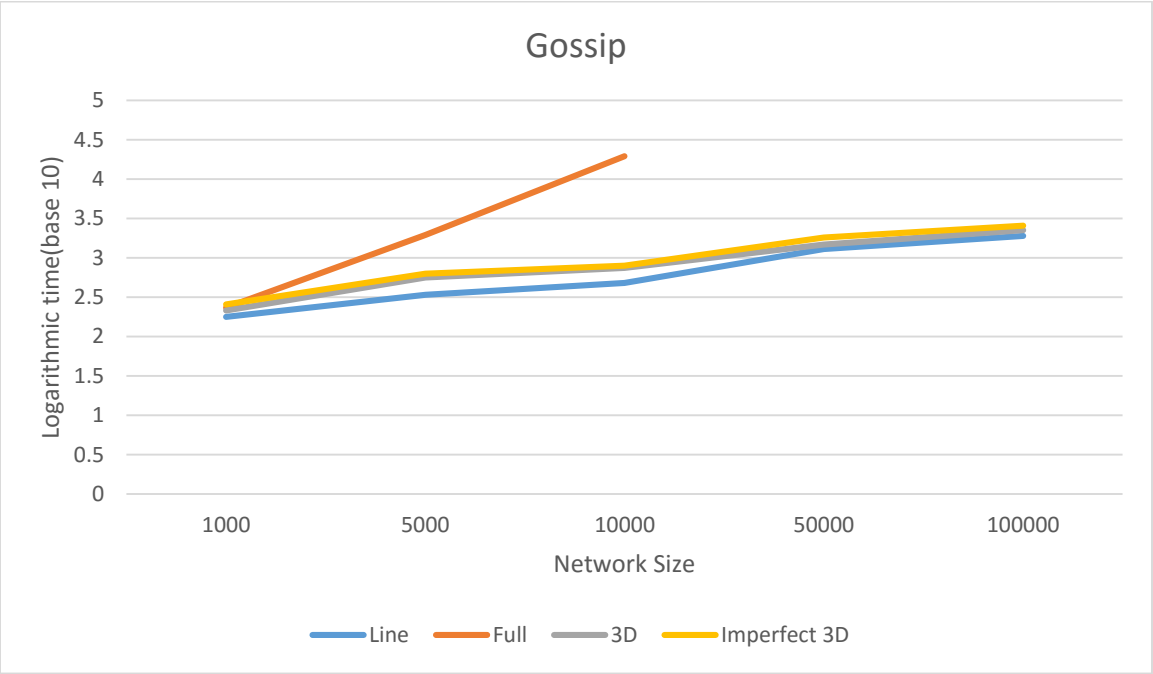
1. Time Vs Network Size for Push-Sum algorithm



In case of 'Full' topology, for lesser number of nodes (~1000) we observed that it works the best. But the performance of the push-sum algorithm falls drastically when the size of our network reaches 10000. The reason for this behavior seems to be the fact that each node has almost 10000 nodes where it can send the message and the probability of one node getting the message for an arbitrary number (say 10) is too low. Hence its implementation time is more.

2. Time Vs Network Size for Gossip algorithm



In Gossip algorithm, we had the same observation for ‘full’ topology. For more than 50000 number of nodes Imperfect 3D and 3D performed almost the same and there convergence time was comparable.

The weird observation is that ‘Line’ topology is scaling better than imperfect 3D and 3D topologies but we think that this is because the algorithm is not reaching a larger number of nodes in the network.