Gossip simulator Report

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Discussion

The plots of convergence time of convergence for gossip and pushsum algorithm are presented as below. Here are the remarks:

1. Being in consistent with, the time convergence for each algorithm is O(log N)
2. For gossip algorithm, it is found that the line topology has the longest time of convergence, while there are not particular difference among the other three topologies
3. For pushsum algorithm, the full topology needs the shortest time to converge and imperfect 3d needs the longest.
4. For gossip algorithm, since the node that initially holds the gossip is randomly chosen, it increase the uncertainty in the time of convergence if the network is not in a full topology.
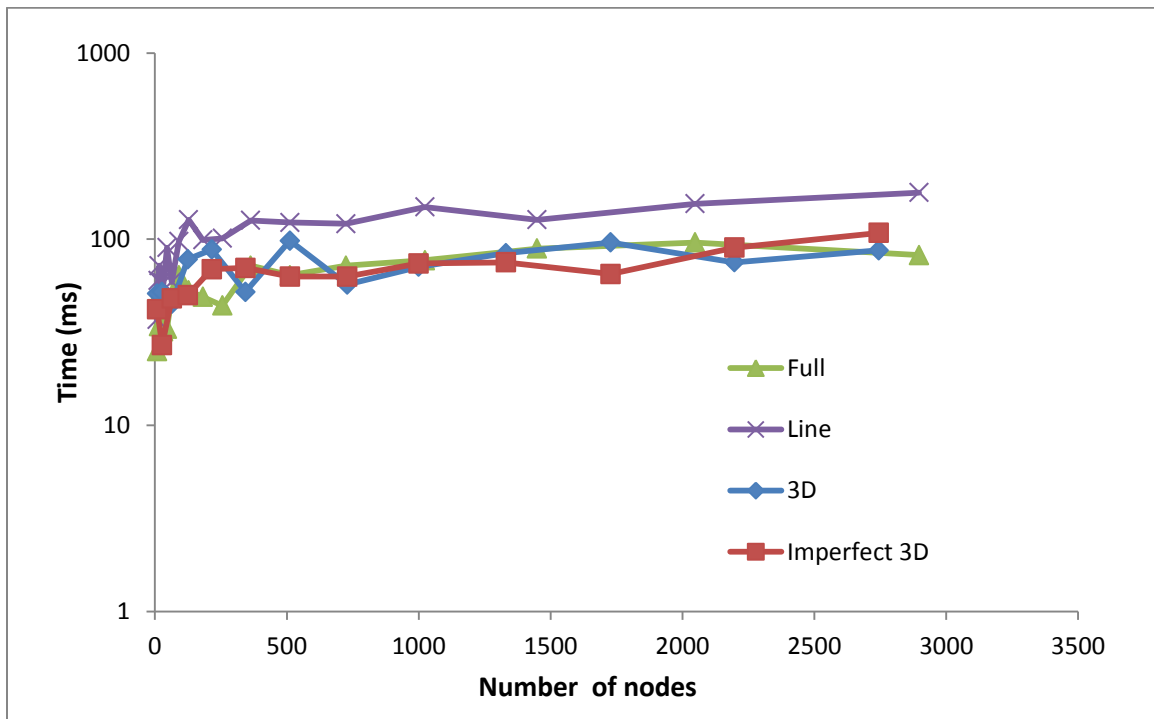

Fig 1: Time convergence for gossip
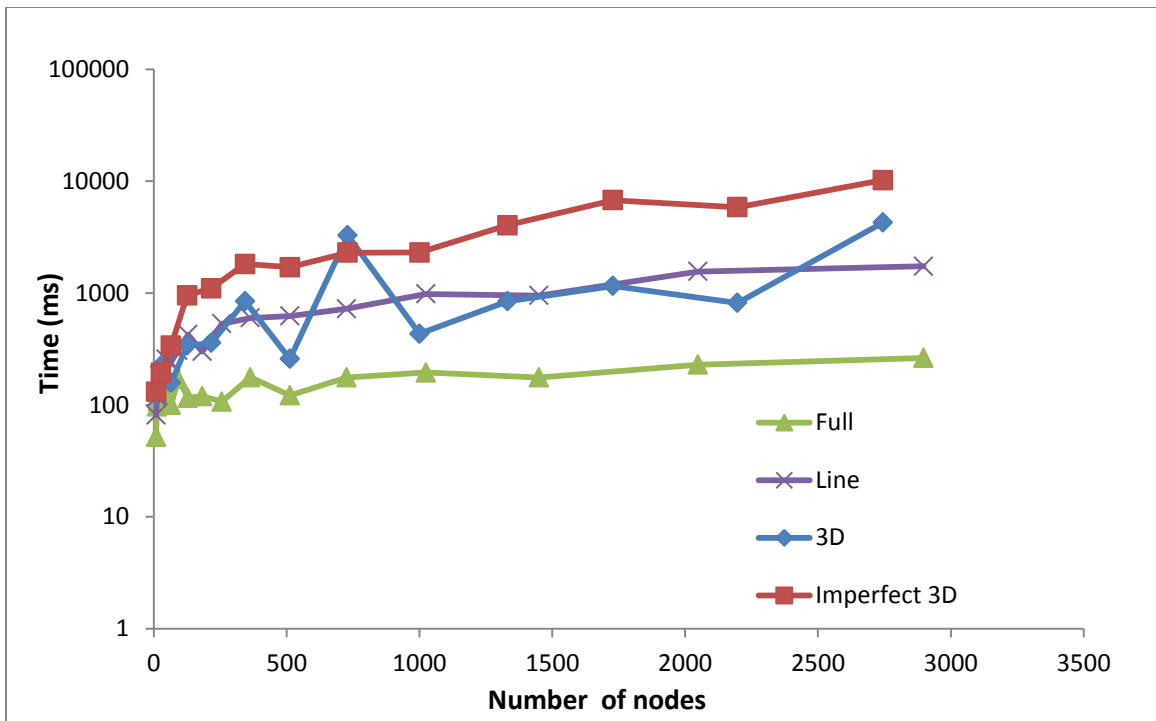
Fig 2: Time convergence for pushsum