Gossip simulator Bonus Report

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Discussion

In the bonus section, a number of dead nodes can be set randomly distributed in the network into dead nodes that do not transmit any information. In order to have a fair comparison, a network containing 1000 nodes are set initially for each topology and the influence on number of dead nodes has been investigated as shown the figure below.

It is found that with the number of dead nodes, a line topology still needs the longest time to converge comparing to other three topologies. As the number of dead nodes increase, the time of convergence for line topology tends to increase slight while the other three topologies shows a decreasing tendency. The possible reason is that the line topology as a weakly connected graph is likely to lose the goodness of the connection of the graph with the increase of the amount of dead nodes. On the other hand, full topology still maintains a strongly connected graph even dead nodes appear and the other two topologies with relatively more edges have a less chance of suffering from the connection issue.

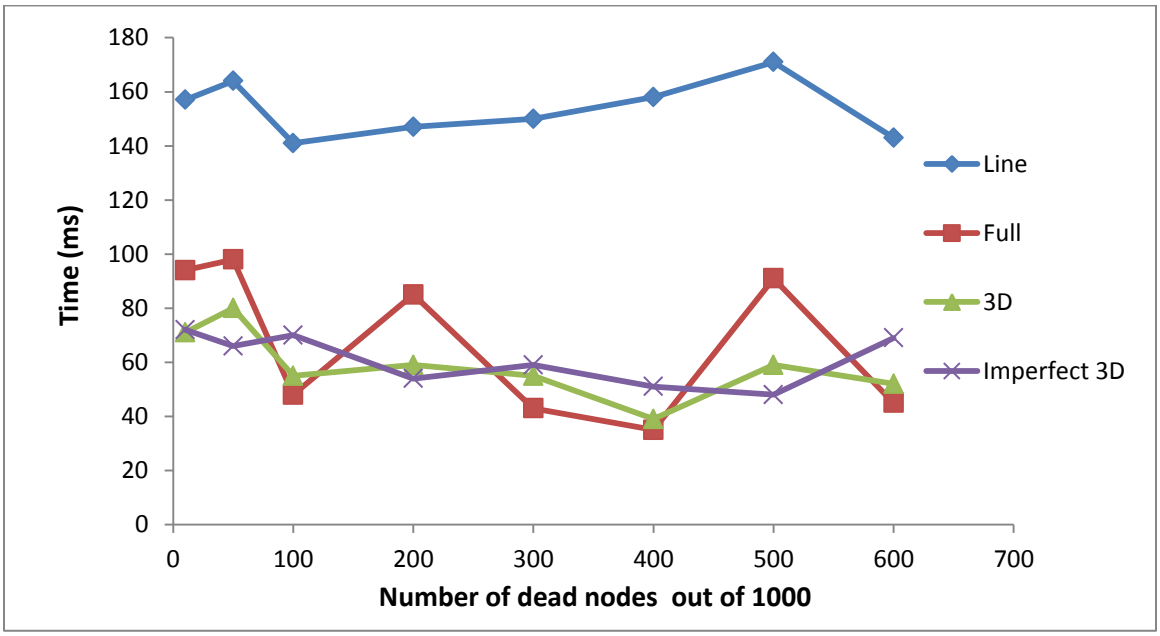

Fig 1: Time convergence for gossip vs number of dead nodes

* This project is accomplished individually.