

# Project 2 – Gossip Simulator

## Report

### Group Members

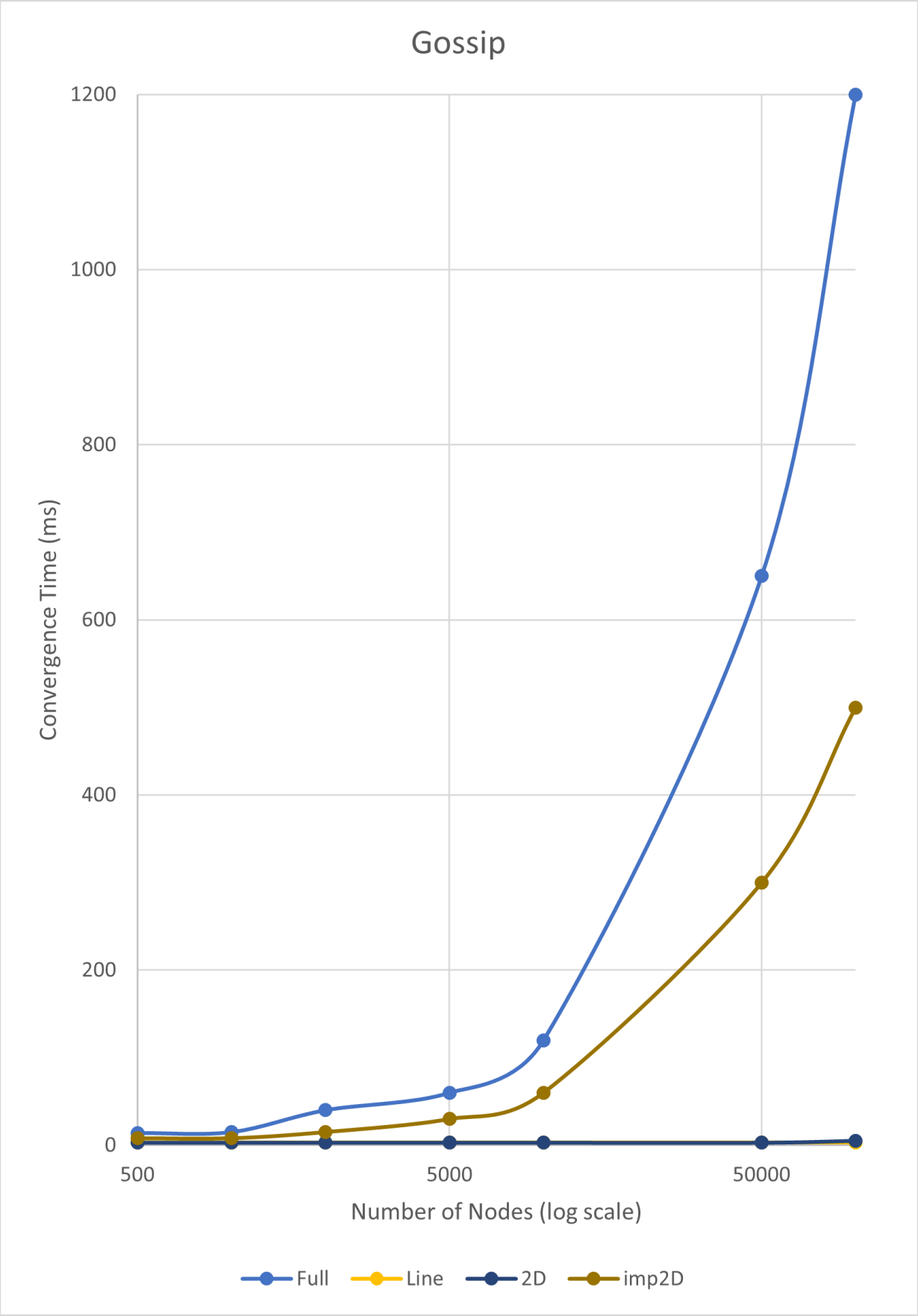
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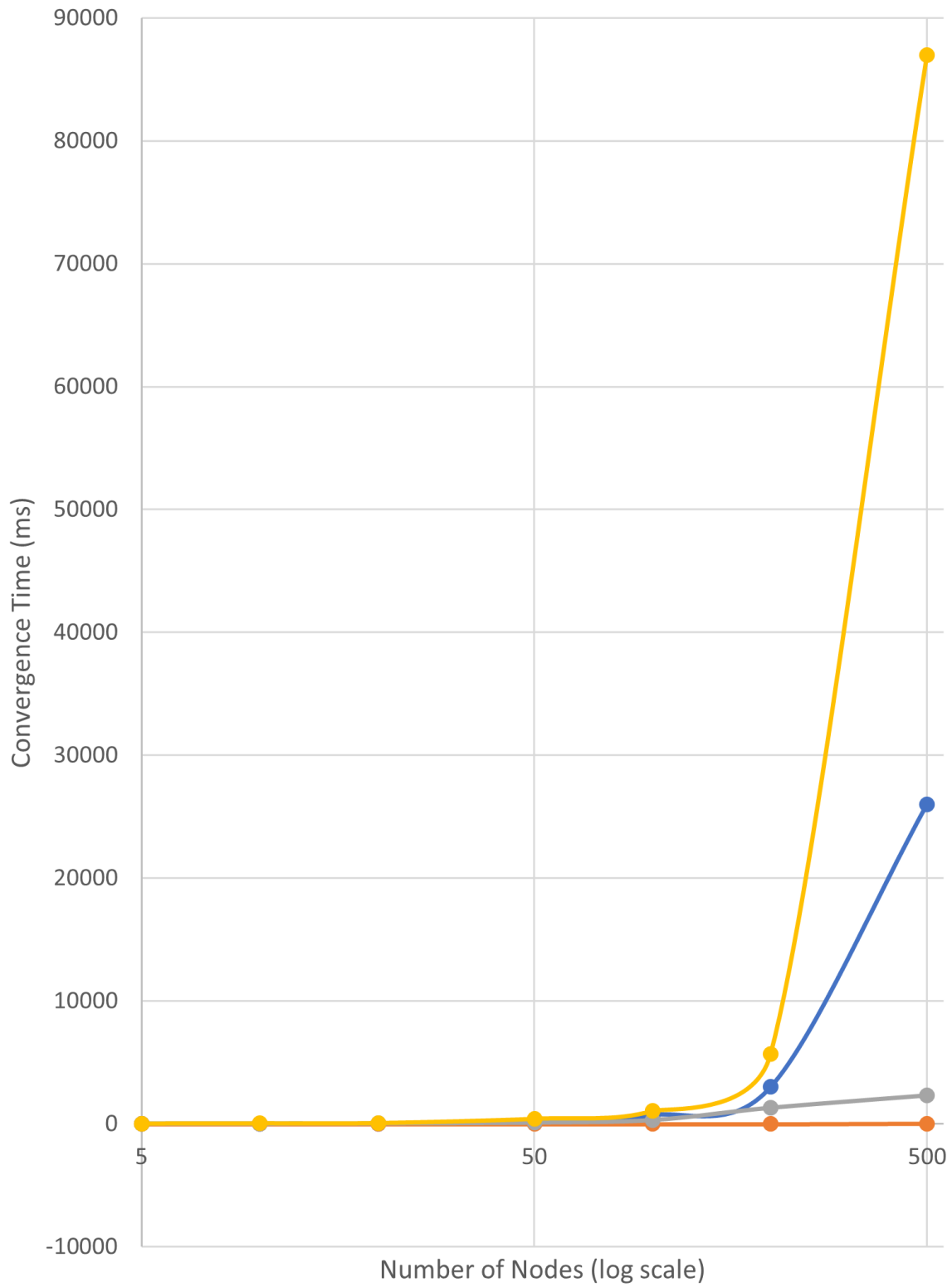
The graphs for comparison of topologies are given on the next 2 pages. The general trend is that higher number of nodes and higher freedom of choosing a neighbor directly relate to higher convergence time across all topologies and algorithms.

This is clearly seen in the graph for gossip where full network takes the highest time to converge, having the most freedom of choosing a neighbor, followed by imp2D where there are slight restrictions. Line and 2D perform the same as they are quite restricted, and the initial nodes stop transmitting early on as the message bounces between the initial few nodes quite a lot. This obviously also means that full and imp2D allows the message to reach much more nodes than line or 2D.

Similar trend is also shown in push sum with a difference that here imp2D takes the top spot and by a huge difference. Full comes second. This time 2D performs better than the line too. Overall push sum takes much more time for any topology than similar arrangement in gossip.



## Push Sum



Full Line 2D imp2D