

Project 2 – Gossip Simulator

Report

Group Members

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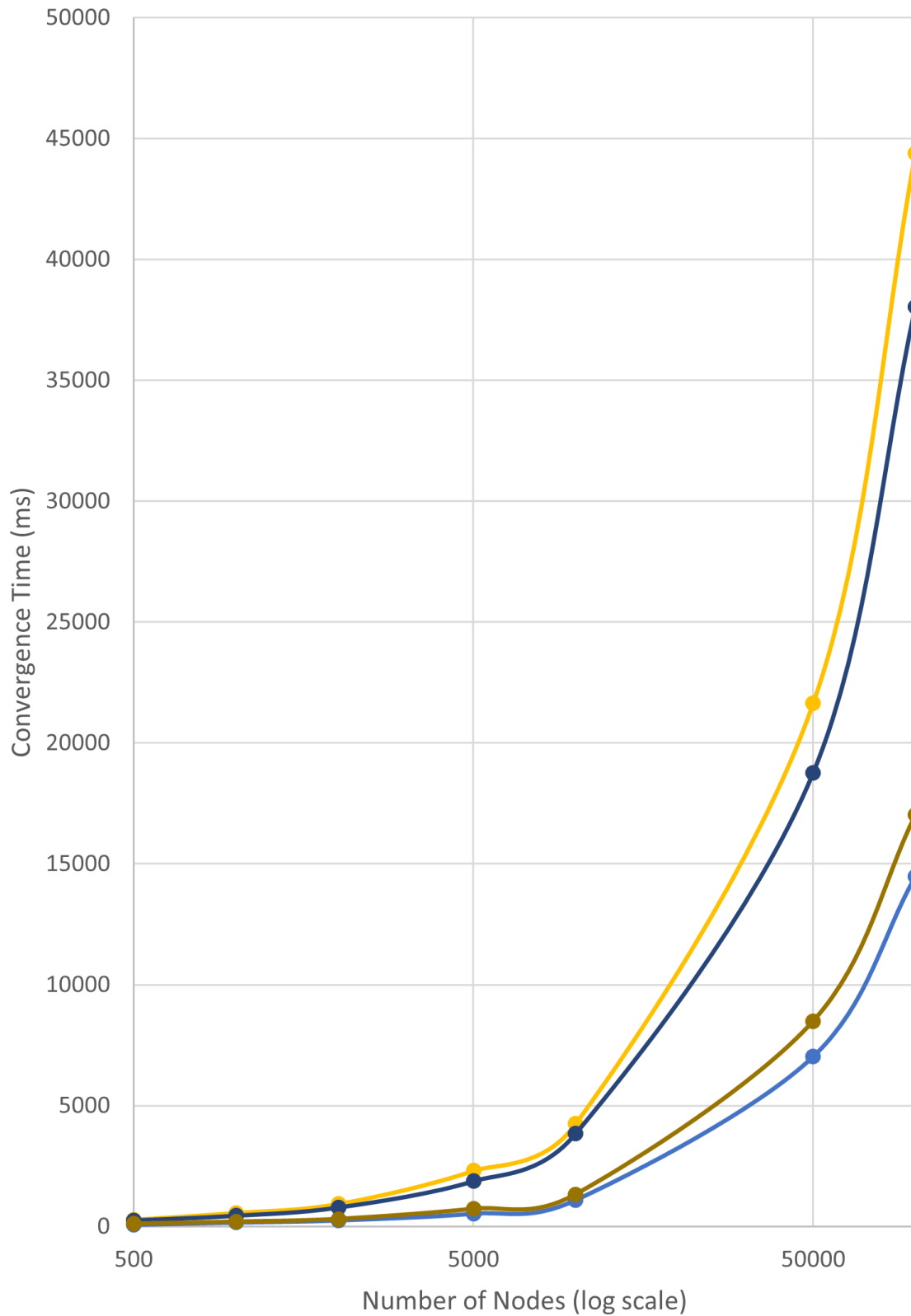
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The graphs for comparison of topologies are given on the next 2 pages. The general trend is that lower number of nodes and higher freedom of choosing a neighbor directly relate to lower convergence time in gossip.

This is clearly seen in the graph for gossip where full network takes the least 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 in the same time than line or 2D.

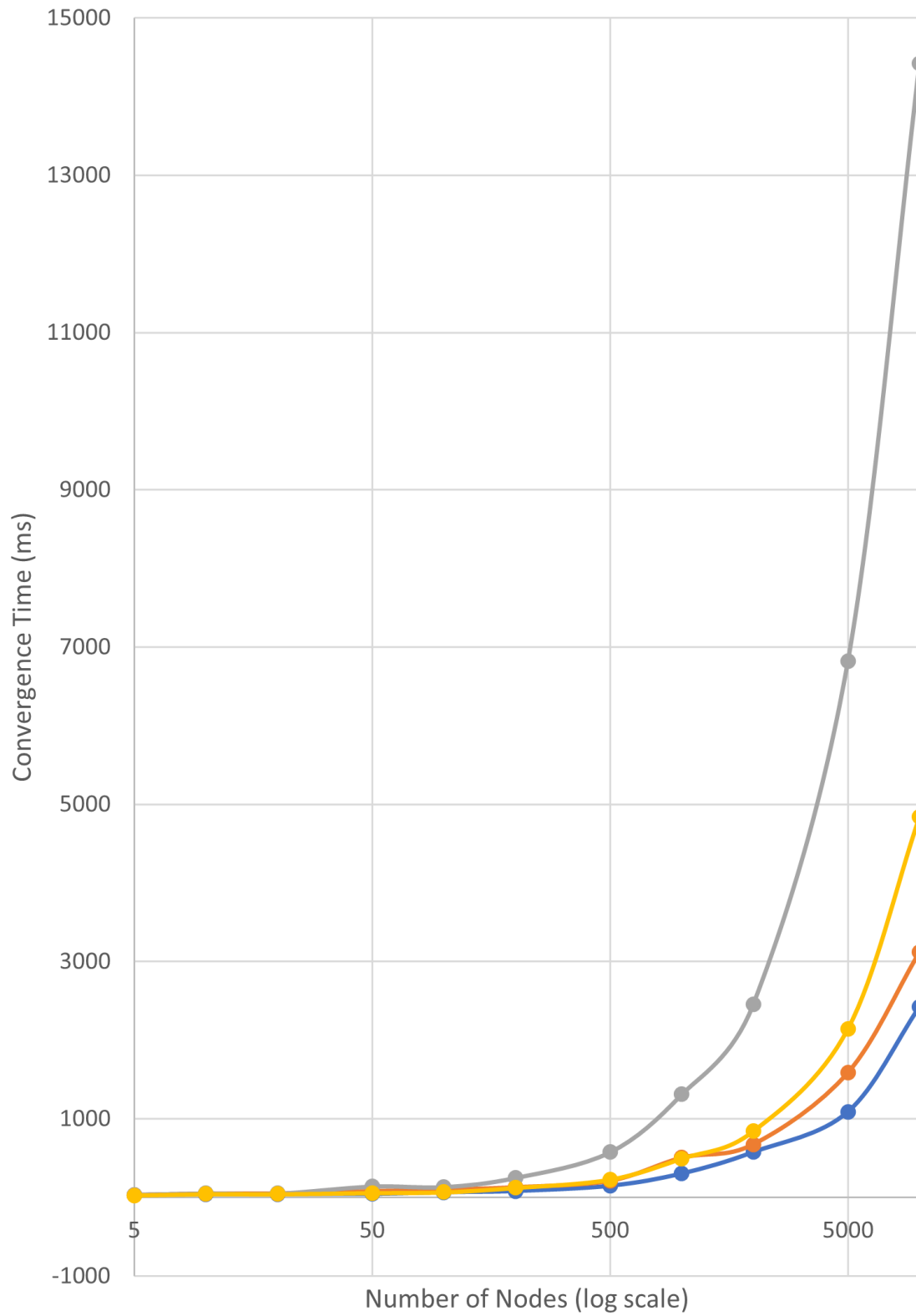
In push sum the 2D has the slowest convergence. Imp2D has slightly better convergence. Line converges faster than imp2D and full network has the fastest convergence again. Higher degree somewhat seems to play a role in faster convergence with the only exception being the line.

Gossip



Full Line 2D imp2D

Push Sum



Full Line 2D imp2D