

Distributed Operating System Principles(COP5615)

Project-2

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What is working?

- Gossip and Push-Sum algorithms are implemented successfully for the line, 3D, Imperfect 3D and full topologies.
- The convergence times vary due to the randomness in selecting the neighbour and the nature of said topologies that govern the spread of messages.
- Overall line topology has the highest convergence time and Full network has the least convergence time.

What is the largest network you managed to deal with for each type of topology and algorithm?

Gossip Protocol

Topology	Network Size	Convergence time (ms)
Full Network	5000	444
Line	5000	128376.148
Imperfect 3D Grid	5000	11828
3D Grid	5000	12442.8232

Push Sum Algorithm

Topology	Network Size	Convergence time (ms)
Full Network	1000	2592.365
Line	40	174650.7
Imperfect 3D Grid	1000	4041.774

Topology	Network Size	Convergence time (ms)
3D Grid	1000	129673.379