

# DISTRIBUTED OPERATING SYSTEM PRINCIPLES

## PROJECT 2

### (REPORT)

#### Team Members:

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#### Topologies:

1. Full Network
2. 2D Grid
3. Line
4. Imperfect 3D Grid

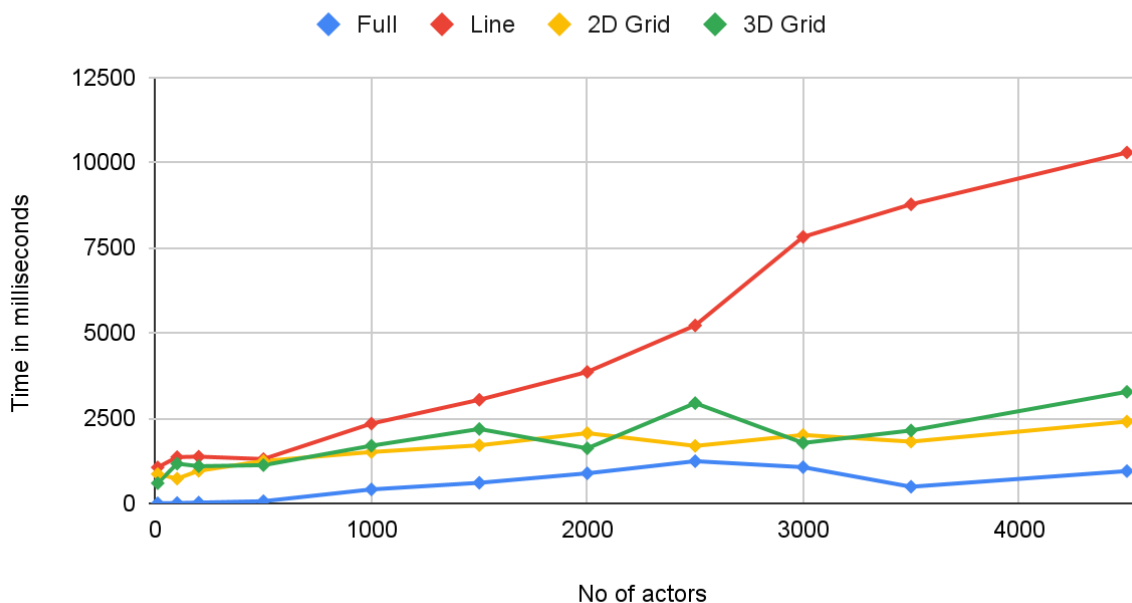
#### Algorithms

1. Gossip
2. Push-Sum

#### Graph Plot:

1. Gossip

#### Algorithm: Gossip

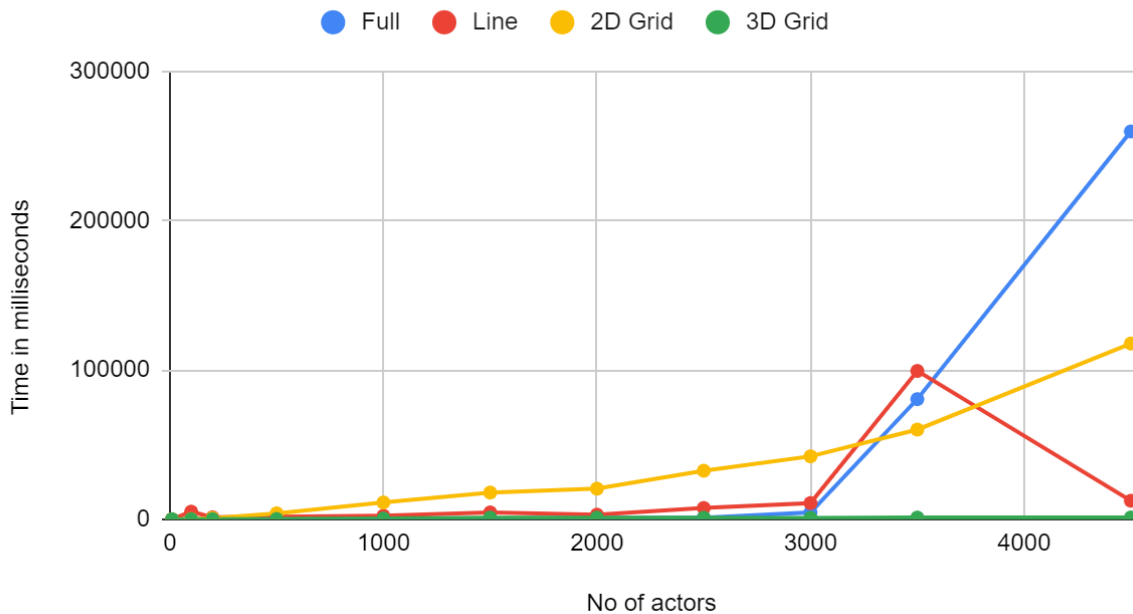


#### Findings:

We can observe from the above graph that, we get fastest communication between nodes in full network. In 2D Grid and 3D Grid we observe faster communication but irregular time depending on the distribution of nodes. Line network is the slowest but increases proportionally with the increase in no of actors.

## 2. Push-Sum

### Algorithm: Push-Sum



#### Findings:

We can observe from the above graph that, we get fastest communication between nodes in the imperfect 3D Grid. The randomness of node connectivity can be attributed to for the fast communication. It further helps if the node is a distance node although the probability of that is less. Full and Line network give fast communication except when large no of actors are involved while 2D Grid is the slowest. It can be attributed to the selective communication between the nodes in 2D Grid which calculator averages slower than that of line or full network.