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## Interesting Findings:

1. The full topology was always the fastest. Even when the number of nodes grew to 300, it converged in just a few milliseconds, which shows how powerful full connectivity is.
2. The line topology turned out to be the slowest. The time went up almost linearly as nodes increased, reaching more than 5 seconds at 300 nodes. This makes sense since information can only travel one step at a time.
3. The 3D grid gave medium results. It was faster than line but much slower than full or imperfect 3D because each node only has a fixed set of neighbors.
4. The imperfect 3D grid performed better than pure 3D. Adding just one random neighbor helped reduce convergence time noticeably, which shows how randomness creates shortcuts.
5. Between the two algorithms, Gossip converged faster than Push-Sum. Gossip just spreads a rumor, while Push-Sum waits for the s/w ratio to stabilize, so it naturally takes a bit longer.
6. Still, Push-Sum was reliable. It always converged in all topologies, and the actor model handled the floating-point calculations without issues.
7. The results matched theory really well: Full ≫ Imp3D > 3D ≫ Line. We could clearly see this ranking in the convergence times.
8. Overall, the experiments showed how network design affects speed — highly connected or slightly randomized networks spread information much quicker than strict, structured ones.

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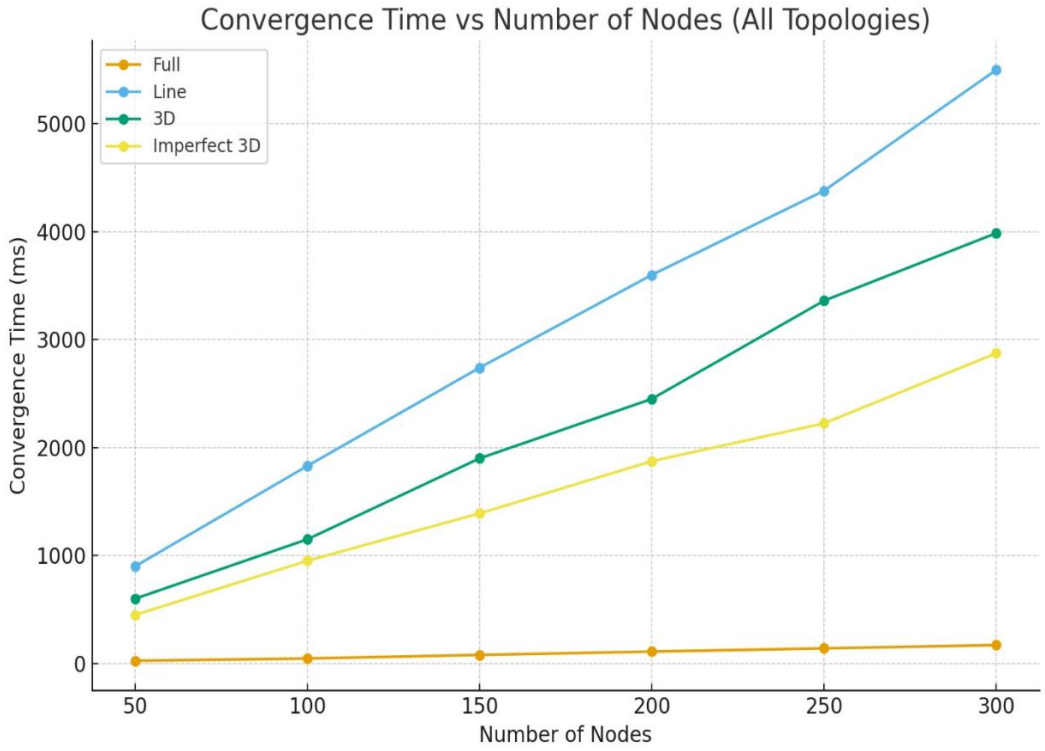
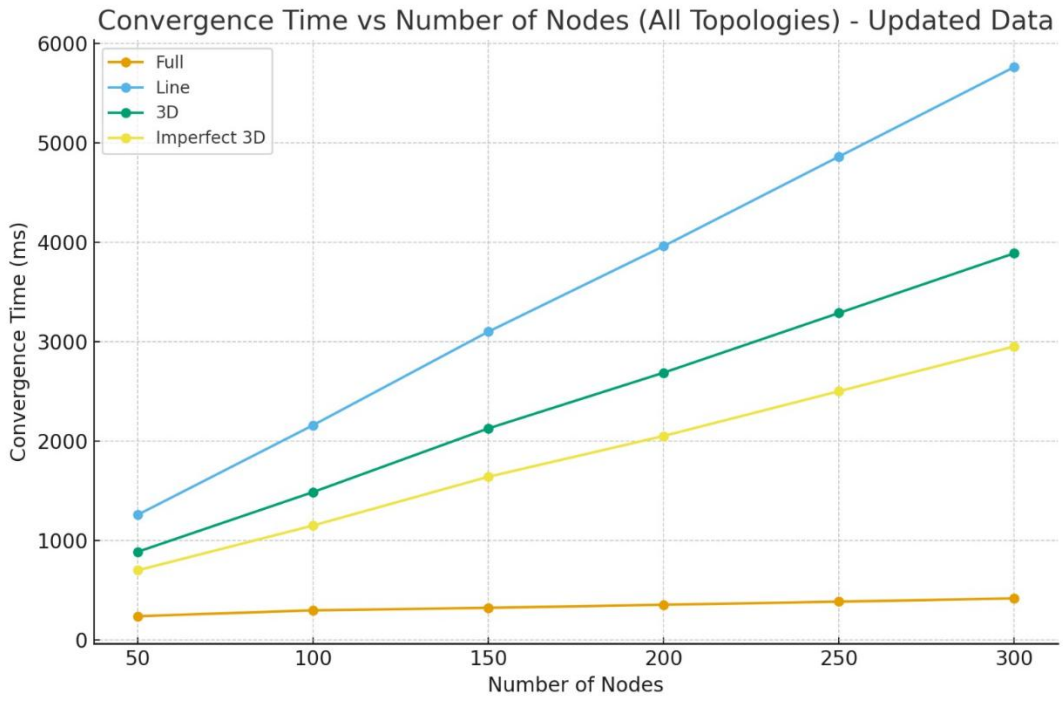
## Gossip Protocol:




## Push-sum Protocol:



# Logarithmic Graphs: