

Project Report

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Source Files Location:

src/main/scala-2.11/Chord/*

Usage: sbt "run numNodes numRequests"

What is working?

We have implemented the chord network join and the routing algorithm as described in the paper. We have chosen to implement the concurrent join algorithm described in the section 5 of the paper because, in the real world scenarios, nodes would join concurrently.

Largest network we managed to simulate:

We managed to simulate a network containing 100,000 nodes. The joining of new nodes was taking a significant amount of time beyond 100,000 nodes, mainly because of the increase in stabilization and fix fingers tick timers.

Results:

sbt "run 100000 10"

Average hop count: 5.1056

Note: To run the algorithms for large networks, you may have to increase the heap space by setting the environment variable `JAVA_OPTS="-Xmx4G"`