

Sanjith Chockan

Roucairol and Carvalho's distributed mutual exclusion algorithm

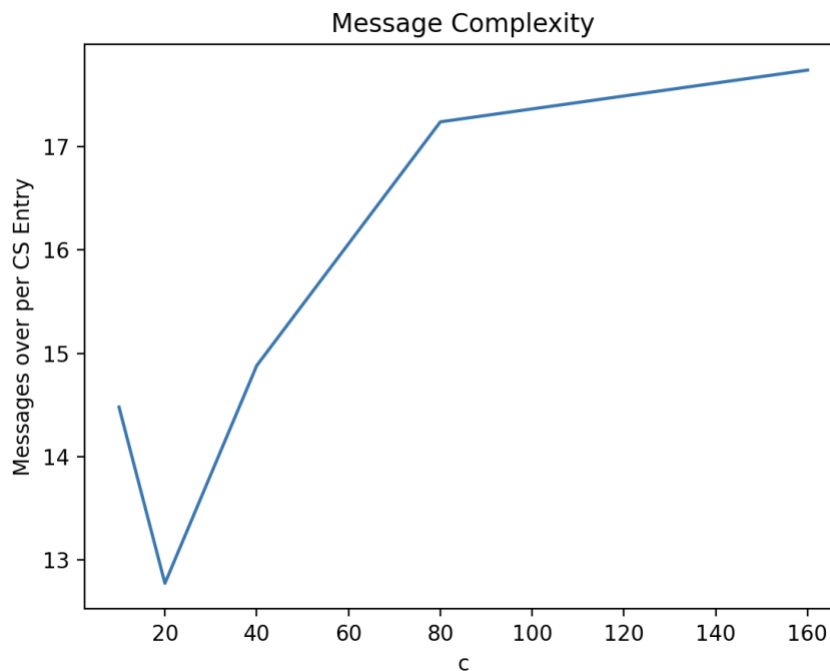
The following data was collected with the following c values: [10, 20, 40, 80, 160] ms

Each process made 300 critical section requests. Each point was collected by averaging over 5 runs.

1) Message complexity

Message averages: [14, 12, 14, 17, 17] over c values mentioned above.

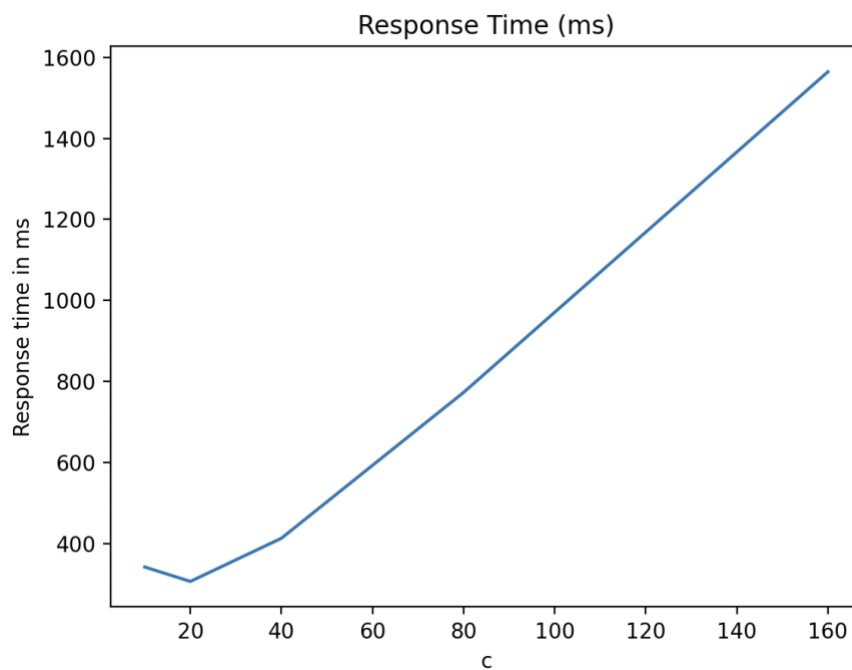
Number of messages used per average by a node to enter into critical section. When c is 10ms and 20ms, there is a little bit of inconsistency but since the values aren't too wide apart and given the probability distribution, it should be similar. Number of messages over per entry increases as c increases.



2) Response time

Response averages: [343.10, 307.59, 414.07, 773.56, 1563.97]ms over c values

Response time is the time it took when a critical section entry request was made until the time it was done executing its critical section. As c increases, the average response time increases as well.



3) System throughput

System throughput averages: [0.0028, 0.0031, 0.0023, 0.0012, 0.000631]ms over c values

System throughput is the number of requests fulfilled per unit of time. To make it more readable, the time unit is per 20 seconds. When c was 10ms – 20ms, around 30 requests were fulfilled per 20 seconds. But as c increased in value towards 160ms, only a couple were fulfilled per 20 seconds. System throughput decreases in value as c increases.

