CS633: PARALLEL COMPUTING

ASSIGNMENT 2 BONUS

HALO EXCHANGE WITH NEIGHBORING PROCESSES WITH LEADER on HPC2010

Group Members - Group 28

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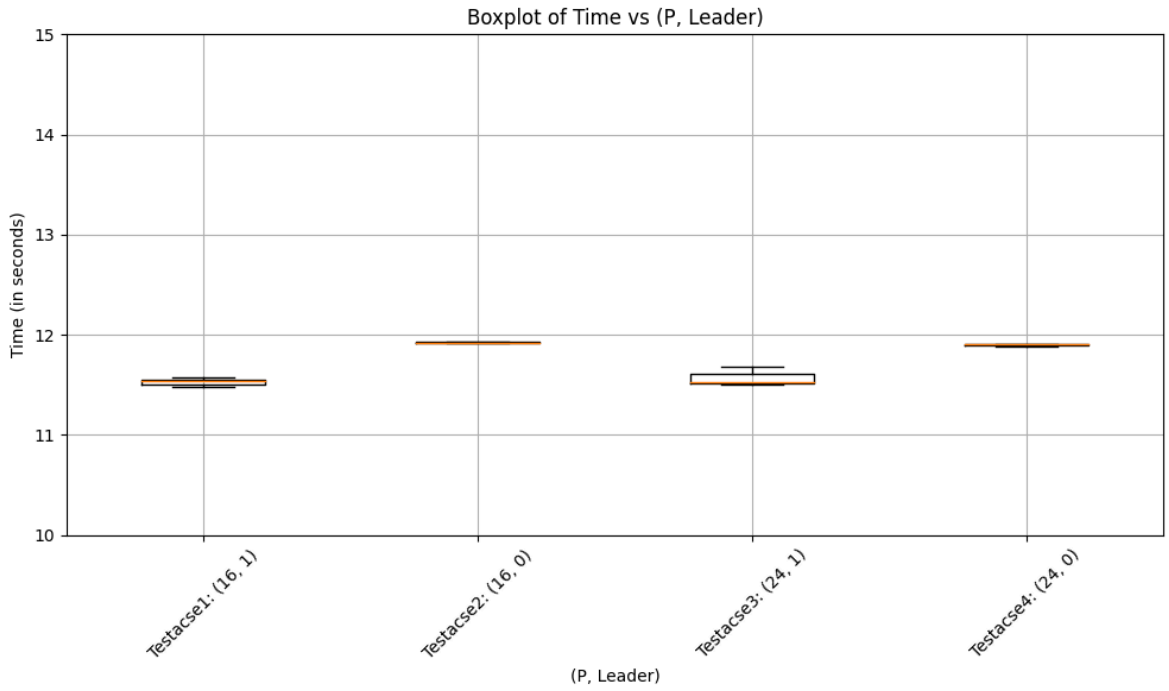
Timing Plot

P= 16		P = 24	
With Leader	Without leader	With leader	Without leader
11.533893	11.924154	11.528536	11.901058
11.476912	11.919334	11.503187	11.880359
11.577364	11.925482	11.685943	11.907082



Performance Observation

1. The variance of time taken for the execution is significantly lower when running on HPC2010 as compared to running on Prutor. This may be attributed to lesser job interferences and better job scheduling on HPC2010.
2. For data size of N = 8192, the execution time on HPC2010 is observed to be significantly less as compared to Prutor (11s on HPC2010 vs 50s on Prutor). This may be due to better architecture and higher number of instructions per second on HPC2010.
3. For all the test cases, the execution time with the leader is lesser than that without the leader as the number of inter node communications is less in the implementation with leader.
4. The time does not vary as we increase the number of processes for both with and without leader implementations.