Simulation of MJ_CDTmin based Scheduling Algorithm in Grid Environment

Abstract

To achieve the promising potentials of tremendous distributed resources, effective and efficient scheduling algorithms are fundamentally important. Unfortunately, scheduling algorithms in traditional parallel and distributed systems, which usually run on homogeneous and dedicated resources, e.g. computer clusters, cannot work well in the new circumstances. In this research paper, we introduce a New Grid Job Scheduling algorithm MJ_CDTmin (multiple jobs based on the minimum cumulative departure time). The MJ_CDTmin is based on the rule that the cumulative arrival time of the next job arriving at the processor is compared with the minimum cumulative departure time of the processor. The main aim of proposed scheduling algorithm is to increase the system efficiency and to satisfy the job requirements from the available resources. In this research work the proposed algorithm has been implemented and validated. To demonstrate the usability of proposed techniques, a Simulation test bench was implemented using the Turbo C platform and successful simulation was achieved. The experimental results showed a significant improvement in terms of a smaller makespan time as compared to the already existing FCFS scheduling algorithm.
References

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scheduling in Computational Grid. In IEEE proceedings of the Asia-pasific Conference on Services Computing (APSCC’06).


Index Terms

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