Abstract

Grid Computing is an important field that focuses on resource sharing. Grid Computing provides a secure, control and flexible resource access environment in a distributed network. One of the most critical issues in Grid Computing is efficient scheduling of the tasks. The main aim of Grid scheduling is to map the tasks onto the available processors and order their execution. Due to the dynamism and heterogeneity of the grid, an efficient scheduling algorithm that minimizes makespan with maximum resource is necessary. Efficient scheduling of jobs to the available grid resources makes effective utilization of the grid environment. Heuristic algorithms can be used for solving task scheduling problems, since it is shown to be NP-Complete. Efficiency of scheduling algorithms can be evaluated using the two important criteria makespan and resource utilization. A heuristic task scheduling algorithm that satisfies load balancing of resources on a grid environment is presented in this paper. This algorithm schedules the tasks which reduces the makespan of the jobs and increase the utilization of resources. The new heuristic task scheduling is compared with other traditional heuristics and the results are shown to predict that the new algorithm outperforms the other.

References
Heuristic Algorithm for Balancing Load in Grid Task Scheduling


Index Terms

Computer Science

Algorithms
Keywords
Grid Computing  Task Scheduling  Load Balancing  Heuristics  Makespan
Resource Utilization