Abstract

Grid computing has become a real alternative to traditional supercomputing environments for developing parallel applications that harness massive computational resources. However, the complexity incurred in building such parallel Grid-aware applications is higher than the traditional parallel computing environments. It addresses issues such as resource discovery,
heterogeneity, fault tolerance and task scheduling. Load balanced task scheduling is very important problem in complex grid environment. So task scheduling which is one of the NP-Complete problems becomes a focus of research scholars in grid computing area. The traditional Min-Min algorithm is a simple algorithm that produces a schedule that minimizes the makespan than the other traditional algorithms in the literature. But it fails to produce a load balanced schedule. In this paper a Load Balanced Min-Min (LBMM) algorithm is proposed that reduces the makespan and increases the resource utilization. The proposed method has two-phases. In the first phase the traditional Min-Min algorithm is executed and in the second phase the tasks are rescheduled to use the unutilized resources effectively.

Reference

Load Balanced Min-Min Algorithm for Static Meta-Task Scheduling in Grid Computing


Index Terms

Computer Science  Distributed Computing

Key words

Grid Computing  Load Balancing
Min-Min Algorithm  Meta Task Scheduling