Abstract

The integration of remote and diverse resources and the increasing computational needs of Grand challenges problems combined with faster growth of the internet and communication technologies leads to the development of global computational grids. Grid computing is a prevailing technology, which unites underutilized resources in order to support sharing of resources and services distributed across numerous administrative region. An efficient and effective scheduling system is essentially required in order to achieve the promising capacity of grids. The main goal of scheduling is to maximize the resource utilization and minimize processing time and cost of the jobs. In this research, the objective is to prioritize the jobs based on execution cost and then allocate over the resources with minimum cost by merging it with conventional job grouping strategy to provide solution for better and more efficient job scheduling which is beneficial to both user and resource broker. The proposed scheduling approach in grid computing employs a dynamic cost-based job scheduling algorithm for making efficient mapping of job to available resources in grid. It also improves communication to computation ratio (CCR) and utilization of available resources by grouping the user jobs before resource allocation.
Cost-based Job grouping and Scheduling Algorithm for Grid computing Environments

References


Index Terms

Computer Science

Algorithms

Keywords

Grid computing  Job Scheduling  Job Grouping.