Abstract

Grid computing is the novel framework that offers a flexible, secure and high performance computing, on demand for solving high compute-intensive applications with large number of independent jobs. However, user jobs developed for grid might be small and of varying lengths according to their computational needs and other requirements. Certainly, it is a real challenge to design an efficient scheduling strategy to achieve high performance in grid computing. But there exists some grouping based job scheduling strategy that intends to minimize total processing time by reducing overhead time and computation time, and on the other hand maximizing resource utilization than without grouping based scheduling. The purpose of the study is to analyze and achieve better performance by extending the concept of grouping based job scheduling. Therefore, this paper proposes “A Time-Minimization Dynamic Grouping-Based Job Scheduling in Grid Computing” with the objective of minimizing overhead time and computation time, thus reducing overall processing time of jobs. The work is verified through various observations made in different simulated grid environments. The results obtained shows that the proposed grouping-based scheduling algorithm is on average, comparable to, or even better than, other grouping based scheduling algorithms.
A Time-Minimization Dynamic Job Grouping-based Scheduling in Grid Computing

References

- R. Buyya and M. Murshed, Gridsim :A toolkit for the modeling and simulation of distributed management and scheduling for grid computing, 2002

**Index Terms**

Computer Science Distributed Computing

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Grid computing; Job grouping; Job scheduling