QoS Guided Heuristic Algorithms for Grid Task Scheduling

Abstract

Due to the heterogeneity and geographically distribution of Grid resources, effective and efficient task scheduling algorithms are required. Resource load balancing and minimizing makespan are the fundamental goals of effective and efficient task scheduling. It becomes more complicated when various QoS demands arise from users. In this paper, we have presented two algorithms, QoS Guided Weighted Mean Time-min and QoS Guided Weighted Mean Time Min-Min Max-Min Selective, for QoS based Grid task scheduling. Both algorithms consider the resource performance and QoS demands of tasks for scheduling. The algorithms are simulated using GridSim. The results show that the proposed algorithms outperform in makespan, resource utilization and load balancing than other algorithms such as, Weighted Mean Time-min, Weighted Mean Time Min-Min Max-Min Selective, Min-Min, Max-Min and QoS Guided Min-Min.

Reference

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Index Terms

Computer Science Grid Computing

Key words

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Makespan
Load Balancing