An Improved Grid Scheduling based on SLA for Workflow Application

Abstract

In grid environment multiple resource providers work together in order to accomplish a complex job. The service level agreement is negotiated between client and a provider for executing the job on high performance computing resources. Most of today grid applications consist of highly correlated tasks. The performance of the workflow application containing highly correlated tasks mainly depends on scheduling. This paper proposes an improved SLA based Grid scheduling for workflow application using improved heterogeneous earliest finish time algorithm to select appropriate resource(s) to execute each task of workflow application and advance reservation based resource negotiation to get commitment of the resources towards the task. The proposed model to schedule each task of workflow application not only keeps in mind the earliest finish time but also requirement of the user's job. The resultant effect of the proposed model decreases both execution times of the workflow applications as well as rescheduling needed for each task.

References

Index Terms

Computer Science  Distributed Computing
Keywords
Grid Computing  Slab  Drs  Heft  Advance Reservation Based Resource Negotiation  Qos  Dag