

STUDY AND IMPLEMENTATION OF NETWORK LOAD DISTRIBUTION SYSTEM USING GRID TECHNOLOGY

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ABSTRACT

The project focuses on the study of grid computing technology and implementation of minimal system, which can use to experiment with various features of JINI and consequently evaluate its general suitability for building a grid system. This prototype system is expected to be able to monitor the current state of computing resources, identify which resources it should use for parallel tasks and map and execute the task on the selected resources. The grid has emerged as an integrating infrastructure for distributed computing, but it is more far reaching. Grid has a type of parallel and distributed system that enables the sharing, selection, and aggregation of resources distributed across multiple administrative domains based on their resources availability, capability, performance, cost and users' quality-of-service requirements. In this project, client, middleware and compute services will be developed. The middleware is responsible for monitoring tasks resources and select a suitable compute host for executing the client's tasks. To be able for better tasks delegation, the middleware will extend the JINI functionality to provide with the additional capability of inexact matching. Compute services may appear like a supercomputer that constructed by heterogeneous computers with different attributes. Clients must first find the most suitable compute service and submit their tasks for execution. Several examples of clients will be presented, ranging from a simple integral computation to a more advanced graphical interactive program.