

The Design and Implementation of a Dynamic Resource Broker Framework in a Grid Environment

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Abstract

Owing to the recent great advances in Grid Computing, computational Grids are emerging for solving grand challenge applications. Grid development involves the efficient management of heterogeneous, geographically distributed, and dynamically available resources. However, the huge and complex architecture of grid software is still immature and difficult to use, especially in a large grid computing environment. In the paper, we proposed and developed a resource broker framework to help a grid user which can easily access to the suitable grid resources and submit jobs without knowing any resource information in the system. The proposed resource broker runs on the top of the Globus Toolkit. It can dynamically provide the corresponding information for the grid users in advance. The experimental results show that the proposed resource broker has superior performance compared with random as well as round-robin method.

Keyword : resource broker, grid, globus toolkit