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Simulation of a Cost Model Response Requests for Replication in Data Grid Environment

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Abstract : Data grid is a technology that has full emergence of new challenges, such as the heterogeneity and availability of various resources and geographically distributed, fast data access, minimizing latency and fault tolerance. Researchers interested in this technology address the problems of the various systems related to the industry such as task scheduling, load balancing and replication. The latter is an effective solution to achieve good performance in terms of data access and grid resources and better availability of data cost. In a system with duplication, a coherence protocol is used to impose some degree of synchronization between the various copies and impose some order on updates. In this project, we present an approach for placing replicas to minimize the cost of response of requests to read or write, and we implement our model in a simulation environment. The placement techniques are based on a cost model which depends on several factors, such as bandwidth, data size and storage nodes.

Keywords : response time, query, consistency, bandwidth, storage capacity, CERN
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