A dynamic replication strategy based on categorization for Data Grid

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Abstract: Data Replication is copying the data from a certain location to another location. Replication is used in Data Grid to have two or more copies of the same data at different locations. In this paper, a Category-based dynamic replication strategy (CDRS) is proposed. The strategy takes into account that the replicas exist on a node belong to different categories. Each of these categories is given a value that determines its importance for the node. When the node's storage is full, the node starts to store only the replicas that belong to the category with the highest value. The results of the simulations show that the new proposed strategy achieved better performance than Plain Caching and Fast Spread strategies in terms of total transit time and total bandwidth consumption.

Keywords: Data Grid, replication, categories, plain caching, fast spread, simulation

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