

## Hierarchical Checkpoint Protocol in Data Grids

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**Abstract :** Grid of computing nodes has emerged as a representative means of connecting distributed computers or resources scattered all over the world for the purpose of computing and distributed storage. Since fault tolerance becomes complex due to the availability of resources in decentralized grid environment, it can be used in connection with replication in data grids. The objective of our work is to present fault tolerance in data grids with data replication-driven model based on clustering. The performance of the protocol is evaluated with Omnet++ simulator. The computational results show the efficiency of our protocol in terms of recovery time and the number of process in rollbacks.

**Keywords :** data grids, fault tolerance, clustering, chandy-lamport

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