

Comparing Fault Tolerance Mechanisms for Self-organizing Resource Management in Grids*

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Abstract

Grid users require the established usage of service level agreements (SLAs). To prevent SLA violations in the case of failures, current research focuses on the development of fault-tolerance (FT-) mechanisms like migration. My new approach integrates risk assessment into the Grid fabric in order to estimate the risk for resource failures. In systems with high workload the initiation of a FT-mechanism causes effects for other jobs. In order to find the most profitable solution, the different effects have to be estimated and compared. This paper presents an automatic process for the comparison and selection of a FT-mechanism in a risk-aware, self-organizing resource management system which takes into account different resource stabilities.

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