

Enhance Self-managing Grids by Risk Management*

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Abstract

Risk management (RM) processes are used in various application fields since often possible threats should be identified, evaluated, and avoided. In the Grid resource failures are common and likely threats which slow down the establishment of Service Level Agreements (SLAs). Introducing RM into the self-managing Grid is beneficial to estimate and react on such threats. The assessed probabilities for resource failures can be used as a decisive factor in different scenarios. In particular, the resource allocation profits from risk information since jobs can be mapped under consideration of their importance and the stability of available resources.

Each RM process is particularly developed for one application field since the threats, the consequences, and the retaliatory actions are individual. The difference between conventional RM processes and the Grid integrated one is that the Grid should be self-managing. This implies that after the configuration RM processes have to be performed totally automatical. This paper presents the Grid RM process which bases on the standard for RM processes developed from the Federation of European Risk Management Associations (FERMA).

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