

Virtual Execution Environments for ensuring SLA-compliant Job Migration in Grids *

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Abstract

If commercial users shall be attracted to the Grid, it has to provide guaranteed service quality levels. Service Level Agreements are powerful instruments for describing the customer's demands on QoS. In the EC-funded project HPC4U, an SLA-aware resource management system has been developed, which uses transparent checkpointing of applications and migration of checkpoint datasets for ensuring SLA-compliance also in case of resource outages.

Migration of checkpoints presumes a high grade of compatibility between source and target resource. Hence, even in large Grid systems only a small number of resources are eligible migration targets. This paper describes the concept of virtual execution environments and how they increase the number of potential migration targets. It will also outline an implementation within the OpenCCS resource management system.

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