



Diplomanden- und Doktorandenseminar
des Instituts für Informatik

Decision Making in a Distributed Metascheduler

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We describe a metascheduler for high-performance computing (HPC) grids that is build upon a distributed architecture. It is modelled around cooperating peers represented by the local proxies deployed by participating sites. These proxies exchange job descriptions between themselves with the aim of improving user-, administration-, and grid-defined metrics. Relevant metrics can include, e.g., reduced job runtimes, improved resource utilization, and increased job turnover. The metascheduler uses peer-to-peer algorithms to discover under-utilized resources and unserved jobs. A selection is made based on a simplified variant of the Analytic Hierarchy Process that we adapted to the special requirements imposed by the Grid. It enables geographically distributed stakeholders to participate in the decision and supports dynamic evaluation of the necessary utility values. Finally, we identify four intrinsic problems that obstruct the implementation of metaschedulers in general.

Dienstag, den 17.11.2009

13:45 Uhr in Raum 106, IfI, Julius-Albert-Straße 4