

# AssessGrid Strategies for Provider Ranking Mechanisms in Risk-aware Grid Systems\*

Dominic Battré, Matthias Hovestadt, Odej Kao, and Daniel Warneke  
Technical University of Berlin  
Germany

{battre,maho,okao,warneke}@cs.tu-berlin.de

Kerstin Voss  
Paderborn Center for Parallel Computing  
University of Paderborn  
Germany  
kerstin@upb.de

Karim Djemame, Iain Gourlay, and James Padgett  
School of Computing  
University of Leeds, United Kingdom,  
{karim,iain,jamesp}@comp.leeds.ac.uk

July 22, 2008

## Abstract

Grid systems are on the verge of attracting the commercial user who requires contractually fixed levels of service quality. Service Level Agreements are powerful instruments for describing all obligations and expectations within such a Grid-based business relationship. Service selection has

---

\*This work has been partially supported by the EU within the 6th Framework Programme under contract IST-031772 "Advanced Risk Assessment and Management for Trustable Grids" (AssessGrid).

so far been based on performance and compatibility criteria while neglecting the factor of reliability and risk.

The EC-funded project “AssessGrid” aims at introducing risk assessment and management as a novel decision paradigm into Grid computing. With AssessGrid, providers are able to express the risk associated with an Service Level Agreements, and broker services are able to judge the trustworthiness of such provider risk statements. This paper focuses on the provider ranking process where a broker or end-user has to decide which provider to choose from, and consequently which SLA to commit to.