Karlsruhe Institute of Technology

Institute for Program Structures and Data Organization
Chair for Software Design and Quality
DFG Research Group (“Emmy Noether” Programme)

Software Design and Quality

Descartes Research Group
http://descartes.ipd.kit.edu

Descartes research

Datum: 2010-11-30

Diploma / Master Thesis

Workload Forecasting in Cloud Computing Environments

Motivation

Changes of the workload profile directly affect the usage of available resources. Therefore, resource configuration and reallocation techniques are applied to still use these available resources efficiently. An essential element of proactive reconfiguration mechanisms in dynamic systems is most accurate prediction of the workload change.

Goals

In this work, you investigate existing techniques for workload forecasting, e.g. techniques used in the financial markets like chart analysis etc. A summary of the advantages and drawbacks of these techniques and their applicability under different time horizons (minutes, hours, days) are another goal. In addition, another goal is the implementation of such a technique or the integration of existing tools in our framework for reconfiguration in virtualization environments. Finally, an evaluation with an industry-standard application should be conducted.

We offer:

- **Work with state-of-the-art and innovative technologies**
- **Closely related to current research projects**
- **Excellent working environment and intensive mentoring**

Duration

6 months

Contact

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