
Abstract:
To ensure the operability and reliability of large scale Enterprise Resource Planning Systems (ERP), a peak-load oriented hardware sizing is often used, which results in low average utilization. Better utilization can be achieved by employing an adaptive infrastructure based on smaller computational units like Blade servers in combination with an intelligent allocation management. The SAP University Competence Center (German SAP Hochschul Competence Center, SAP HCC) at the Technische Universität München provides support for 55 ERP training systems and is based on a scalable architecture of 96 Blade servers. The evaluation of the historical load data revealed that many applications exhibit cyclical resource consumption. The identified load patterns can be used for static and dynamic allocation optimization, leading to wellbalanced load and to reduced future investments in hardware. In this paper we show the extraction of load patterns.
and present self-organizing controlling concepts in the context of the SAP HCC. This practical evaluation of theoretical adaptive computing concepts is of particular importance for emerging service oriented architectures (SOA), where techniques for a flexible and dynamic resource allocation play a decisive role.

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