Performance of SAP ERP with Memory Virtualization using IBM Active Memory Expansion as an example

Main memory virtualization is used to expand the effective main memory capacity. IBM offers main memory virtualization called Active Memory Expansion on its POWER platform. By using this technique, an existing main memory area can be expanded meaning that more main memory is represented to guest operating systems than physical memory is actually available. The price for main memory virtualization is a higher CPU utilization, especially when dealing with high workloads. SAP ERP systems represent the backbone of today’s enterprises and have a very high resource demand. The combination of memory virtualization and SAP ERP system is of great importance but has not yet been thoroughly researched. This paper is the first approach to a quantitative research for evaluating the performance impact of memory virtualization on SAP ERP systems. Therefore, the SAP ERP systems architecture is explained as well as the functionality of the synthetic memory benchmark, which is used to evaluate the
performance. The results from our measurements are presented and explained in detail and implications for the SAP ERP systems operations are noted.

**Intellectual Contribution:**
Discipline-based Research

**Kongress- / Buchtitel:**
The 20th International ACM Symposium on High-Performance Parallel and Distributed Computing VTDC11 - The 5th International Workshop on Virtualization Technologies in Distributed Computing

**Kongress / Zusatzinformationen:**
San Jose, California, USA

**Jahr:**
2011

**Monat:**
Jun

**Key publication:**
Nein

**Peer reviewed:**
Ja

**International:**
Ja

**Book review:**
Nein

**commissioned:**
not commissioned

**Professional:**
Nein

**Occurences:**
Einrichtungen > Fakultäten > Fakultät für Informatik > Lehrstühle der Informatik > Informatik 17 - Lehrstuhl für Wirtschaftsinformatik (Prof. Krcmar) > Konferenzbeiträge

**entries:**