IBM posts leadership 2-processor score for SPECvirt_sc2010 benchmark

IBM System x3690 X5 with MAX5 delivers leadership 2-processor performance for virtualization applications

December 15, 2010 ... IBM® today announced the highest score achieved to date by a 2-processor server on the SPECvirt_sc2010 benchmark. The IBM System x® 3690 X5 server with MAX5 memory expansion achieved an overall performance score of SPECvirt_sc2010 1763 @ 108 VMs. SPECvirt_sc2010 is the first-generation SPEC® benchmark for evaluating the virtualization performance of datacenter server consolidation.

The x3690 X5 was configured with the Intel® Xeon® Processor X7560 (2.26GHz with 24MB L3 cache per processor—2 chips/16 cores/8 cores per chip), 1TB of memory (512GB in the server and 512GB in the MAX5 memory expansion unit), one-hundred ninety-two (192) 73GB disk drives. The x3690 X5 ran Red Hat Enterprise Linux® 6, and Kernel-based Virtual Machine (KVM) hypervisor. (1)

The x3690 X5 server, based on the fifth generation of the IBM Enterprise X-Architecture®, delivers innovative technology that can help clients maximize memory, minimize cost, and simplify deployment. The x3690 X5 is a 2-socket, 2U rack server that supports the latest 4-, 6- and 8-core Intel Xeon processors, PCI-e architecture, and high-speed DDR3 memory. Designed for extremely complex, compute-intense applications requiring 2-socket plus processing power and large memory support, the x3690 X5 is ideal for virtualized environments, database applications, and enterprise computing applications. IBM MAX5 for System x is a 1U expansion drawer that delivers an additional 32 DIMM slots with a memory controller for added performance and a node controller for scalability. MAX5 provides unprecedented memory expansion by decoupling server memory from system processors allowing optimal server performance.

Result referenced is current as of December 15, 2010. This SPECvirt_sc2010 result has been accepted by SPEC and is posted at http://www.spec.org/virt_sc2010/results/. View all results for SPEC benchmarks at http://www.spec.org.

About the benchmark

SPECvirt_sc2010 comprises a set of component workloads that represent common application categories typical of virtualized environments for server consolidation. These component workloads are used to drive relatively low load levels against sets of six virtualized servers (VMs) that include a database server and an application server, a Web and a file server, and a mail server, and an idle server. These 6 VMs are referred to as a *tile*. The VMs in the tile support modified versions of the SPECweb®2005, SPECjAppServer®2004, and SPECmail2008 workloads, and a new SPECpoll workload (for idle server and active idle). The SPECvirt Client Harness coordinates the load drivers used by the underlying component workloads, collects measurement data as the test runs, post-processes the data at the end of the run, validates the results, and generates the test report.

The benchmark supports three categories of results, each with its own primary metric. Results may be compared only within a given category; however, the benchmark sponsor has the option of submitting results from a given test to one or more categories. The first category is Performance-Only; its metric is SPECvirt_sc2010, which is expressed as SPECvirt_sc2010 <Overall_Score> @ <6*Number_of_Tiles> VMs on the reporting page. The overall score is calculated by taking each component workload in each tile and normalizing it against its theoretical maximum for the pre-defined load level. The three normalized throughput scores for each tile are averaged to create a per-tile submetric; the submetrics for all tiles are added to get the overall performance metric.

(1) The IBM System x3690 X5 model with IBM MAX5 as configured for this benchmark is generally available.