Intel IT Center

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Vendor Spotlight

Oracle* x86 Systems Deliver Record-Breaking Performance

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Ed Franklin talks about how Oracle's hardware systems are built for total performance throughout the stack and describes the latest server products based on the Intel® Xeon® processor E5 family.

Today, many IT departments continue to experience staffing challenges brought on by the recent economic downturn. At the same time, IT managers are being asked to provide additional new and innovative services to the business. They look to Oracle to help them lower their costs and automate more processes so they can concentrate their resources and efforts on the mission-critical applications and value-added services that can differentiate their business.

Oracle can help IT to move forward and keep pace with increases in demand for more compute, network, and storage resources. We bring a unique perspective to the marketplace with our intense focus on enterprise applications and databases, specifically for large data centers. We help our customers identify ways to look at their entire infrastructure environments and understand both the costs and challenges, so that at the end of the day, the systems they deploy perform efficiently and deliver business value.

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Total Performance from Application to Disk

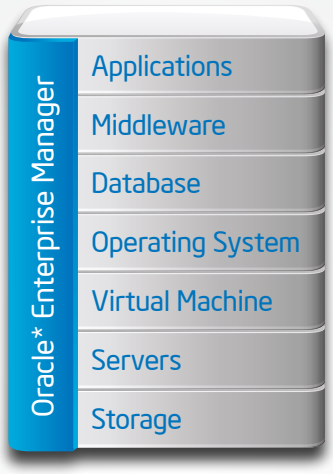
When we design systems for our customers, we think about the total performance—not just for particular elements or components within the stack, but the entire stack—from applications to disk. We believe that developing, integrating, and testing these components together can make a significant difference in application performance.

We are also intensely focused on enterprise data center use. The following software is bundled free on Oracle* x86 systems with a hardware-support contract:

- Choice of Oracle Linux* or Oracle Solaris*
- Oracle VM, Oracle's implementation of open-source Xen* virtualization and virtualization manager
- Oracle Enterprise Manager Ops Center system management and cloud infrastructure tool

Oracle systems are also designed to reduce operating costs. For example, Oracle applications and databases are delivered as virtual machines for immediate install, reducing software deployment efforts from days to hours. Further, data center operating costs are reduced through a single point of support contact for both hardware and software issues. This both lowers administration efforts and eliminates the time-consuming ping-pong effect of resolving technical issues with multiple parties.

A secondary effect of single support is that the cost and timing of deploying critical software patches is reduced, as Oracle support ensures that patches operate across the entire Oracle stack. Finally, Enterprise Manager Ops Center helps reduce costs by simplifying most system management tasks, such as cloud infrastructure provisioning, as well as by providing the foundation for a single system management tool that extends up through the application layer. Oracle's single management tool, Enterprise Manager Ops Center, can both lower training costs and provide better quality-analysis information. By including these and other capabilities with the hardware, Oracle can lower both capital and operating costs for customers while improving application performance.



Oracle Enterprise Manager Ops Center examines every layer of the stack to closely monitor both hardware and software.

Oracle Hardware and the Intel Xeon Processor E5 Family

We are very excited by the benefits delivered by the new Intel Xeon processor E5-2600 product family, including the significant overall performance improvements, I/O enhancements, and built-in encryption technology with Intel Advanced Encryption Standard New Instructions (Intel AES-NI).[1] The new processor performs 67 percent better than the prior generation[2] and has already helped us set a couple of world records for performance in our new systems. This level of performance and capability is extremely important for the demands of private cloud deployments. Our Solaris 11 operating system takes huge advantage of the encryption capabilities for protection of data both at rest and in transit.

In April 2012, we announced a number of new systems that employ the Intel Xeon processor E5 family. These products include Sun Fire* X4170 M3 and the Sun Fire X4270 M3, both of which are rack systems, and the Sun Blade* X6270 M3, which is an x86 server blade module for use in the Sun Blade 6000 chassis. We have also added a carrier-grade version of our rack system for the telecommunications market. All these systems are shipping now.

Oracle and Intel: Synergy That Moves IT Forward

We view our hardware as a supporting feature of application performance rather than an end to itself. So optimization at every single level is critical to deliver total throughput in the modern data center. Oracle and Intel have a long 20-year history of working together, both in terms of optimizing some of Oracle's software products and deploying new Intel hardware designs. Because of our partnership, Oracle and Intel together have been able to optimize for Intel architectures—not just the hardware systems but also the middle layer and the database layer—providing total throughput that is unequaled in our view—and with world benchmarks on our x86 design to prove it.

For more information about Oracle hardware systems based on the Intel Xeon processor E5 family, go to oracle.com/us/products/servers-storage/servers/.

Share with Colleagues 

1 Intel AES-NI requires a computer system with an Intel AES-NI-enabled processor, as well as non-Intel software to execute the instructions in the correct sequence. Intel AES-NI is available on select Intel Core™ processors. For availability, consult your system manufacturer. For more information, see intel.com/content/www/us/en/architecture-and-technology/advanced-encryption-standard--aes-/data-protection-aes-generaltechnology.html.

2 Intel Xeon processor E5-2658 benchmarking results collected by Intel Corporation, September 2011. Intel Xeon processor E5645 benchmarking results collected by Intel Corporation, June 2010.

Platform configurations:

- Intel Xeon processor E5-2658 (2 sockets) at 2.1 GHz, 20 MB L3 cache, 90W; Intel C604 chipset; 16 x 4 GB RDIMM DDR3-133 MHz
- Intel Xeon processor E5645 (2 sockets) at 2.4 GHz, 12 MB last-level cache, 80W; Intel 5520 chipset, 12 x 4 GB RDIMM DDR3-1333 MHz

Software configurations:

- Intel Xeon processor E5-2658: OS: Red Hat* 6.1 Beta, kernel version 2.6.32-122.el6.x86_64; compiler: Intel C/C+ 12.1RC1; benchmark CPU2006 v1.1
- Intel Xeon processor E5645: OS: SUSE Linux* Enterprise Server 10 SP3 64 bit; compiler: Intel C/C+ 11.1; benchmark CPU2006 v1.1

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark* and MobileMark*, are measured using specific computer systems, components, software, operations, and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. Intel processor numbers are not a measure of performance. For more information, go to intel.com/performance.

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