



Selecting Server Processors to Reduce Total Cost

Intel IT is standardizing on Intel Xeon processor X5570 for two-socket servers for design computing and enterprise server virtualization. Its testing and analysis demonstrates that the newest high-end Intel Xeon processors based on Next-Generation Intel® Microarchitecture (Nehalem) can significantly enhance server performance, providing an opportunity for Intel IT to reduce total cost of ownership by 42 percent. »

INTEL NEWS

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The Data Center Guru

You have a data center full of servers to maintain, upgrade, and keep running to support critical business applications. You look for servers that are easy to manage, reliable, and can handle your applications without running up costs related to power and cooling.



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As a Data Center Guru, you're well aware of the issues facing the data center today. Server sprawl runs rampant thanks to inexpensive x86 servers that were added to the infrastructure over the years. Power and cooling costs threaten the ability to expand your infrastructure and your business. Your servers need to deliver information without delay and downtime is not an option.

Two-processor platforms based on the Intel® Xeon® processor 5500 series are built with innovative technologies that boost performance, energy efficiency, and virtualization flexibility, which make it easier to deliver more business services within existing data center facilities. The combination of performance and energy-efficiency features plus flexible virtualization offers an effective antidote to data center sprawl and improves business competitiveness.

Intel Turbo Boost Technology and Intel Hyper-Threading Technology deliver optimal performance for each enterprise application, and Intel QuickPath Technology dramatically increases application performance and throughput for bandwidth-intensive applications. Greater per-server performance means that you can do more with fewer servers and potentially save significantly on operating costs.

Intel Intelligent Power Technology works alongside these new performance features to deliver better performance with lower power consumption at all operating points, achieving the best available performance/watt. High-performance 95-watt, standard 80-watt and low-power 60-watt versions enable high-density deployments in both rack and blade form factors.

The Intel Xeon processor 5500 series, built on Intel Microarchitecture codename Nehalem, expands the benefits of virtualization with innovations that boost performance, increase consolidation ratios, and enable servers of different generations to be combined in the same virtualized server pool, improving virtual machine failover, load balancing, and disaster recovery capabilities. Intel Microarchitecture codename Nehalem, with next-generation Intel Virtualization Technology (Intel VT) enhances virtualization performance by up to 2.1x and reduces roundtrip virtualization latency by up to 40 percent.

Intel Virtualization Technology (Intel VT-x) continues to offer investment protection and infrastructure flexibility with multigeneration VM migration across the full range of 32-bit and 64-bit configurations, enabling bigger VM pools.

Intel Virtualization Technology for Connectivity (Intel VT-c) provides hardware-assisted I/O that accelerates network performance and simplifies VM migration.

Intel Virtualization Technology for Directed I/O (Intel VT-d) helps speed data movement and eliminates much of the performance overhead by giving designated VMs their own dedicated I/O devices, reducing the overhead of the VM migration in managing I/O traffic.

Intel VT with Intel FlexMigration and Intel FlexPriority also gives IT more choice in managing and allocating virtualized workloads across new and existing platforms. Intel Turbo Boost Technology plus hardware assists from Intel VT improves performance for applications running in virtual machines (VMs). Intel VT FlexMigration, in combination with virtualization management software, can help IT to conserve power, rebalance workloads and reduce energy consumption.

Resources For You

Intel and Microsoft Complementary Virtualization Technologies

Intel and Microsoft have collaborated for more than 20 years across engineering, sales, and services to create and deliver leading business and IT solutions, driving the deployments of a more dynamic and efficient data center. Based on their joint roadmaps and customer input they identify key IT requirements, co-develop support for key integrated features, and validate and optimize these features for Intel platforms to deliver innovations in hardware and software that make deployments more powerful, efficient, and flexible.

Optimizing Applications for Multi Core Virtualized Environments

As execution environments for today's software applications grow increasingly complex, application developers must become aware of new types of performance issues and optimizations. This paper discusses the handling of application optimization for multi-core, virtualized environments.

Reducing Storage Growth and Costs: A

Comprehensive Approach to Storage Optimization

Intel IT developed a pragmatic plan to address rising capacity requirements and costs related to storage. After assessing the current storage environment, it then created a roadmap to deliver an optimized storage environment based on existing and emerging technologies. The plan should reduce storage capacity requirements by 27 percent over the next five years while keeping costs flat.

