

Improving SAP performance with IBM System x3650 M2 servers and Intel Xeon processors



Highlights

- Run SAP ERP software on IBM® System x3650 M2 servers with Intel® Xeon® processors to achieve performance and reliability for enterprise resource planning (ERP)
- Combine x3650 M2 servers and virtualization software for a virtualized SAP application environment that helps you streamline your infrastructure, reduce costs and easily scale for growth
- Go green and save with energyefficient Intel Xeon processors, faster memory and energy management features

Companies running SAP applications or considering upgrading to SAP are looking for the optimal server infrastructure that can help them maximize enterprise resources while handling ever-increasing workloads and reducing IT operating costs. x3650 M2 servers with Xeon processors can provide a powerful, stable foundation for your SAP environment and help deliver an outstanding return on investment.

x3650 M2 also helps you easily virtualize your SAP implementation, consolidate servers, and reduce costs for hardware, space, and energy.

Performance and reliability for today's ERP

IBM System x® servers deliver unprecedented performance and reliability for mission-critical SAP applications. With up to eight processor cores and 128 GB of fast fully buffered DDR3



memory, x3650 M2 servers deliver powerful rack-dense computing in a 2U size. x3650 M2 servers are available with Intel Xeon processor 5500^A series, delivering up to 2.02x performance improvement over the prior generation¹ and industry-leading energy efficiency for servers running SAP applications.

In today's SAP environments, multiple workloads often run on the same server. Not only is performance essential, but reliability and availability are more critical than ever. The higher throughput and exceptional reliability offered by x3650 M2 can help you get maximum value from your SAP applications in these environments. Scalable memory and I/O design satisfy highspeed processing and reliability requirements, and integrated RAID capability safeguards data. Hot-swap power and fans, along with available low-voltage processors, enable you to run multiple workloads while keeping your x3650 M2 cool and avoiding downtime.

A strong, stable platform for virtualization

x3650 M2 servers provide an excellent foundation for highly consolidated, virtual server environments running SAP

applications. With up to eight cores and an impressive 16-DIMM memory design, System x3650 M2 is designed to give you the processing power and memory to maximize the number of SAP workloads per physical server. x3650 M2 with Intel Xeon processors help you get more done with fewer resources-next-generation Intel® Virtualization Technology^o with new hardware-assist capabilities enhances virtualization performance by up to 2.1x² and reduces roundtrip virtualization latency by up to 40 percent.³ Intel Virtualization Technology offers investment protection and infrastructure flexibility with multi-generation VM migration across the full range of 32-bit and 64-bit configurations, enabling bigger VM pools. In addition, IBM Virtualization Manager software adds enhanced flexibility, allowing administrators to optimize the entire virtual environment from a single console.

Creating a virtualized server environment to run your SAP applications provides multiple benefits. Your organization can reduce IT costs by consolidating onto fewer physical servers or keep up with business growth without requiring additional hardware. Virtualization can also help you improve server CPU utilization, speed up deployment of new applications, and reduce application downtime by distributing workloads across a flexible pool of server resources.

Storage infrastructure for storing SAP ERP information

Coupled with x3650 M2 server solutions, IBM System Storage[™] solutions for SAP IT environments can help you create an infrastructure that responds to changing business requirements while enabling data sharing and collaboration across your business. Missioncritical operations can utilize the highly available and reliable System Storage DS8000[®]. Enterprises requiring lower total cost of ownership, high performance, robust functionality and unparalleled ease of use can depend on the System Storage DS4000® or DS5000 mid-range storage systems, Tivoli® Storage Manager for backup and restore, and IBM SAN Volume Controller (SVC) virtualization solutions. IBM System Storage network-attached storage (NAS) N series products, including N5000, N6000, and N7000



series, are designed to deliver high-end enterprise storage and data management value with midrange affordability. IBM System Storage solutions help you address your SAP information management needs, enabling you to create a resilient, cost-effective and flexible infrastructure for securely storing information and mitigating business risks.

Making it easy to deploy a dynamic infrastructure

Capabilities integrated into x3650 M2 help your organization become more efficient so you can easily deploy a dynamic infrastructure to help reduce risks, manage costs, and improve service. Unified systems management tools reduce the cost to deploy and manage physical and virtualized systems. Features such as the Integrated Management Module, Predictive Failure Analysis, and Light-Path Diagnostics provide enterprise-class systems management to monitor, maintain and maximize server availability, including full remote systems management. New energy smart design features and



improved efficiency help reduce operational costs. IBM Calibrated Vectored Cooling™ technology optimizes the airflow through the system, directing cool air to the areas that need it and blocking hot air from entering critical areas. Combined with the energy-efficient power supplies found in x3650 M2, Calibrated Vectored Cooling technology is designed to reduce internal heat and lower energy consumption. IBM Systems Director Active Energy Manager™ delivers advanced control, monitoring power consumption and helping to decrease cooling costs.

Intel Xeon processors in x3650 M2 combine silicon and architecture innovations intended to help improve performance per watt. They are designed with automated energyefficient features that scale energy usage to the workload to achieve optimal performance/watt and reduce operating costs, without sacrificing the performance needed to power demanding applications like SAP.

SAP and IBM: Collaborating for powerful business solutions

For more than 30 years, IBM and SAP have worked together to create powerful solutions for the business challenges of today and tomorrow. By running SAP applications on an IBM System x3650 M2 server with Intel Xeon processor 5500 series, enterprises can tap the power of that collaboration and access both outstanding application performance and reliability to help achieve their business goals.

For more information

To learn more, please contact our IBM marketing representative or IBM Business Partner, or visit

ibm.com/systems/x/solutions/ infrastructure/erpcrm/sap.html

- ² Performance results on VMmark benchmark. Xeon X5470 data based on published results. Xeon X5570 Intel internal measurement. (Feb 2009): HP ProLiant ML370 G5 server platform with Intel Xeon processors X5470 3.33GHz, 2x6 MB L2 cache, 1333 MHz memory access, 48 GB memory, VMware ESX Server V3.5. Update 3 published at 9.15@7 tiles vs. Intel Xeon processor X5570, 2.93 GHz, 8 MB L3 cache, 6.4 QPI, 72 GB memory (18x4 GB DDR3-800), VMware ESX Server. Performance measured at 19.51@ 13 tiles.
- ^a Source: Intel internal measurements. Xeon processor 5500 series (Nehalem) vs. Xeon processor 5400 series.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit Intel Performance Benchmark Limitations.

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^a Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families.

See www.intel.com/products/ processor_number.

- Intel Virtualization Technology requires a computer system with an enabled Intel processor, BIOS, virtual machine monitor (VMM) and, for some uses, certain platform software enabled for it. Functionality, performance or other benefits will vary depending on hardware and software configurations and may require a BIOS update. Software applications may not be compatible with all operating systems. Please check with your application vendor.
- ¹ *Configuration details:* SAP-SD 2-Tier benchmark (Feb 2009)

Baseline platform: HP ProLiant BL460C server platform with two Quad-Core Intel Xeon processors X5470 3.33 GHz, 12 MB L2 cache, 1333 MHz FSB, 32 GB memory, Microsoft® Windows Server® 2003 Enterprise Edition, Microsoft SQL Server® 2005, SAP ECC Release 6.0 (2005). Measured at 2.518 users.

New platform: IBM System x3650 M2 server platform with two Quad-Core Intel Xeon processor X5570, 2.93 GHz, 8 MB L3 cache, 6.4 QPI, 48 GB memory (12x4 GB DDR3-1066), Microsoft Windows® Server 2003 Enterprise Edition, IBM DB2 9.5, SAP ECC Release 6.0 (2005). Measured at 5,100 users.

