

IBM System x3850 X5 and x3950 X5 provide high-performance, scalable, and flexible Intel Xeon processor-based systems

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At a glance



New IBM® System x3850 X5 and x3950 X5 servers incorporate high-performance, 6-, 8-, and 10-core Intel® Xeon® processors and:

- Up to 64 DIMM slots per system (96 with MAX5) delivering up to 3 TB (with MAX5 and 32 GB DIMMs) of high-speed, lower-power, PC3-10600 ECC double data rate 3 (DDR3) SDRAM system memory
- Up to 192 DIMM slots per dual node system with MAX5 and eXA scaling, delivering up to 6 TB (with 32 GB DIMMs) of high-speed, lower-power, PC3-10600 ECC DDR3 SDRAM system memory
- eXFlash for high performance solid state drive storage
- eXA scaling with dual node systems with MAX5 for performance scaling up to 8 sockets with FlexNode partitioning and node failover
- Emulex 10 Gb Ethernet Integrated Virtual Fabric Adapter
- Seven 5.0 Gb PCIe I/O (one x16, five x8, one x4) sockets
- Serial Attached SCSI (SAS) controller
- Integrated Broadcom 5709 Dual-port 10/100/1000 Megabit Ethernet
- Up to eight 2.5-inch hot-swap bays for flexible installation of HDDs
- Up to 16 1.8 inch hot-swap SSDs with total 3.2 TB of internal storage
- Standard Integrated Management Module
- Up to two 1975-watt, voltage sensing, rear access, hot-swap power supplies in main x3950 X5 chassis, with additional two 675-watt, voltage sensing, rear access, hot-swap power supplies in the MAX5 expansion
- Optional UltraSlim Enhanced SATA CD-RW/DVD-ROM Combo drive

- Six USB ports (two can be used for USB keyboard and mouse), SVGA video port, one serial port, and two Gb Ethernet ports per chassis

Warranty: Three years, customer replaceable unit (CRU) and on-site¹ service, limited warranty²; optional warranty service upgrades available.

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: SE001).

Overview

These models of the System x3850 X5 and x3950 X5 servers are powered with 6-, 8-, and 10-core Intel Xeon processors, with optional IBM MAX5 memory expansion and eXFlash storage for powerful 4-socket, highly scalable systems. Workload optimized models for database, and SAP In-Memory Appliance (SAP HANA) provide additional choices.

IBM MAX5 for System x® is a scalable, 1U, memory expansion drawer. It delivers 32 additional DIMM slots to the x3850 X5 and x3950 X5. It has a memory controller for added performance and a node controller for x3850 scalability to two nodes with 8 sockets, 192 DIMM slots, and eXA scaling. MAX5 is available as an option for most x3850 X5 and x3950 X5 models.

The IBM System x3950 X5: Workload Optimized Solution for SAP In-Memory Appliance, SAP HANA models offer a preloaded and optimized appliance starting with the two- and four-processor x3950 X5 models and a model which enables scalability to eight processors and up to 1 TB of memory.

These models also include the following software: Novell SLES for SAP Applications operating system with three-year priority support and the IBM General Parallel File System™ (GPFS™) with three-year support. Note: SAP HANA software is included, but sold separately by SAP.

The x3850 X5 and x3950 X5 servers are the fifth generation of the Enterprise X-Architecture® (eX5), delivering innovation with enhanced reliability and availability features to enable optimal performance for databases, enterprise applications, and virtualized environments.

Potential benefits include:

- Increased performance
- Greater system up time with advanced memory RAS
- Larger virtual machines and/or more virtual machines per system and increased CPU utilization with MAX5
- Four sockets for up to four processors and 64 DIMMs (96 DIMMs with MAX5) for larger databases, enterprise applications, and mission-critical workloads
- Advanced networking capabilities with Emulex 10 Gb Virtual Fabric Adapter, standard in most models
- Low-power cost-effective memory with Advanced Buffer eXecution chip
- Integrated Management Module (IMM) for enhanced systems management capabilities
- Power management savings
- Up to 10-core processing performance per socket
- Memory ProteXion with Chipkill™, memory mirroring, memory sparing, Intel SMI lane failover, SMI packet retry, and SMI clock failover
- Up to 96 DIMM slots per system with MAX5 delivering up to 3 TB (with 32 GB DIMMs) of high-speed PC3-10600 DDR3 memory
- Up to 192 DIMM slots per dual node system with MAX5 and eXA scaling, delivering up to 6 TB (with 32 GB DIMMs) of memory
- Serial Attach SCSI (SAS) plus RAID to maximize throughput and ease installation and data protection

- Up to eight 2.5-inch SATA or SAS HDDs, or sixteen 1.8-inch SSDs with eXFlash, or a combination of both; most models come standard with one HDD backplane that can hold four drives, the second backplane is optional. SAP HANA models have eight bays as standard built-in, high-speed networking with support for the latest technologies
- 4U server plus 1U MAX5 rack-optimized, tool-free chassis that strikes the balance between rack density and ease of maintenance
- Rear access power supplies for easy access

Fifth-generation eX5 technology features

- New, leadership memory expansion and performance scaling technology, above and beyond industry standard
- eXFlash for high-performance solid state drive storage
- eXA scaling with dual node systems with MAX5 for performance scaling up to 8 sockets with FlexNode partitioning and node failover
- Advanced fifth-generation Chipkill ECC memory controller to help correct single-bit, 2-bit, 3-bit, and 4-bit memory errors
- High-performance PCIe Gen 2 (5 GHz) I/O slots
- Hot-swap drive bays and redundant fans to replace select components without powering down the server
- One or two hot-swap, rear access, redundant power supplies with 220 V ac input in each system (up to two 1975 W in the x3850 X5, two in the x3950 X5, and two 675 W in the MAX5)
- Predictive Failure Analysis® (PFA) on processors, memory, fans, power supply, and HDD options to help warn of problems before they occur
- Innovative light path diagnostics and top access design; easy to service and configure

¹ IBM sends a technician after attempting to diagnose and resolve the problem remotely.

² For information on the IBM Statement of Limited Warranty, visit

http://www.ibm.com/servers/support/machine_warranties/

Alternatively, this information is also available by contacting your IBM representative or reseller. Copies are available upon request.

³ IBM makes no warranties, expressed or implied, regarding non-IBM products and services that are ServerProven®, including but not implied warranties and of merchantability and fitness for a particular purpose. These products are offered and warranted solely by third parties.

⁴ The Microsoft® Windows® Preinstallation Environment software, included as part of ServerGuide™ software, may be used for boot diagnostic, setup, restoration, installation, configuration, test, or disaster recovery purposes only. Note: To download the ServerGuide, visit

<http://www-03.ibm.com/systems/management/serverguide/sub.html>

Note: The Microsoft Windows Preinstallation Environment software contains a security feature that will cause an end user customer's system to reboot without prior notification to the end user customer after 24 hours of continuous use of the Microsoft Windows Preinstallation Environment. During routine usage of ServerGuide, which does not usually require usage of the Microsoft Windows Preinstallation Environment software for such an extended time period, this condition should not occur.

Key prerequisites

Refer to the [Hardware requirements](#) section for details.

Planned availability date

- May 20, 2011:
 - 7143B1x
 - 7143B2x
 - 7143B3x
 - 7143B5x
 - 7143B6x
 - 7143B7x
 - 7143C1x
 - 7143C2x
 - 7143D1x
 - 7143D2x
- May 27, 2011:
 - 7143H1x
 - 7143H2x
 - 7143H3x
 - 7143H4x
 - 7143H5x
- May 20, 2011:
 - All features, options, and pseudo options

Except:

- May 25, 2011: Emulex 10GbE Virtual Fabric Adapter II for IBM System x
- June 18, 2011: 2 Node eEXA Scaling Kit
- September 22, 2011: 32 GB (1x32GB, 4Rx4, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHz LP RDIMM

Description



High-performance server subsystems

The new x3850 X5 and x3950 X5 servers are high-throughput, scalable, SMP-capable, 6-, 8-, and 10-core Intel Xeon-based servers. They deliver excellent scalability for adding memory, adapter cards, or multiple processors.

Models are powered with 6-, 8-, and 10-core Intel Xeon processors that use 64-byte cache lines. EMT64T architecture supports 64-bit extensions. Four connectors for Xeon MP processors are standard on the system board. High-speed PC3-10600 ECC SDRAM provides excellent processor-to-memory subsystem performance.

The x3850 X5 and x3950 X5 system architecture is fine tuned and engineered to optimize the powerful Xeon processors. This architecture consists of the following components:

- 6-, 8-, and 10-core Xeon processors
- System memory cards with Intel Scalable Memory Buffers
- Intel host-bridge I/O controllers

These Xeon processors use Intel Quick Path Interconnect busses for external operations. Each processor supports four independent busses to the memory, for a total of 34 GB/s of potential memory bandwidth per CPU.

High-availability and serviceability features

Many enterprise on demand environments run around the clock to supply information around the globe. These environments require ruggedly dependable servers designed with features that can tolerate a component failure without total shutdown. x3850 X5 and x3950 X5 servers pack numerous fault-tolerant and high-availability features into a high-density, rack-optimized package that helps significantly reduce the space needed to support massive network computing operations.

Features include:

- Seven 5.0 Gb PCIe I/O (one x16, five x8, one x4) sockets
- Eight Serial Attach SCSI (SAS) HDD bays
- ECC DIMMs combined with an integrated advanced ECC memory controller with fourth-generation Chipkill support to correct many single-bit, 2-bit, 3-bit, and 4-bit memory errors to minimize disruption of service to LAN clients
- Memory ProteXion and memory mirroring
- Memory hardware scrubbing to correct many soft memory errors automatically without software intervention down time
- PFA on HDD options, memory, processors, power supply, and fans, in conjunction with IBM Systems Director, to help alert the system administrator of an imminent component failure
- Up to two 1975-watt, voltage sensing, rear access, hot-swap power supplies in the main x3850 X5 and x3950 X5 chassis, with two additional 675-watt, voltage sensing, rear access, hot-swap power supplies in the MAX5 expansion that enable individual fan replacement without powering down the server, plus one fan in each of the two hot-swap power supplies
- Standard IMM enabling diagnostic, reset, POST, and auto-recovery functions from remote locations and monitoring of temperature, voltage, and fan speed; alerts generated when thresholds are exceeded without utilizing an I/O slot
- Information LED panel, diagnostics LED panel, and component LEDs for visual indications of system well-being
- Light path diagnostics for an outside view of the potential problem without removing the cover, to help reduce down time and service costs
- Easy top access to system board, adapter cards, and memory

- CPU failure recovery in SMP configurations, allowing a failed processor to be forced offline, the server rebooted, an alert generated, and operation continued with the working processor
- Automatic node failover for increased availability in dual-node configurations

The servers include:

- Up to 8-socket (80-core) SMP operations with powerful 6-, 8-, and 10-core Xeon processors
- Up to 64 DIMM slots in 4U of rack space (96 DIMM slots per combined x3850 + MAX5 in 5U of rack space) delivering up to 3 TB (with 32 GB DIMMs) of high-speed PC3-10600 DDR3 memory
- Up to 8 sockets and 192 DIMM slots with two x3850 + MAX5 systems
- Two worldwide, voltage-sensing, 1975-watt, hot-swap power supplies with auto-restart, standard
- Eight hot-swap drive bays, supporting up to 4 TB of internal data storage (using eight 500 GB SATA hot-swap HDDs)
- With eXFlash, up to sixteen hot-swap drive bays, supporting up to 3.2 TB of internal data storage (using sixteen 200 GB hot-swap SSDs)
- Terabytes of external data storage supporting optional storage units, ServeRAID™ SCSI controllers, and Fibre Channel controllers and storage units

Configurations

XpandOnDemand scalability

- Modular building-block scalability delivers the flexibility to scale to meet your business needs, allowing you to configure your system to optimize for your application and business needs.

IBM MAX5 for System x

IBM MAX5 for System x is a scalable, 1U, memory expansion drawer. It delivers an additional 32 DIMM slots to the x3850 X5 and x3950 X5 with a memory controller for added performance and a node controller for x3850 scalability.

Main features include:

- Intel QPI link topology at up to 6.4 Gb/s with four QPI links for host connection
- Intel ISMI link topology at up to 6.4 Gb/s with eight ISMI links
- Sixteen DDR3 busses with support for up to 32 DIMMs per node

The processors in the host systems have the following two QPI link speeds, which derive the various bus speeds throughout the system, both in the host and the IBM MAX5 for System x drawer.

IBM MAX5 for System x bus speeds relationship

Processor QPI speed	Scalability speed	ISMI speed	DDR3 speed
5.86 GHz	9.6 GHz	5.86 GHz	977 MHz
6.4 GHz	10 GHz	6.4 GHz	1067 MHz

IBM MAX5 for System x base electronics

- eX5 node and memory controller
 - Four 6.4 Gb/s QPI 1.0 Links, for 4 CPUs
 - Three 10 Gb/s EXA5 Scalability Links
 - Eight 6.4 Gb/s ISMI busses (to 8 memory buffers)
- Intel memory buffer
 - Two DDR3 memory busses per memory buffer

- Two DIMMs per bus (up to Quad Rank DIMMs)
- Thirty-two DIMM slots total
- 2 GB, 4 GB, 8 GB, 16 GB DIMMs
- DDR3 bus speed up to 1067 MHz
- No CPUs
- No IO slots
- No hard drives
- Systems management
 - Host system provides iBMC control
 - Light path LEDs
- Power and packaging
 - 1U scalable rack model
 - Two 675 W power supplies
 - Five redundant hot swap fans
 - Light path diagnostic display
- Operating systems
 - Solely dependent on attached host

The MAX5 drawer is designed to work seamlessly with the server and operating system software and provides a high-speed low-latency path to additional memory. The connection, enabled by the IBM-exclusive eX5 technology, is fast and wide enough to ensure that operating systems and applications see just a single, large memory space -- thus no software modifications are necessary to use MAX5.

IBM Systems Director CD with 20 agent license proofs of entitlement includes support for the IBM System x3850 X5 and x3950 X5 servers.

Systems management

x3850 X5 and x3950 X5 servers feature IBM Systems Director, a powerful, highly integrated, systems-management software solution built on industry standards and designed for ease of use.

With IBM Systems Director, a network administrator can perform the following tasks:

- View the hardware configuration of remote systems in detail
- Monitor the usage and performance of critical components such as microprocessors, disks, and memory
- Centrally manage individual or large groups of IBM and non-IBM, Intel-based servers, desktop computers, workstations, and mobile computers on a variety of platforms

IBM Systems Director provides a comprehensive entry-level workgroup hardware manager. It has the following key features:

- Advanced self-management capabilities for maximum system availability.
- Support for multiple operating systems, including certain versions of Microsoft Windows 2003 Server, Windows XP Professional, Red Hat Linux®, SUSE Linux, and Novell NetWare. For a complete list of operating systems that support IBM Systems Director, visit

http://publib.boulder.ibm.com/infocenter/eserver/v1r2/index.jsp?topic=/dirinfo_5.20/fqm0_r_supported_operating_systems.html

The list is updated periodically.

- Support for IBM and non-IBM servers, desktop computers, workstations, and mobile computers. (Not all IBM Systems Director features are supported on non-IBM servers.)

- Support for systems-management industry standards.
- Integration into leading workgroup and enterprise systems-management environments.
- Ease of use, training, and setup.

IBM Systems Director also provides an extensible platform that supports advanced servers that are designed to help reduce the total cost of managing and supporting networked systems. By deploying IBM Systems Director, you may achieve reductions in ownership costs through the following potential benefits:

- Reduced down time
- Increased productivity of IT personnel and users
- Reduced service and support costs

For more information about IBM Systems Director, refer to the CD included with the server or the IBM Systems Director documentation on the CD, or visit

<http://www.ibm.com/systems/management/director/resources/>

IBM Systems Director includes IBM Systems Director Extensions, a portfolio of server tools that integrates into the IBM Systems Director interface and works with the Integrated Management Module, or other systems-management monitoring functions contained in IBM System x eX5 servers. Typical functions and monitoring capabilities can include:

- PFA-enabled critical hardware components
- Temperature
- Voltage
- Fan speed
- Light path diagnostics

The IT administrator gains comprehensive, virtual on-site control of IBM System x3850 and x3950 X5 servers through the ability to remotely:

- Access the server, in many cases regardless of its status
- Inventory and display detailed system and component information
- View server bootup during POST
- Browse and delete logs of events and errors
- Reset or power cycle the server
- Run diagnostics, SCSI, and RAID setup during POST
- Monitor thresholds on server health including:
 - Operating system load
 - POST time-out
 - Voltage
 - Temperature
- Set proactive alerts for critical server events including PFA on:
 - Processors
 - Memory
 - Fans
 - Power supplies
 - HDDs
- Define automated actions such as:
 - Send an email or page to an administrator
 - Execute a command or program
 - Pop up an error message to the IBM Systems Director console

- Flash BIOS
- Monitor and graph the utilization of server resources such as:
 - Memory
 - Processor
 - HDDs
- Identify potential performance bottlenecks and react to prevent down time

Active Energy Manager tools and programs

The IBM Active Energy Manager tool is available on the System x3850 X5 and x3950 X5 servers. IBM Systems Director Active Energy Manager™ V3.1 is the next-generation product of IBM PowerExecutive™ which was previously available from IBM for x86 systems only. IBM Systems Director Active Energy Manager now supports multiple IBM platforms and provides new capabilities that build upon the functions previously available with IBM PowerExecutive V2.1. Enhancements to existing function include:

- Cross-system monitoring and management support
- Dynamic polling rate
- Discovery and monitoring of intelligent PDUs

The Active Energy Manager V3.1 offering has both no-charge (free) monitoring functions and optional chargeable (fee-based) management functions.

No-charge monitor functions

- Power Trending
- Thermal Trending
- iPDU Support

Priced Management functions

- Power Capping
- Power Savings Mode

For more information, refer to

<http://www-03.ibm.com/systems/management/director/extensions/actengmrg.html>

Memory ProteXion:

- Is included at no additional cost, requires no additional hardware, and works independently of the operating system
- Is similar to the "hot-spare" of a DASD array

Memory mirroring:

- Propels Intel-based servers towards continuous operations
- Dramatically helps to increase up time and allow scheduled maintenance
- Helps provide capability and reliability approaching a mainframe
- Is operating system independent; does not require drivers or operating system support

Chipkill memory:

- Offers integrated XA-64e chipsets for using off-the-shelf DIMMs
- Provides better memory reliability to support in-memory databases
- Increases availability by detecting and helping to correct single-bit, 2-bit, 3-bit, and 4-bit memory errors

World-class support tools and programs

x3850 X5 and x3950 X5 servers include tools and programs designed to make ownership a positive experience. From the start, IBM programs help you purchase servers, get them running, and keep them running. IBM can help your company maintain ownership of technology leadership network servers.

- IBM customer replaceable unit (CRU) and on-site, three-year limited warranty with next-business-day service (same-business-day service optionally available) protects your investment if a problem occurs. This service also includes replacement of parts identified through PFA.
- The ServerProven³ program lets you confidently configure your server with various devices and operating systems. This web-based program provides compatibility information from actual testing of the x3850 X5 and x3950 X5 servers with various adapters and devices.
- The ServerGuide⁴ CD library includes online publications and utilities and drivers that help you load popular network operating systems.
- Electronic support on the web offers additional support in an easy-to-use format.

IBM ToolsCenter

The IBM ToolsCenter is a collection of server management tools to help manage your IBM System x and BladeServer environment. ToolsCenter makes managing your server environment less complicated, more productive, and more cost-effective.

For more information, refer to

<http://www-947.ibm.com/support/entry/portal/docdisplay?brand=5000008&Indocid=TOOL-CENTER>

Workload Optimized Solution for SAP In-Memory Appliance (SAP HANA)

The IBM System x3950 X5 Workload Optimized Solution for SAP In-Memory Appliance (SAP HANA) models offer a preloaded and optimized appliance based on the 4-socket x3850 X5 server platform. These models include two or four processors and 256 GB or 512 GB of memory, and can scale up to an 8-socket 1 TB configuration. They are designed for use in medium to large SAP HANA deployments. Note: The 8-socket, 1 TB configuration is achieved by combining 7143-H2x with 7143-H3x.

These models also include the following software: Novell SLES for SAP Applications operating system with three-year priority support and the IBM General Parallel File System (GPFS) with three-year support. Note: SAP HANA software is included, but sold separately by SAP.

For those models with SAP In-Memory Appliance, SAP HANA pre-installed, the SAP software license terms apply:

SAP license terms

This IBM computer system is pre-installed with a copy of the SAP High-Performance Analytic Appliance software, which includes SYBASE REPLICATION SERVER 15, SAP HOST AGENT 7.2, APACHE TOMCAT 5.5, PERL 5.8, and SAP IMCE (in-memory computing engine). This software has been integrated or pre-installed as part of the IBM hardware system. You are not licensed to use the copy of SAP software contained in the IBM hardware system until you have purchased or licensed the use of the SAP software from SAP or its authorized distributors. Usage of the SAP software is subject to the applicable SAP end-user license agreement. Your purchase of the IBM hardware system does not include a license to use the SAP software that is pre-installed, or any other SAP software. SAP is under no obligation to license the pre-loaded SAP software to you. Contact your responsible SAP representative to obtain the appropriate license rights to use the SAP software.

IBM System x3850 X5 model configurations

System SEO number	Processor	Cache	Memory	HDD iface	HDD	Power supply
7143-B1x	2 x 1.86 GHz Xeon E7-4807 6 core 95w	18 MB	2x4 GB with 1 memory card 2x4 GB on Riser	SAS	open bay	one
7143-B2x	2 x 2.0 GHz Xeon E7-4820 8 core 105w	18 MB	4x4 GB with 1 memory card 4x4 GB on Riser	SAS	open bay	two
7143-B3x	2 x 2.13 GHz Xeon E7-4830 8 core 105w	24 MB	4x4 GB with 1 memory card 4x4 GB on Riser	SAS	open bay	two
7143-B5x	2 x 2.0 GHz Xeon E7-4850 10 core 130w	24 MB	4x4 GB with 1 memory card 4x4 GB on Riser	SAS	open bay	two
7143-B6x	2 x 2.26 GHz Xeon E7-4860 10 core 130w	24 MB	4x4 GB with 1 memory card 4x4 GB on Riser	SAS	open bay	two
7143-B7x	2 x 2.4 GHz Xeon E7-4870 10 core 130w	30 MB	4x4 GB with 1 memory card 4x4 GB on Riser	SAS	open bay	two
7143-C1x	2 x 2.0 GHz Xeon E7-8850 10 core 130w	24 MB	4x4 GB with 1 memory card 4x4 GB on Riser	SAS	open bay	two Scalable
7143-C2x	2 x 2.26 GHz Xeon E7-8860 10 core 130w	24 MB	4x4 GB with 1 memory card 4x4 GB on Riser	SAS	open bay	two Scalable

IBM System x3950 X5 model configurations

System SEO number	Processor	Cache	Memory	HDD iface	HDD	Power supply
7143-D1x	4 x 2.0 GHz Xeon E7-4850 10 core 130w	24 MB	32x4 GB with 1 memory card 32x4 GB on Riser	SAS	open bay	two Scalable
7143-D2x	4 x 2.26 GHz Xeon E7-4860 10 core 130w	24 MB	32x4 GB with 1 memory card 32x4 GB on Riser	SAS	open bay	two

IBM System x3950 X5: Workload Optimized Solution for SAP In-Memory Appliance, SAP HANA model configurations

System SEO number	Processor	Cache	Memory	HDD iface	HDD	Power supply
7143-H1U	2 x 2.40 GHz Xeon E7-8870 10 core 130w	30 MB	16x16 GB with 4 memory cards 16x16 GB on Riser	SAS	8x 600GB 10k	two
7143-H2U	4 x 2.40 GHz Xeon E7-8870 10 core 130w	30 MB	32x16 GB with 8 memory cards 32x16 GB on Riser	SAS	8x 600GB 10k	two
7143-H3U	4 x 2.40 GHz Xeon E7-8870 10 core 130w	30 MB	32x16 GB with 8 memory cards 32x16 GB on Riser	SAS	8x 600GB 10k	two

Product positioning

These new IBM System x3850 X5 and x3950 X5 models enhance the server line by providing new levels of performance and price/performance. The IBM System x3850 X5 and x3950 X5 servers with optional MAX5 have the unique capability of expanding memory beyond the limit of the processor, increasing the utilization and productivity of the system.

Equipping the IBM System x3850 X5 and x3950 X5 servers with MAX5 increases memory capacity by 50%, making them ideal for virtualized environments and handling complex, memory-intensive on-demand applications that must be supported by space-saving, rack-optimized servers.

The IBM System x3850 X5 and x3950 X5 servers provide excellent scalable processing capability supporting high-speed memory, PCIe bus architecture, and 6-, 8-, and 10-core Intel Xeon processors.

This makes the IBM System x3850 X5 and x3950 X5 servers an excellent fit for current and future enterprise on-demand applications.

These high-density, Intel Xeon-based servers are designed to handle complex applications requiring high-speed computing power, advanced high-availability functions, and a minimum amount of rack space.

Applications include:

- On-demand business
- Business intelligence
- Transaction processing
- Enterprise resource planning
- Collaboration applications (Microsoft Exchange and Lotus Notes®)
- Server consolidation and virtualization
- Internet or intranet front-end serving
- Web content serving
- Database storage as a SAN solution
- In-memory databases

Reference information

For information on ServicePacs, refer to Services Announcement [606-013](#), dated August 07, 2006 and Hardware Announcement [106-670](#), dated September 19, 2006.

Product number

The following features are already announced for the 6391, 7143, 7164, 7870, 7871, 7873, 7944, 7945, and 8886 machine types:

Description	MT	Model	Feature
6391-AC1	6391	AC1	
7143-AC1	7143	AC1	
7143-MC1	7143	MC1	
7164-AC1	7164	AC1	
7870-AC1	7870	AC1	
7871-AC1	7871	AC1	
7873-AC1	7873	AC1	
7944-AC1	7944	AC1	
7945-AC1	7945	AC1	
8886-AC1	8886	AC1	
QLogic 10Gb SFP+ SR Optical Transceiver	7143	AC1	0064
		MC1	
Brocade 10Gb SFP+ SR Optical Transceiver	7143	AC1	0069
		MC1	
ServerRAID M5015 SAS/SATA Controller (Battery not included)	7143	AC1	0093
		MC1	
ServerRAID M5025 SAS/SATA Controller	7143	AC1	0094
		MC1	
ServerRAID M1015 SAS/SATA Controller	7143	AC1	0095
		MC1	
IBM 160GB High IOPS SS Class SSD PCIe Adapter	7143	AC1	0096
		MC1	
IBM 320GB High IOPS SD Class SSD PCIe Adapter	7143	AC1	0097
		MC1	

eX5 MAX5 Packaging	7143	AC1	0746
Optical Blank Bezel	7143	AC1	0906
		MC1	
NetXtreme II 1000 Express® G Ethernet Adapter - PCIe	7143	AC1	1485
Brocade 10Gb CNA for IBM System x	7143	AC1	1637
		MC1	
IBM 320GB High IOPS MS Class SSD PCIe Adapter	7143	AC1	1649
		MC1	
Emulex 4Gb FC Single-Port PCI-E HBA for IBM System x	7143	AC1	1698
		MC1	
Emulex 4Gb FC Dual-Port PCI-E HBA for IBM System x	7143	AC1	1699
		MC1	
8GB (1x8GB, Quad Rankx8) PC3-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	7143	AC1	1706
		MC1	
16GB (1x16GB, 4Rx4, 1.5V) PC3-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	7143	AC1	1707
		MC1	
2GB (1x2GB, 1Rx8, 1.5V) PC3-10600 CL9 ECC DDR3 1333MHZ LP RDIMM	7143	AC1	1712
		MC1	
4GB (1x4GB, Dual Rankx8) PC3-10600 CL9 ECC DDR3 1333MHZ LP RDIMM	7143	AC1	1713
		MC1	
EMEA Long Leadtime Configurations	7143	AC1	1763
		MC1	
Hungary CHW plant 9SH	7143	AC1	1764
		MC1	
Guad CHW plant 9KQ	7143	AC1	1765
		MC1	
ISTC CHW 9K2	7143	AC1	1766
		MC1	
RTP CHW 9NR	7143	AC1	1767
		MC1	
Offload Manufacturing to Guadalajara HVEC	7143	AC1	1768
		MC1	
Offload Manufacturing to RTP HVEC	7143	AC1	1769
		MC1	
Capacity Scheduling Service	7143	AC1	1772
		MC1	
Custom SLA Scheduling Service	7143	AC1	1796
		MC1	
IBM 1975w Power Supply	7143	AC1	2111
		MC1	
x3850 X5 Insert	7143	AC1	2131
		MC1	
x3950 X5 Insert	7143	AC1	2132
		MC1	
Custom Asset Tagging - Standard	7143	AC1	2200
		MC1	
Custom Asset Tagging - Enhanced	7143	AC1	2201
		MC1	
Custom Image Load - Server	7143	AC1	2204
		MC1	
Custom Media Shipgroup	7143	AC1	2206
		MC1	
Request for Global Trade Number (UPC or EAN)	7143	AC1	2207
		MC1	
Custom Software/Firmware Setting - Standard	7143	AC1	2208
		MC1	
Custom Software/Firmware Setting - Enhanced	7143	AC1	2209
		MC1	
Custom RAID Configuration	7143	AC1	2212
		MC1	
Custom Labeling	7143	AC1	2220
		MC1	
Custom Palletization	7143	AC1	2221
		MC1	
Request for a new Vendor Logo Hardware	7143	AC1	2247
		MC1	
Request for an existing IBM Feature	7143	AC1	2248
		MC1	

Request for an existing Public RPQ	7143	AC1	2249
		MC1	
RAID Configuration	7143	AC1	2302
		MC1	
Rack Installation >1U Component	7143	AC1	2306
		MC1	
Department of Defense UID Label	7143	AC1	2320
		MC1	
Tertiary Array 2 HDDs	7143	AC1	2411
		MC1	
Tertiary Array 3 HDDs	7143	AC1	2412
		MC1	
Tertiary Array 4 HDDs	7143	AC1	2413
		MC1	
Tertiary Array 5 HDDs	7143	AC1	2414
		MC1	
Tertiary Array 6 HDDs	7143	AC1	2415
		MC1	
Tertiary Array 7 HDDs	7143	AC1	2416
		MC1	
Tertiary Array 8 HDDs	7143	AC1	2417
		MC1	
2GB MAX5 1x2GB 1Rx8 1.5V PC3-10600 CL9 ECC DDR3 1333MHZ LP RDIMM	7143	AC1	2429
		MC1	
4GB MAX5 1x4GB DualRankx8 PC310600 CL9 ECC DDR3 1333MHZ LP RDIMM	7143	AC1	2431
		MC1	
8GB MAX5 1x8GB QuadRankx8 PC3-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	7143	AC1	2432
		MC1	
16GB MAX5 1x16G QuadRankx4 PC3-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	7143	AC1	2433
		MC1	
Enable selection of Solid State Drives for Secondary Array	7143	AC1	2498
		MC1	
Enable selection of Solid State Drives for Primary Array	7143	AC1	2499
		MC1	
PS Filler	7143	AC1	2503
		MC1	
QPI wrap card filler	7143	AC1	2508
		MC1	
x3850 System Packaging - WW	7143	AC1	2583
		MC1	
x3850 1 Node	7143	AC1	2588
		MC1	
x3850 2 Node - Node 1 of 2	7143	AC1	2589
		MC1	
x3950	7143	AC1	2590
		MC1	
x3850 / MAX5 Bundle Packaging - WW	7143	AC1	2595
		MC1	
PRO/1000 PF Server Adapter	7143	AC1	2975
		MC1	
NetXtreme II 1000 Express Dual Port Ethernet Adapter	7143	AC1	2995
		MC1	
RAID 1 - Tertiary Array (SSD) - 2 SSDs required	7143	AC1	3034
		MC1	
Rack 01	7143	AC1	3101
		MC1	
Rack 02	7143	AC1	3102
		MC1	
Rack 03	7143	AC1	3103
		MC1	
Rack 04	7143	AC1	3104
		MC1	
Rack 05	7143	AC1	3105
		MC1	
Rack 06	7143	AC1	3106
		MC1	
Rack 07	7143	AC1	3107

Rack 08	7143	MC1 AC1	3108
Rack 09	7143	MC1 AC1	3109
Rack 10	7143	MC1 AC1	3110
Rack 11	7143	MC1 AC1	3111
Rack 12	7143	MC1 AC1	3112
Rack 13	7143	MC1 AC1	3113
Rack 14	7143	MC1 AC1	3114
Rack 15	7143	MC1 AC1	3115
Rack 16	7143	MC1 AC1	3116
Rack 17	7143	MC1 AC1	3117
Rack 18	7143	MC1 AC1	3118
Rack 19	7143	MC1 AC1	3119
Rack 20	7143	MC1 AC1	3120
Rack 21	7143	MC1 AC1	3121
Rack 22	7143	MC1 AC1	3122
Rack 23	7143	MC1 AC1	3123
Rack 24	7143	MC1 AC1	3124
Rack 25	7143	MC1 AC1	3125
Rack 26	7143	MC1 AC1	3126
Rack 27	7143	MC1 AC1	3127
Rack 28	7143	MC1 AC1	3128
Rack 29	7143	MC1 AC1	3129
Rack 30	7143	MC1 AC1	3130
Rack 31	7143	MC1 AC1	3131
Rack 32	7143	MC1 AC1	3132
Rack 33	7143	MC1 AC1	3133
Rack 34	7143	MC1 AC1	3134
Rack 35	7143	MC1 AC1	3135
Rack 36	7143	MC1 AC1	3136
Rack 37	7143	MC1 AC1	3137
Rack 38	7143	MC1 AC1	3138
Rack 39	7143	MC1 AC1	3139
Rack 40	7143	MC1 AC1	3140
Rack 41	7143	MC1 AC1	3141
Rack 42	7143	MC1 AC1	3142
Rack 43	7143	MC1 AC1	3143
Rack 44	7143	MC1 AC1	3144

Rack 45	7143	MC1 AC1	3145
Rack 46	7143	MC1 AC1	3146
Rack 47	7143	MC1 AC1	3147
Rack 48	7143	MC1 AC1	3148
Rack 49	7143	MC1 AC1	3149
Rack 50	7143	MC1 AC1	3150
Rack 51	7143	MC1 AC1	3151
Rack 52	7143	MC1 AC1	3152
Rack 53	7143	MC1 AC1	3153
Rack 54	7143	MC1 AC1	3154
Rack 55	7143	MC1 AC1	3155
Rack 56	7143	MC1 AC1	3156
Rack 57	7143	MC1 AC1	3157
Rack 58	7143	MC1 AC1	3158
Rack 59	7143	MC1 AC1	3159
Rack 60	7143	MC1 AC1	3160
Rack 61	7143	MC1 AC1	3161
Rack 62	7143	MC1 AC1	3162
Rack 63	7143	MC1 AC1	3163
Rack 64	7143	MC1 AC1	3164
Rack location U01	7143	MC1 AC1	3201
Rack location U02	7143	MC1 AC1	3202
Rack location U03	7143	MC1 AC1	3203
Rack location U04	7143	MC1 AC1	3204
Rack location U05	7143	MC1 AC1	3205
Rack location U06	7143	MC1 AC1	3206
Rack location U07	7143	MC1 AC1	3207
Rack location U08	7143	MC1 AC1	3208
Rack location U09	7143	MC1 AC1	3209
Rack location U10	7143	MC1 AC1	3210
Rack location U11	7143	MC1 AC1	3211
Rack location U12	7143	MC1 AC1	3212
Rack location U13	7143	MC1 AC1	3213
Rack location U14	7143	MC1 AC1	3214
Rack location U15	7143	MC1 AC1	3215
Rack location U16	7143	MC1 AC1	3216
Rack location U17	7143	MC1 AC1	3217

Rack location U18	7143	MC1 AC1	3218
Rack location U19	7143	MC1 AC1	3219
Rack location U20	7143	MC1 AC1	3220
Rack location U21	7143	MC1 AC1	3221
Rack location U22	7143	MC1 AC1	3222
Rack location U23	7143	MC1 AC1	3223
Rack location U24	7143	MC1 AC1	3224
Rack location U25	7143	MC1 AC1	3225
Rack location U26	7143	MC1 AC1	3226
Rack location U27	7143	MC1 AC1	3227
Rack location U28	7143	MC1 AC1	3228
Rack location U29	7143	MC1 AC1	3229
Rack location U30	7143	MC1 AC1	3230
Rack location U31	7143	MC1 AC1	3231
Rack location U32	7143	MC1 AC1	3232
Rack location U33	7143	MC1 AC1	3233
Rack location U34	7143	MC1 AC1	3234
Rack location U35	7143	MC1 AC1	3235
Rack location U36	7143	MC1 AC1	3236
Rack location U37	7143	MC1 AC1	3237
Rack location U38	7143	MC1 AC1	3238
Rack location U39	7143	MC1 AC1	3239
Rack location U40	7143	MC1 AC1	3240
Rack location U41	7143	MC1 AC1	3241
Rack location U42	7143	MC1 AC1	3242
No RAID - Primary Array set up by customer	7143	MC1 AC1	3270
No RAID - Secondary Array set up by customer	7143	MC1 AC1	3271
No RAID - Tertiary Array set up by customer	7143	MC1 AC1	3272
QLogic 4Gb FC Single-Port PCIe HBA for IBM System x	7143	MC1 AC1	3567
QLogic 4Gb FC Dual-Port PCIe HBA for IBM System x	7143	MC1 AC1	3568
ServerRAID-BR10i SAS/SATA Controller	7143	MC1 AC1	3577
QLogic 8Gb FC Single-port HBA for IBM System x	7143	MC1 AC1	3578
QLogic 8Gb FC Dual-port HBA for IBM System x	7143	MC1 AC1	3579
Emulex 8Gb FC Single-port HBA for IBM System x	7143	MC1 AC1	3580
Emulex 8Gb FC Dual-port HBA for IBM System x	7143	MC1 AC1	3581
IBM 3Gb SAS HBA Controller v2	7143	MC1 AC1	3583

Brocade 8Gb FC Single-port HBA for IBM System x	7143	AC1	3589
		MC1	
Brocade 8Gb FC Dual-port HBA for IBM System x	7143	AC1	3591
		MC1	
1m LC-LC Fiber Cable (networking)	7143	AC1	3700
5m LC-LC Fiber Cable (networking)	7143	AC1	3701
25m LC-LC Fiber Cable (networking)	7143	AC1	3702
0.5m QLogic Copper QDR InfiniBand QSFP 30AWG Cable	7143	AC1	3725
1m QLogic Copper QDR InfiniBand QSFP 30AWG Cable	7143	AC1	3726
3m QLogic Copper QDR InfiniBand QSFP 28AWG Cable	7143	AC1	3727
3m QLogic Optical QDR InfiniBand QSFP Cable	7143	AC1	3731
10m QLogic Optical QDR InfiniBand QSFP Cable	7143	AC1	3732
30m QLogic Optical QDR InfiniBand QSFP Cable	7143	AC1	3733
0.5m Molex Direct Attach Copper SFP+ Cable	7143	AC1	3735
1m Molex Direct Attach Copper SFP+ Cable	7143	AC1	3736
3m Molex Direct Attach Copper SFP+ Cable	7143	AC1	3737
7m Molex Direct Attach Copper SFP+ Cable	7143	AC1	3738
IBM 50GB SATA 2.5" SFF Slim-HS High IOPS SSD	7143	AC1	3745
		MC1	
3m Console Switch Cable (USB)	7143	AC1	3751
		MC1	
IBM Single Cable USB Conversion Option (UCO)	7143	AC1	3757
		MC1	
0.6m Yellow Cat5e Cable	7143	AC1	3791
1.5m Yellow Cat5e Cable	7143	AC1	3792
3m Yellow Cat5e Cable	7143	AC1	3793
10m Yellow Cat5e Cable	7143	AC1	3794
25m Yellow Cat5e Cable	7143	AC1	3795
0.6m Green Cat5e Cable	7143	AC1	3796
1.5m Green Cat5e Cable	7143	AC1	3797
3m Green Cat5e Cable	7143	AC1	3798
10m Green Cat5e Cable	7143	AC1	3799
25m Green Cat5e Cable	7143	AC1	3800
0.6m Blue Cat5e Cable	7143	AC1	3801
1.5m Blue Cat5e Cable	7143	AC1	3802
3m Blue Cat5e Cable	7143	AC1	3803
10m Blue Cat5e Cable	7143	AC1	3804
25m Blue Cat5e Cable	7143	AC1	3805
10m Emcore Connects/Intel Connects Optical Cable	7143	AC1	3856
30m Emcore Connects/Intel Connects Optical Cable	7143	AC1	3857
3m Emcore Connects/Intel Connects Optical Cable	7143	AC1	3858
1m Mellanox Copper Cable for 4X IB and 10GbE	7143	AC1	3859
3m Mellanox Copper Cable for 4X IB and 10GbE	7143	AC1	3860
5m Mellanox Copper Cable for 4X IB and 10GbE	7143	AC1	3861
8m Mellanox Copper Cable for 4X IB and 10GbE	7143	AC1	3862
IBM Hot Swap SAS Hard Disk Drive Backplane	7143	AC1	3873
		MC1	
IBM 6Gb SSD HBA	7143	AC1	3876
		MC1	
Server RAID M5014 SAS/SATA Controller (Battery not included)	7143	AC1	3877
		MC1	
Brocade 4Gb FC Single-port HBA for IBM System x	7143	AC1	3885
		MC1	
Brocade 4Gb FC Dual-port HBA for IBM System x	7143	AC1	3886
		MC1	
Server RAID B5015 SSD Controller	7143	AC1	3889
		MC1	
Power Supply Blank Filler	7143	AC1	4042
		MC1	
2.5" HDD Filler Bezel	7143	AC1	4069
		MC1	
IBM UltraSlim Enhanced SATA DVD-ROM	7143	AC1	4161
		MC1	
IBM UltraSlim Enhanced SATA Multi-Burner	7143	AC1	4163
		MC1	
IBM exFlash 8x 1.8" HS SAS SSD Backplane	7143	AC1	4191
		MC1	
IBM MAX5 to x3850 X5 Cable Kit	7143	AC1	4192
		MC1	
IBM ex5 MAX5 2-Node EXA Scalability Kit	7143	AC1	4198
		MC1	
IBM 675W HE Redundant Power Supply	7143	AC1	4782
IBM BNT SFP+ SR Transceiver	7143	AC1	5053

IBM x3850 X5 QPI Scalability Kit	7143	AC1	5103
		MC1	
IBM x3850 X5 and x3950 X5 QPI Wrap Card	7143	AC1	5104
		MC1	
ServerRAID M5000 Series Advance Feature Key	7143	AC1	5106
		MC1	
IBM 50GB SATA 1.8" NHS SSD	7143	AC1	5314
		MC1	
IBM 160GB 7200 NL SATA 2.5" SFF Slim-HS HDD	7143	AC1	5405
		MC1	
IBM 500GB 7200 NL SATA 2.5" SFF Slim-HS HDD	7143	AC1	5407
		MC1	
IBM 500GB 7200 6Gbps NL SAS 2.5" SFF Slim-HS HDD	7143	AC1	5409
		MC1	
IBM 200GB SATA 1.8" MLC SSD	7143	AC1	5420
		MC1	
IBM 50GB SATA 1.8" MLC SSD	7143	AC1	5428
		MC1	
IBM 600GB 10K 6Gbps SAS 2.5" SFF Slim-HS HDD	7143	AC1	5433
		MC1	
IBM 73GB 15K 6Gbps SAS 2.5" SFF Slim-HS HDD	7143	AC1	5522
		MC1	
IBM 146GB 15K 6Gbps SAS 2.5" SFF Slim-HS HDD	7143	AC1	5536
		MC1	
IBM 146GB 10K 6Gbps SAS 2.5" SFF Slim-HS HDD	7143	AC1	5537
		MC1	
IBM 300GB 10K 6Gbps SAS 2.5" SFF Slim-HS HDD	7143	AC1	5599
		MC1	
IBM 10GbE SW SFP+ Transceiver	7143	AC1	5721
RAID 5 - Tertiary Array (SSD) - minimum of 3 SSDs required	7143	AC1	5731
		MC1	
ServerRAID M5000 Series Battery Assembly	7143	AC1	5744
		MC1	
QLogic 10Gb CNA for IBM System x	7143	AC1	5751
		MC1	
NetXtreme II 1000 Express Quad Port Ethernet Adapter	7143	AC1	5766
		MC1	
Intel Ethernet Dual Port Server Adapter I340-T2 for IBM System x	7143	AC1	5767
		MC1	
Intel Ethernet Quad Port Server Adapter I340-T4 for IBM System x	7143	AC1	5768
		MC1	
SSD Blank Filler	7143	AC1	5779
		MC1	
Entry Cable Management Arm	7143	AC1	5782
		MC1	
x3850/x3950 X5 Bezel	7143	AC1	5789
		MC1	
MemCard Filler	7143	AC1	5791
		MC1	
HDD Backplane Filler	7143	AC1	5792
		MC1	
HS Filler	7143	AC1	5793
		MC1	
Select Storage devices - no IBM-configured RAID required	7143	AC1	5977
		MC1	
Select Storage devices - IBM-configured RAID	7143	AC1	5978
		MC1	
RAID 1 - Primary Array (SSD) - 2 SSDs required	7143	AC1	5979
		MC1	
RAID 5 - Primary Array (SSD) - minimum of 3 SSDs required	7143	AC1	5980
		MC1	
RAID 1 - Secondary Array (SSD) - 2 SSDs required	7143	AC1	5981
		MC1	
IBM 6Gb SAS HBA	7143	AC1	5982
		MC1	
640GB High IOPS MLC Duo Adapter for IBM System x	7143	AC1	5985
		MC1	
3m IBM Optical QDR InfiniBand QSFP Cable	7143	AC1	5989

10m IBM Optical QDR InfiniBand QSFP Cable	7143	AC1	5990
30m IBM Optical QDR InfiniBand QSFP Cable	7143	AC1	5991
SOFS Solution Code MFG Instruction	7143	AC1	6124
SAP-BWA Solution Code MFG Instruction	7143	AC1	6125
InfoSphere-BWA Solution Code MFG Instruction	7143	AC1	6126
GMAS Solution Code MFG Instruction	7143	AC1	6127
IBW-SSD Solution Code MFG Instruction	7143	AC1	6128
Cloudburst Solution Code MFG Instruction	7143	AC1	6129
SoNAS Solution Code MFG Instruction	7143	AC1	6130
Unique SBB for AC1/MC1 models	7143	AC1	6134
		MC1	
1.8" SAS Storage Support	7143	AC1	6138
		MC1	
SF Instruction	7143	AC1	6139
		MC1	
1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	7143	AC1	6201
		MC1	
2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable	7143	AC1	6204
		MC1	
Line cord - 4.3M, 10A/125V, C13 to NEMA 5-15P (US)	7143	AC1	6207
		MC1	
4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	7143	AC1	6263
		MC1	
2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	7143	AC1	6311
		MC1	
Line cord - 2.8m, 10A/250V, C13 to NEMA 6-15P (US)	7143	AC1	6372
		MC1	
HDD Backplane Cable Assembly	7143	AC1	6426
		MC1	
IBM MAX5 for System x Memory DIMM Filler	7143	AC1	6437
		MC1	
x3850 X5 drive ID label for dual FlashPack configuration	7143	AC1	6438
		MC1	
x3850 X5 drive ID label for mixed HDD and FlashPack configuration	7143	AC1	6439
		MC1	
x3850 X5 backplane power cable for dual FlashPack configuration	7143	AC1	6440
		MC1	
x3850 X5 backplane power cable for mixed HDD and FlashPack configuration	7143	AC1	6441
		MC1	
RAID 5 - Secondary Array (SSD) - minimum of 3 SSDs required	7143	AC1	6472
		MC1	
Primary Array 2 HDDs	7143	AC1	7008
		MC1	
Primary Array 3 HDDs	7143	AC1	7009
		MC1	
Primary Array 4 HDDs	7143	AC1	7010
		MC1	
Primary Array 5 HDDs	7143	AC1	7011
		MC1	
Primary Array 6 HDDs	7143	AC1	7012
		MC1	
Primary Array 7 HDDs	7143	AC1	7013
		MC1	
Primary Array 8 HDDs	7143	AC1	7014
		MC1	
Secondary Array 2 HDDs	7143	AC1	7015
		MC1	
Secondary Array 3 HDDs	7143	AC1	7016
		MC1	
Secondary Array 4 HDDs	7143	AC1	7017
		MC1	

Secondary Array 5 HDDs	7143	AC1	7057
		MC1	
Secondary Array 6 HDDs	7143	AC1	7058
		MC1	
Secondary Array 7 HDDs	7143	AC1	7059
		MC1	
Secondary Array 8 HDDs	7143	AC1	7060
		MC1	
RAID 10 - Primary Array (SATA) - minimum of 4 HDDs required	7143	AC1	7076
		MC1	
eX5 MAX5 bezel	7143	AC1	7485
		MC1	
x3850 X5/x3950 X5 Base	7143	AC1	7626
		MC1	
Grouped Product	7143	AC1	7830
		MC1	
Customer Solution Center Services	7143	AC1	7831
		MC1	
RAID 5 - Primary Array (SATA) - minimum of 3 HDDs required	7143	AC1	7851
		MC1	
RAID 5 - Primary Array (SAS) - minimum of 3 HDDs required	7143	AC1	7853
		MC1	
RAID 5 - Secondary Array (SAS) - minimum of 3 HDDs required	7143	AC1	7854
		MC1	
RAID 6 - Primary Array (SATA) - minimum of 4 HDDs required	7143	AC1	7855
		MC1	
RAID 6 - Primary Array (SAS) - minimum of 4 HDDs required	7143	AC1	7857
		MC1	
RAID 6 - Secondary Array (SAS) - minimum of 4 HDDs required	7143	AC1	7858
		MC1	
e1350 Special Bid Solution Component	7143	AC1	7929
No HDD Selected	7143	AC1	8026
		MC1	
Consolidate Shipment	7143	AC1	8031
		MC1	
e1350 Solution Component	7143	AC1	8034
Compute Node	7143	AC1	8036
		MC1	
Management Node	7143	AC1	8037
		MC1	
Storage Node	7143	AC1	8038
		MC1	
TAA Compliant Order	7143	AC1	8067
		MC1	
General Racking Solution	7143	AC1	8072
		MC1	
No 2.5" SAS HDD Selected	7143	AC1	8081
		MC1	
No Publications Selected	7143	AC1	8086
		MC1	
RAID 0 - Primary Array (SATA) - minimum of 2 HDDs required	7143	AC1	8135
		MC1	
RAID 1 - Primary Array (SATA) - 2 HDDs required	7143	AC1	8136
		MC1	
RAID 1E - Primary Array (SATA) - minimum of 3 HDDs required	7143	AC1	8137
		MC1	
RAID 0 - Primary Array (SAS) - minimum of 2 HDDs required	7143	AC1	8141
		MC1	
RAID 1 - Primary Array (SAS) - 2 HDDs required	7143	AC1	8142
		MC1	
RAID 0 - Secondary Array (SAS) - minimum of 2 HDDs required	7143	AC1	8144
		MC1	
RAID 1 - Secondary Array (SAS) - 2 HDDs required	7143	AC1	8145

		MC1	
System Documentation and Software-US English	7143	AC1 MC1	8626
16GB (1x16GB, 4Rx4, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	7143	AC1 MC1	8939
4GB (1x4GB, 2Rx8, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP RDIMM	7143	AC1 MC1	8942
Performance Memory Configuration	7143	AC1 MC1	8957
Integrate in manufacturing	7143	AC1 MC1	8971
Ship Uninstalled (Safety)	7143	AC1 MC1	8972
Hot Spare	7143	AC1 MC1	9013
Enable Memory Mirroring	7143	AC1 MC1	9017
Storage Subsystem ID 01	7143	AC1 MC1	9170
Storage Subsystem ID 02	7143	AC1 MC1	9171
Storage Subsystem ID 03	7143	AC1 MC1	9172
Storage Subsystem ID 04	7143	AC1 MC1	9173
Storage Subsystem ID 05	7143	AC1 MC1	9174
Storage Subsystem ID 06	7143	AC1 MC1	9175
Storage Subsystem ID 07	7143	AC1 MC1	9176
Storage Subsystem ID 08	7143	AC1 MC1	9177
Storage Subsystem ID 09	7143	AC1 MC1	9178
Storage Subsystem ID 10	7143	AC1 MC1	9179
Storage Subsystem ID 11	7143	AC1 MC1	9180
Storage Subsystem ID 12	7143	AC1 MC1	9181
Storage Subsystem ID 13	7143	AC1 MC1	9182
Storage Subsystem ID 14	7143	AC1 MC1	9183
Storage Subsystem ID 15	7143	AC1 MC1	9184
Storage Subsystem ID 16	7143	AC1 MC1	9185
Storage Subsystem ID 17	7143	AC1 MC1	9186
Storage Subsystem ID 18	7143	AC1 MC1	9187
Storage Subsystem ID 19	7143	AC1 MC1	9188
Storage Subsystem ID 20	7143	AC1 MC1	9189
Preload Specify	7143	AC1 MC1	9200
Windows Specify	7143	AC1	9201
Red Hat Specify	7143	AC1	9202
SUSE Specify	7143	AC1	9203
Drop-in-the-Box Specify	7143	AC1 MC1	9205
No Preload Specify	7143	AC1 MC1	9206
VMware Specify	7143	AC1 MC1	9207
Preload by Hardware Feature Specify	7143	AC1	9220

Server RAID M1000 Series Advance Feature Key	7143	MC1 AC1	9749
5m IBM QSFP -to- 4-SFP+ Copper cable	7143	MC1 AC1	A0R5
1m IBM QSFP -to- 4-SFP+ Copper cable	7143	AC1	A0R6
3m IBM QSFP -to- 4-SFP+ Copper cable	7143	AC1	A0R7
Software Application (Not Preinstalled) Specify	7143	AC1	A0UF
System x Cluster Upgrade	7143	MC1 AC1	A103
Emulex 10GbE Integrated Virtual Fabric Adapter II for IBM System x	7143	MC1 AC1	A148
Mfg Code	7143	MC1 AC1	A149
x3850 X5/x3950 X5 System Planar	7143	MC1 AC1	A14C
IBM x3850 X5 and x3950 X5 Memory Expansion Card	7143	MC1 AC1	A14D
8GB (1x8GB, 4Rx8, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHz LP RDIMM	7143	MC1 AC1	A14E
Intel Xeon Processor E7-4870 10C (2.40GHz 30MB L3 130w 4S)	7143	MC1 AC1	A14F
Intel Xeon Processor E7-8837 8C (2.67GHz 24MB L3 130w 8S)	7143	MC1 AC1	A14G
Intel Xeon Processor E7-8830 8C (2.13GHz 24MB L3 105w 8S)	7143	MC1 AC1	A14H
Intel Xeon Processor E7-8867L 10C (2.13GHz 30MB L3 105w 8S)	7143	MC1 AC1	A14J
Intel Xeon Processor E7-8860 10C (2.26GHz 24MB L3 130w 8S)	7143	MC1 AC1	A14K
Intel Xeon Processor E7-8870 10C (2.40GHz 30MB L3 130w 8S)	7143	MC1 AC1	A14L
Intel Xeon Processor E7-4807 6C (1.86GHz 18MB L3 95w 4S)	7143	MC1 AC1	A14M
Intel Xeon Processor E7-4820 8C (2.00GHz 18MB L3 105w 4S)	7143	MC1 AC1	A14N
Intel Xeon Processor E7-4830 8C (2.13GHz 24MB L3 105w 4S)	7143	MC1 AC1	A14P
Intel Xeon Processor E7-4860 10C (2.26GHz 24MB L3 130w 4S)	7143	MC1 AC1	A14Q
Intel Xeon Processor E7-4850 10C (2.00GHz 24MB L3 130w 4S)	7143	MC1 AC1	A14R
Intel Xeon Processor E7-8850 10C (2.00GHz 24MB L3 130w 8S)	7143	MC1 AC1	A14S
Addl Intel Xeon Processor E7-4870 10C 2.40GHz 30MB Cache 130w	7143	MC1 AC1	A14T
Addl Intel Xeon Processor E7-8837 8C 2.67GHz 24MB Cache 130w	7143	MC1 AC1	A14U
Addl Intel Xeon Processor E7-8830 8C 2.13GHz 24MB Cache 105w	7143	MC1 AC1	A14V
Addl Intel Xeon Processor E7-8867L 10C 2.13GHz 30MB Cache 105w	7143	MC1 AC1	A14W
Addl Intel Xeon Processor E7-8860 10C 2.26GHz 24MB Cache 130w	7143	MC1 AC1	A14X
Addl Intel Xeon Processor E7-8870 10C 2.40GHz 30MB		MC1	

Cache 130w	7143	AC1 MC1	A14Y
Addl Intel Xeon Processor E7-4807 6C 1.86GHz 18MB Cache 95w	7143	AC1 MC1	A14Z
Addl Intel Xeon Processor E7-4820 8C 2.00GHz 18MB Cache 105w	7143	AC1 MC1	A150
Addl Intel Xeon Processor E7-4830 8C 2.13GHz 24MB Cache 105w	7143	AC1 MC1	A151
Addl Intel Xeon Processor E7-4860 10C 2.26GHz 24MB Cache 130w	7143	AC1 MC1	A152
Addl Intel Xeon Processor E7-4850 10C 2.00GHz 24MB Cache 130w	7143	AC1 MC1	A153
Addl Intel Xeon Processor E7-8850 10C 2.00GHz 24MB Cache 130w	7143	AC1 MC1	A154
IBM MAX5 V2 for System x	7143	AC1 MC1	A19H
ex5 MAX5 labels	7143	AC1 MC1	A19J
Labels GBM	7143	AC1 MC1	A14A
MAX5 code	7143	AC1 MC1	A19K
IBM MAX5 for System x Documentation	7143	AC1 MC1	A19L
32GB (1x32GB, 4Rx4, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	7143	AC1 MC1	A1CP
x3850 2 Node - Node 2 of 2 with scalability cables	7143	AC1 MC1	A1JK
No QPI Wrap Selected	7143	AC1 MC1	A1JL
4GB MAX5 (1x4GB, 2Gb, 2Rx8, 1.35V) PC3L-10600R-999 LP ECC RDIMM	7143	AC1 MC1	A1MH
640GB HIGH IOPS MLC ADAPTER FOR IBM SYSTEM X	7143	AC1 MC1	A1NC
640GB HIGH IOPS SLC™ DUO ADAPTER FOR IBM SYSTEM X	7143	AC1 MC1	A1ND
320GB HIGH IOPS SLC ADAPTER FOR IBM SYSTEM X	7143	AC1 MC1	A1NE
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	6391	AC1	A1NN
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7143	AC1	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7164	AC1	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7870	AC1	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7871	AC1	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7873	AC1	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7944	AC1	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7945	AC1	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	8886	AC1	
RAID 0 - Primary Array (SSD) - minimum of 2 SSDs required	7143	AC1 MC1	A1P4
RAID 0 - Secondary Array (SSD) - minimum of 2 SSDs required	7143	AC1 MC1	A1P5
RAID 0 - Tertiary Array (SSD) - minimum of 2 SSDs required	7143	AC1 MC1	A1P6

HANA SW Stack S+	7143	AC1	A1P7
HANA SW Stack M	7143	AC1	A1P8
HANA SW Stack L	7143	AC1	A1P9
32GB (4GB, 4Rx4, 1.35V) PC3L-8500 DDR3-1066MHZ LP RDIMM	7143	AC1 MC1	A1R2

The following are features already announced for the 0446, 0448, 0449, 0563, 0719, 0724, 1410, 1723, 1754, 4667, 4668, 4669, 4670, 6385, 6386, 7176, 7309, 7825, and 8852 machine types:

Description	MT	Model	Feature
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	0446	HC7	A1NN
		HC8	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	0448	HC3	
		HC4	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	0449	HCC	
		HCD	
		HCE	
		HCF	
		HCG	
		HCH	
		HCJ	
		HCK	
		HCL	
		HCM	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	0563	HCN	
		HC5	
		HCF	
		HCG	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	0719	HCH	
		HCJ	
		HC4	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	0724	HC5	
		HC6	
		HC7	
		HC3	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	1410	HC4	
		HC5	
		HC6	
		HC7	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	1723	RC2	
		RC4	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	1754	HC1	
		HC2	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	4667	HC3	
		HC4	
		HCR	
		HCS	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	4668	HCT	
		HCU	
		HCV	
		HCW	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	4669	HCX	
		HCY	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	4669	HC6	
		HC7	
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	4669	HC8	
		HCN	

Solution for SAP In-Memory Appliance, SAP HANA

		HCP
		HCQ
		HCR
		HCS
		HCT
		HCU
		HCV
		HCW
		HCX
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	4670	HCE
		HCF
		HCG
		HCV
		HCY
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	6385	HC1
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	6386	HC1
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7176	PM1
		PN1
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7309	HC1
		HC2
		HC3
		HC4
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7825	RC1
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	8852	HC1

The Single Entity Offerings (SEO)

Description	SEO number
IBM System x3850 X5: Base Models	7143B1U 7143B2U 7143B3U 7143B5U 7143B6U 7143B7U 7143C1U 7143C2U
IBM System x3950 X5: workload Optimized System for Database	7143D1U 7143D2U
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	7143H1U 7143H2U 7143H3U

Options SEOs

Description	SEO number
32 GB (1x32GB, 4Rx4, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	90Y3101
8 GB (1x8GB, 4Rx8, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	49Y1399
2 Node eEXA Scaling Kit	59Y6271

Memory Expansion Card	69Y1888
Emulex 10GbE Virtual Fabric Adapter II for IBM System x	49Y7950
Intel Xeon Processor E7-4870 10C 2.40GHz 30MB Cache 130w	69Y1893
Intel Xeon Processor E7-8837 8C 2.67GHz 24MB Cache 130w	69Y1894
Intel Xeon Processor E7-8830 8C 2.13GHz 24MB Cache 105w	69Y1896
Intel Xeon Processor E7-8867L 10C 2.13GHz 30MB Cache 105w	69Y1897
Intel Xeon Processor E7-8860 10C 2.26GHz 24MB Cache 130w	69Y1898
Intel Xeon Processor E7-8870 10C 2.40GHz 30MB Cache 130w	69Y1899
Intel Xeon Processor E7-4807 6C 1.86GHz 18MB Cache 95w	69Y1889
Intel Xeon Processor E7-4820 8C 2.00GHz 18MB Cache 105w	69Y1890
Intel Xeon Processor E7-4830 8C 2.13GHz 24MB Cache 105w	69Y1891
Intel Xeon Processor E7-4860 10C 2.26GHz 24MB Cache 130w	69Y1892
Intel Xeon Processor E7-4850 10C 2.00GHz 24MB Cache 130w	88Y5358
Intel Xeon Processor E7-8850 10C 2.00GHz 24MB Cache 130w	88Y5357

IBM System x3850 X5 and x3950 X5

The following feature numbers are automatically added to the 5372-SWX HIPO order whenever one of the hardware system units is configured in an order.

HIPO feature number	Description
4252	7143-AC1 Routing Code
4253	7143-MC1 Routing Code

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=111-055>

Publications

The following publications will be available on the support website and on the Documentation CD:

The *IBM System Types 7145, 7146, 7143, and 7191 x3850 X5 and x3950 X5 Installation and User's Guide*, and the *IBM System Types 7145, 7146, 7143, and 7191 x3850 X5 and x3950 X5 Problem Determination and Service Guide*, in U.S. English versions, are available from our website

<http://www.ibm.com/systems/support>

They contain an introduction to the computer, installation and setup, installing options, reference information, and problem determination. The installation guide has easy-to-use text and illustrations to enable you to quickly set up your x3850 X5 and x3950 X5 servers.

IBM Systems Director systems-management software is included.

Note: Software versions, features, and functions shipped with these systems may change as new releases become available or may be discontinued at any time.

The following publications are available immediately.

The *IBM System Types 7145, 7146, 7143, and 7191 x3850 X5 and x3950 X5 Installation and User's Guide*, and the *IBM System Types 7145, 7146, 7143, and 7191 x3850 X5 and x3950 X5 Problem Determination and Service Guide*, in U.S. English versions, are available from our website

<http://www.ibm.com/systems/support>

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When you buy IBM System x technology, include the support services you need -- to help keep both your hardware and software working for you, day after day, at peak performance. It's your first step toward helping to protect your investment and sustain high levels of system availability. We offer service-level and response-time options to fit your business needs. And we'll help you get started with a core support package that includes:

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Electronic monitoring that helps speed up problem-solving with automated, early detection of potential problems and system errors.
- **Hardware maintenance**
World-class remote and on-site hardware problem determination and repair services.
- **Software technical support**
Access to help line calls for fast, accurate answers to your questions during installation and throughout ongoing operations.

For more information, visit

<http://www.ibm.com/servers/eserver/xseries/services.html>

Technical information

Specified operating environment

Physical specifications

x3850 X5

EMEA x=G

7143B1x

Processor	Xeon E7-4807
Six-core	95w
Internal speed	1.86 GHz
Memory bus speed	1066 MHz
Number standard	2
Maximum	4
Interconnect speed	4.8 GT/s
L3 cache total	18 MB
Memory (PC3-10600 DDR3)	8 GB ECC
DIMMs	2 x 4 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	1
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-BR10i standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	0
Bays available	4 Standard, 8 with upgrade kit
2.5-inch slim	4 Standard, 8 with upgrade kit
Hot-swap	4 Standard, 8 with upgrade kit
Internal capacity	4 TB (6)
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Optional
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard
Ethernet Adapter	
Optical disk drive	Optional
Power supply	1975 w
Number standard	1
Maximum	2
Hot-swap	Yes
Redundant power	Optional
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

x3850 X5

EMEA x=G

7143B2x

Processor	Xeon E7-4820
Eight-core	105w
Internal speed	2.0 GHz
Memory bus speed	1066 MHz
Number standard	2
Maximum	4
Interconnect speed	5.86 GT/s
L3 cache total	18 MB
Memory (PC3-10600 DDR3)	16 GB ECC
DIMMs	4 x 4 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	1
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-BR10i standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	0
Bays available	4 Standard, 8 with upgrade kit
2.5-inch slim	4 Standard, 8 with upgrade kit
Hot-swap	4 Standard, 8 with upgrade kit
Internal capacity	4 TB (6)
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Optional
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard
Ethernet Adapter	
Optical disk drive	Optional
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

x3850 X5

EMEA x=G

7143B3x

Processor	Xeon E7-4830
Eight-core	105w
Internal speed	2.13 GHz
Memory bus speed	1066 MHz
Number standard	2
Maximum	4
Interconnect speed	6.40 GT/s
L3 cache total	24 MB
Memory (PC3-10600 DDR3)	16 GB ECC

DIMMs	4 X 4 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	1
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-BR10i standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	0
Bays available	4 Standard, 8 with upgrade kit
2.5-inch slim	4 Standard, 8 with upgrade kit
Hot-swap	4 Standard, 8 with upgrade kit
Internal capacity	4 TB (6)
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServeRAID M5015 6Gb	Optional
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard
Ethernet Adapter	
Optical disk drive	Optional
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

x3850 X5

EMEA x=G

7143B5x

Processor	Xeon E7-4850
Ten-core	130w
Internal speed	2.0 GHz
Memory bus speed	1066 MHz
Number standard	2
Maximum	4
Interconnect speed	4.8 GT/s
L3 cache total	24 MB
Memory (PC3-10600 DDR3)	16 GB ECC
DIMMs	4 x 4 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	1
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-BR10i standard
Ports	8

Connector internal	2
Connector external	0
HDD standard	0
Bays available	4 Standard, 8 with upgrade kit
2.5-inch slim	4 Standard, 8 with upgrade kit
Hot-swap	4 Standard, 8 with upgrade kit
Internal capacity	4 TB (6)
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Optional
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard
Ethernet Adapter	
Optical disk drive	Optional
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

x3850 X5

EMEA x=G

7143B6x

Processor	Xeon E7-4860
Ten-core	130w
Internal speed	2.26 GHz
Memory bus speed	1066 MHz
Number standard	2
Maximum	4
Interconnect speed	6.40 GT/s
L3 cache total	24 MB
Memory (PC3-10600 DDR3)	16 GB ECC
DIMMs	4 x 4 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	1
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-BR10i standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	0
Bays available	4 Standard, 8 with upgrade kit
2.5-inch slim	4 Standard, 8 with upgrade kit
Hot-swap	4 Standard, 8 with upgrade kit
Internal capacity	4 TB (6)
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Optional
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard

Ethernet Adapter	
Optical disk drive	Optional
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

x3850 X5

EMEA x=G

7143B7x

Processor	Xeon E7-4870
Ten-core	130w
Internal speed	2.4 GHZ
Memory bus speed	1066 MHZ
Number standard	2
Maximum	4
Interconnect speed	6.40 GT/s
L3 cache total	30 MB
Memory (PC3-10600 DDR3)	16 GB ECC
DIMMs	4 x 4 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	1
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-BR10i standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	0
Bays available	4 Standard, 8 with upgrade kit
2.5-inch slim	4 Standard, 8 with upgrade kit
Hot-swap	4 Standard, 8 with upgrade kit
Internal capacity	4 TB (6)
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Optional
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard
Ethernet Adapter	
Optical disk drive	Optional
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

x3850 X5

EMEA x=G

7143C1x

Processor	Xeon E7-8850
Ten-core	130w
Internal speed	2.0 GHz
Memory bus speed	1066 MHz
Number standard	2
Maximum	4
Interconnect speed	6.40 GT/s
L3 cache total	24 MB
Memory (PC3-10600 DDR3)	16 GB ECC
DIMMs	4 x 4 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	1
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-BR10i standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	0
Bays available	4 Standard, 8 with upgrade kit
2.5-inch slim	4 Standard, 8 with upgrade kit
Hot-swap	4 Standard, 8 with upgrade kit
Internal capacity	4 TB (6)
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Optional
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard
Ethernet Adapter	
Optical disk drive	Optional
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

x3850 X5

EMEA x=G

7143C2x

Processor	Xeon E7-8860
Ten-core	130w
Internal speed	2.26 GHz
Memory bus speed	1066 MHz
Number standard	2
Maximum	4

Interconnect speed	6.40 GT/s
L3 cache total	24 MB
Memory (PC3-10600 DDR3)	16 GB ECC
DIMMs	4 x 4 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	1
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-BR10i standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	0
Bays available	4 Standard, 8 with upgrade kit
2.5-inch slim	4 Standard, 8 with upgrade kit
Hot-swap	4 Standard, 8 with upgrade kit
Internal capacity	4 TB (6)
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Optional
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard
Ethernet Adapter	
Optical disk drive	Optional
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

x3950 X5

EMEA x=G

7143D1x

Processor	Xeon E7-4850
Ten-core	130w
Internal speed	2.0 GHz
Memory bus speed	1066 MHz
Number standard	4
Maximum	4
Interconnect speed	6.40 GT/s
L3 cache total	24 MB
Memory (PC3-10600 DDR3)	128 GB ECC
DIMMs	32 x 4 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	1
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA

Memory	16 MB
SAS controller	ServerRAID-BR10i standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	0
Bays available	4 Standard, 8 with upgrade kit
2.5-inch slim	4 Standard, 8 with upgrade kit
Hot-swap	4 Standard, 8 with upgrade kit
Internal capacity	4 TB (6)
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Optional
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard
Ethernet Adapter	
Optical disk drive	Optional
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

x3950 X5

EMEA x=G

7143D2x

Processor	Xeon E7-4860
Ten-core	130w
Internal speed	2.26 GHz
Memory bus speed	1066 MHz
Number standard	4
Maximum	4
Interconnect speed	6.40 GT/s
L3 cache total	24 MB
Memory (PC3-10600 DDR3)	128 GB ECC
DIMMs	32 x 4 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	2
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-BR10i standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	0
Bays available	4 Standard, 8 with upgrade kit
2.5-inch slim	4 Standard, 8 with upgrade kit
Hot-swap	4 Standard, 8 with upgrade kit
Internal capacity	4 TB (6)
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Optional

Dual Ethernet controller 10/100/1000 Mbps	Standard
Emulex 10Gb Dual-port Ethernet Adapter	Standard
Optical disk drive	Optional
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

x3950 X5

7143H1U

Processor	Xeon E7-8870
Ten-core	130w
Internal speed	2.40 GHz
Memory bus speed	1066 MHz
Number standard	2
Maximum	4
Interconnect speed	6.40 GT/s
L3 cache total	30 MB
Memory (PC3-10600 DDR3)	256 GB ECC
DIMMs	16 X 16 GB
DIMM sockets standard	32
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	4
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-M5015 standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	8 x 600GB 10k SAS
Bays available	8 Standard
2.5-inch slim	8 Standard
Hot-swap	8 Standard
Internal capacity	4 TB (6)
320 GB Fusion IO	1
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Standard
Dual Ethernet controller 10/100/1000 Mbps	Standard
Emulex 10Gb Dual-port Ethernet Adapter	Standard
Intel Ethernet Quad Port Server Adapter I340-T4	Standard
10GbE SW SFP+ transceiver	Standard
Optical disk drive	Standard
SLES for SAP Applications v2	Standard
SAP stack preload	Standard
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes

Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

7143H2U

Processor	Xeon E7-8870
Ten-core	130w
Internal speed	2.40 GHz
Memory bus speed	1066 MHz
Number standard	4
Maximum	4
Interconnect speed	6.40 GT/s
L3 cache total	30 MB
Memory (PC3-10600 DDR3)	512 GB ECC
DIMMs	32 X 16 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	8
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-M5015 standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	8 x 600GB 10k SAS
Bays available	8 Standard
2.5-inch slim	8 Standard
Hot-swap	8 Standard
Internal capacity	4 TB (6)
640 GB Fusion IO	1
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Standard
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard
Ethernet Adapter	
Intel Ethernet Quad Port	Standard
Server Adapter I340-T4	
10GbE SW SFP+ transceiver	Standard
Optical disk drive	Standard
SLES for SAP Applications v2	Standard
SAP stack preload	Standard
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

7143H3U

Processor	Xeon E7-8870
Ten-core	130w
Internal speed	2.40 GHz
Memory bus speed	1066 MHz
Number standard	4
Maximum	4
Interconnect speed	6.40 GT/s
L3 cache total	30 MB
Memory (PC3-10600 DDR3)	512 GB ECC
DIMMs	32 X 16 GB
DIMM sockets standard	64
DIMM sockets maximum	64
Capacity	1024 GB (5)
Memory expansion card	
Number standard	8
Maximum	8
MAX5	Optional
DIMMs	0
DIMM sockets maximum	32
Video	SVGA
Memory	16 MB
SAS controller	ServerRAID-M5015 standard
Ports	8
Connector internal	2
Connector external	0
HDD standard	8 x 600GB 10k SAS
Bays available	8 Standard
2.5-inch slim	8 Standard
Hot-swap	8 Standard
Internal capacity	4 TB (6)
640 GB Fusion IO	1
PCIe sockets	7
Management processor IMM	Standard
RAID 0/1	Standard
ServerRAID M5015 6Gb	Standard
Dual Ethernet controller	Standard
10/100/1000 Mbps	
Emulex 10Gb Dual-port	Standard
Ethernet Adapter	
Intel Ethernet Quad Port	Standard
Server Adapter I340-T4	
10GbE SW SFP+ transceiver	Standard
Optical disk drive	Optional
QPI Scalability Kit	Standard
Power supply	1975 w
Number standard	2
Maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes
MAX5 power supply	675 w
MAX5 number standard	0
MAX5 maximum	2
Hot-swap	Yes
Redundant power	Standard
Auto-restart	Yes

⁵ Capacities are based on installation of the eight memory expansion cards and eight 16 GB DIMMs installed in each card.

⁶ Capacities are based on installation of eight 500 GB 2.5-inch SFF SATA HDDs. For the latest information on supported HDD options, visit

<http://www-03.ibm.com/servers/eserver/serverproven/compat/us/indexsp.html>

Supported video mode capabilities for the SVGA PCI controller:

windows 2003 (32- and 64-bit) and Linux (all distributions)

Resolution	Colors	Refresh rate (Hz)
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640 x 480 x 8	256	60, 72, 75, 85, 90, 100, 120, 160, 200
640 x 480 x 16	64K	60, 72, 75, 85, 90, 100, 120, 160, 200
640 x 480 x 32	16M	60, 72, 75, 85, 90, 100, 120, 160, 200
800 x 600 x 8	256	60, 70, 72, 75, 85, 90, 100, 120, 160, 200
800 x 600 x 16	64K	60, 70, 72, 75, 85, 90, 100, 120, 160, 200
800 x 600 x 32	16M	60, 70, 72, 75, 85, 90, 100, 120, 160
1024 x 768 x 8	256	60, 70, 72, 75, 85, 90, 100, 120, 140, 150, 160, 200
1024 x 768 x 16	64K	60, 70, 72, 75, 85, 90, 100, 120, 140, 150, 160, 200
1024 x 768 x 32	16M	60, 70, 72, 75, 85, 90, 100
1280 x 1024 x 8	256	60, 72, 75
1280 x 1024 x 16	64K	60, 72, 75
1280 x 1024 x 32	16M	60, 72, 75

Dimensions

4U rack drawer

- Width: 440 mm (17.32 in)
- Depth: 712.1 mm (28.04 in)
- Height: 172.8 mm (6.81 in)
- Weight
 - Minimum configuration: 35.4 kg (78 lb)
 - Maximum configuration: 49.90 kg (110 lb)

Electrical

- 100 to 127 (nominal) V ac; 50 Hz or 60 Hz; System 20A (10A/PS)
- 200 to 208 (nominal) V ac; 50 Hz or 60 Hz; System 10A
- 200 to 240 (nominal) V ac; 50 Hz or 60 Hz; System 9A
 - Minimum configuration: 0.20 kVA (one power supply)
 - Minimum configuration: 0.26 kVA (two power supplies)
 - Typical configuration: 1.12 kVA (two power supplies)
 - Maximum configuration: 2.16 kVA (two power supplies)
- Btu output:
 - Ship configuration (1PS): 648 Btu/hr (190 watts)
 - Ship configuration (2PS): 802 Btu/hr (235 watts)
 - Typical configuration: 3,753 Btu/hr (1100 watts)
 - Full configuration: 7,336 Btu/hr (2150 watts)
- Noise level horizontal position: 6.3 bels

Note: The noise emission level stated is the declared (upper limit) sound power level, in bels, for a random sample of machines. All measurements made in accordance with ISO 7779 and reported in conformance with ISO 9296.

Standards

x3850 X5 and x3950 X5 servers are intended for use as rack-drawer servers and are tested and designed to operate in a horizontal position.

These systems support or comply with the following standards:

- Multiprocessor Specification (MPS) 1.4
- Hardware-enabled to meet ISO 9241, Part 3

In addition to the above standards, they are compatible with the PCIe specification.

Equipment approvals and safety

- FCC - Verified to comply with Part 15 of the FCC Rules, Class A

- Canada ICES-003, issue 4, Class A
- IEC/UL 60950-1, 2nd Edition
- CAN/CSA - C22.2 No. 60950-1-07 2nd Edition
- NOM-019 ⁷

⁷ These servers are certified by the respective UL and NOM agencies.

Operating environment

- Temperature:
 - 10.0 to 35.0 degrees C (50 to 95 degrees F) at 0 to 914 m (0 to 3,000 ft)
 - 10.0 to 32.0 degrees C (50 to 90 degrees F) at 914 to 2,133 m (3,000 to 7,000 ft)
- Relative humidity: 8% to 80%

Hardware requirements

For attended installation of an operating system, this server requires a compatible:

- Keyboard
- Mouse
- Display

Unattended or remote installation may be performed without requiring some or all of these components. Review your unattended software installation program information for specific hardware configuration requirements.

For service, the servers require a compatible:

- Keyboard
- Mouse
- Display

When having the unit serviced, plan to have these components attached to your server either directly or indirectly via a console switch.

Software requirements

The following network operating systems have been tested for compatibility with the x3850 X5 and x3950 X5 server.

Network operating systems

- Microsoft
 - Windows Server 2003 (64-bit)
 - Windows Server 2003 R2 (64-bit)
 - Windows Server 2008 R2 (64-bit)
 - Windows Server 2008 (64-bit)
- Linux
 - Red Hat EL 5 Server for 64-bit
 - Red Hat EL 5 Server for 64-bit (with Xen)
 - Red Hat EL 6 Server for 64-bit
 - SUSE Linux ES 10 for x86-64
 - SUSE Linux ES 10 for x86-64 (with Xen)
 - SUSE Linux ES 11 for x86-64
 - SUSE Linux ES 11 for x86-64 (with Xen)

- Other
 - VMware vSphere Hypervisor™ 4.1 U1

The MAX5 drawer is designed to work seamlessly with the servers and operating system software, and provides a high-speed low-latency path to additional memory. The connection, enabled by the IBM-exclusive eX5 technology, is fast and wide enough to ensure that operating systems and applications see just a single, large memory space -- thus no software modifications are necessary to use MAX5.

Note: For information on additional support, certification, and versions of network operating systems, visit

<http://www.ibm.com/servers/eserver/serverproven/compat/us/>

IBM makes no representation or warranty regarding third-party products, including those designated as ServerProven.

Compatibility

The IBM System x3850 X5 and x3950 X5 servers contain licensed system programs that include set configuration, set features, and test programs. IBM system BIOS is loaded from a "flash" EEPROM into system memory. This BIOS provides instructions and interfaces designed to support the standard features of the IBM System x3850 X5 and x3950 X5 servers and to maintain compatibility with many current software programs.

For detailed information about IBM and non-IBM devices, adapters, software, and network operating systems supported with IBM System x3850 X5 and x3950 X5 servers, visit

<http://www-03.ibm.com/servers/eserver/serverproven/compat/us/indexsp.html>

Contact your IBM representative or IBM Business Partner, or refer to the *IBM Sales Manual* for information on the compatibility of hardware and software for IBM System x3850 X5 and x3950 X5 servers. The *Sales Manual* is updated periodically as new features and options are announced that support these servers.

Limitations

Memory

The x3850 X5 and x3950 X5 servers are shipped with up to 384 GB high-speed PC3-10600 DDR3 ECC memory standard, supporting up to 3 TB (with 32 GB DIMM) of system memory per server + MAX5 5U combination. All supported system memory is addressable through direct memory access (DMA). This server supports 2 GB, 4 GB, 8 GB, 16 GB, and 32 GB 1.5 V, or 1.35 V, 240-pin, PC3-10600 ECC DDR3 SDRAM RDIMMs. Supported DIMMs can coexist in the same server; however, memory DIMMs of the same capacity must be installed in matched pairs. Refer to the [Planning information](#) section or the IBM System x3850 X5 and x3950 X5 server web page for memory options.

The x3850 X5 and x3950 X5 servers have RAID 0 and 1 standard. The ServeRAID M5015 SAS/SATA Controller provides additional RAID levels.

ServerGuide

Use the version of *ServerGuide* available on the web to load software and drivers. Earlier versions of *ServerGuide* may not be compatible with the servers.

Versions of VMware vSphere Hypervisor prior to 4.1 do not support MAX5.

Planning information

Customer responsibilities

x3850 X5 and x3950 X5 servers and related options

The x3850 X5 and x3950 X5 servers and the IBM MAX5 for System x are designated as customer setup. Customer setup instructions are shipped with systems.

Configuration information

Bay configuration

The x3850 X5 and x3950 X5 servers contain eight customer-accessible drive bays on the front of the server. A lower left bay is for the slim combo drive. Eight unpopulated 2.5-inch, slim-high, hot-swap drive bays are located beneath this bay.

The UltraSlim Enhanced SATA CD-RW / DVD-ROM Combo drive is cabled directly to the SATA port.

Internal SCSI cabling

Models of the x3850 X5 and x3950 X5 servers contain a DASD backplane supporting four hot-swap, SCA-2-compliant drive bays. The x3850 X5 and x3950 X5 models with the BR-10i controller support RAID 0 and 1 standard. The optional ServeRAID-5015 SAS/SATA Controller provides additional RAID levels.

Processor upgrade

The following processor upgrade options are supported:

- Intel Xeon Processor E7-4807 - 1.86 GHz 18 MB L3 Cache 1066 MHz six-core Processor Upgrade (88Y5320)
- Intel Xeon Processor E7-4820 - 1.86 GHz 18 MB L3 Cache 1066 MHz eight-core Processor Upgrade (88Y5322)
- Intel Xeon Processor E7-4830 - 2.13 GHz 24 MB L3 Cache 1066 MHz eight-core Processor Upgrade (88Y5324)
- Intel Xeon Processor E7-4850 - 2.0 GHz 24 MB L3 Cache 1066 MHz ten-core Processor Upgrade (88Y5396)
- Intel Xeon Processor E7-4860 - 1.86 GHz 24 MB L3 Cache 1066 MHz ten-core Processor Upgrade (88Y5326)
- Intel Xeon Processor E7-4870 - 1.86 GHz 30 MB L3 Cache 1066 MHz ten-core Processor Upgrade (69Y1852)
- Intel Xeon Processor E7-8830 - 2.13 GHz 24 MB L3 Cache 1066 MHz eight-core Processor Upgrade (69Y1858)
- Intel Xeon Processor E7-8850 - 2.0 GHz 24 MB L3 Cache 1066 MHz ten-core Processor Upgrade (88Y5398)
- Intel Xeon Processor E7-8860 - 2.26 GHz 24 MB L3 Cache 1066 MHz ten-core Processor Upgrade (69Y1862)
- Intel Xeon Processor E7-8870 - 2.4 GHz 30 MB L3 Cache 1066 MHz ten-core Processor Upgrade (69Y1864)

Memory support

The following memory options are supported:

- 2 GB PC3-10600 CL4 ECC DDR3 SDRAM RDIMM (44T1481)
- 4 GB PC3-8500 CL4 ECC DDR3 SDRAM RDIMM (46C7448)
- 8 GB PC3-8500 CL4 ECC DDR3 SDRAM RDIMM (46C7482)
- 16 GB PC3-8500 CL4 ECC DDR3 SDRAM RDIMM (46C7483)
- 32 GB (1x32GB, 4Rx4, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHz LP RDIMM (90Y3206)

- 4 GB (1x4GB, 2Rx8, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHz LP RDIMM (49Y1407)
- 8 GB (1x8GB, 4Rx8, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHz LP RDIMM (49Y1399)
- 16 GB (1x16GB, 4Rx4, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHz LP RDIMM (49Y1400)

Memory DIMMs should be plugged in order of size -- largest first, followed by the next size. When plug order moves to new DIMM numbers, start with the memory card with the smallest total amount.

- Example: Four CPUs, four memory cards, four 8 GB DIMMs, eight 4 GB DIMMs.
 - Card1 DIMMs 1 and 8 = 2 x 8 GB
 - Card7 DIMMs 1 and 8 = 2 x 8 GB
 - Card3 DIMMs 1 and 8 = 2 x 4 GB
 - Card5 DIMMs 1 and 8 = 2 x 4 GB
- When moving to next DIMM locations 3 and 6, start with the card with the least amount of memory.
 - Card3 DIMMs 3 and 6 = 2 x 4 GB
 - Card5 DIMMs 3 and 6 = 2 x 4 GB
- End result is four memory cards, each with 16 GB, balanced for the best performance

Note: Refer to details on the ServerProven Plan for memory supported in x3950 and memory supported in MAX5 at

<http://www-03.ibm.com/servers/eserver/serverproven/compat/us/indexsp.html>

PCIe adapter installations

The x3850 X5 and x3950 X5 servers contain PCIe architecture and seven 5.0 Gb PCIe I/O (one x16, five x8, one x4) sockets.

Rack installations

x3850 X5 and x3950 X5 4U, rack-drawer models are designed to be installed in a 19-inch rack cabinet designed for 26-inch deep devices, such as the NetBAY42 ER, NetBAY42 SR, NetBAY25 SR, or NetBAY11.

If using a non-IBM rack, the cabinet must meet the EIA-310-D standards with a depth of at least 71.1 cm (28 in). Also, adequate space (approximately 5 cm (2 in) for the front bezel and 2.5 cm (1 in) for air flow) must be maintained from the slide assembly to the front door of the rack cabinet to allow sufficient space for the door to close and provide adequate air flow.

Power considerations

These x3850 X5 and x3950 X5 models include two 1975-watt, voltage sensing, rear access, hot-swap power supplies in the main x3850 or x3950 X5 chassis, with two additional 675-watt, voltage sensing, rear access, hot-swap power supplies in the MAX5 expansion option.

Cable orders

The 10/100/1000 Mbps full-duplex, Dual Ethernet PCIe controller is standard with the x3850 X5 and x3950 X5 servers. The RJ-45 connectors provide a 10BASE-T or 100/1000BASE-TX interface for connecting twisted-pair cable to the Ethernet network. Cabling is not included with the server. To connect the Ethernet controller to a repeater or switch, use a UTP cable with RJ-45 connectors at both ends. For 100/1000 Mbps operation, Category 5 cabling must be used. For 10 Mbps operation, Category 3, or better, cabling must be used.

There are no additional cabling requirements, other than for system power, keyboard, mouse, and monitor connections.

Installability

The x3850 X5 and x3950 X5 server requires about 40 minutes for installation. Installation includes unpacking, setting up, and powering on the system. Additional time is required to install an operating system, additional adapters, or features.

Packaging

Product	Shipment group	Number of boxes
IBM System x3850 X5 and 3950 X5	System unit carton Contents: System unit IBM MAX5 for System x (if ordered) Rack kits (two sets): Rails Cable management hardware	1
IBM System x3850 X5 and 3950 X5	Country kit carton Contents: Four 2.8m 220 v intra-rack cables Safety booklet CD-ROM Packages IBM Systems Director CD-ROM Packages Active Energy Manager On/off switch cover	1

The x3850 X5 and x3950 X5 systems are shipped as a single package. The country kit carton is contained inside the top portion of the system unit carton, while the rack components are contained in the system unit carton.

The following publications will be available on the support website and on the Documentation CD.

The *IBM System Types 7145, 7146, 7143, and 7191 x3850 X5 and x3950 X5 Installation and User's Guide*, and the *IBM System Types 7145, 7146, 7143, and 7191 x3850 X5 and x3950 X5 Problem Determination and Service Guide*, in U.S. English versions, are available from our website.

The *Warranty Information* publication will be available as a hardcopy publication at

<http://www.ibm.com/systems/support>

Related options

Processor upgrades

- Xeon processor
- Installation publications/warranty

Supplies

None

Security, auditability, and control

Security and auditability features include:

- Power-on and privileged access password functions provide controls of who has access to the data and server setup program on the server.
- A set unattended boot mode allows the system keyboard to be locked to all entries except the password and at the same time allows other computers on the network to access the system disk drive.
- A selectable boot sequence can be used to prevent unauthorized installation of software or removal of data from the diskette drive.
- These servers are Winbond Trusted Platform Module V1.2, Trusted Computing Group (TCG) compliant.

Limitations

The x3850 X5 and x3950 X5 servers have no security intrusion detection; therefore, they should be installed in a rack environment that provides security through lockable doors or other security measures. It is a customer's responsibility to ensure that the server is secure to protect sensitive data.

The system supports integrity measurements. The TPM is TCG V1.2-compliant, and is ready for use with software purchased from third-party TPM Ecosystem partners in compliance with the TPM V1.2 specification.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and conditions

IBM Global Financing

Yes

IBM System x3850 X5 and x3950 X5

To obtain copies of the IBM Statement of Limited Warranty, contact your reseller or IBM.

In the United States, call 800-IBM-SERV (426-7378), or write to:

Warranty Information
 P.O. Box 12195
 Research Triangle Park, NC 27709
 Attn: Dept JDJA/B203

Warranty period

- Three years
- Optional features - One year

An IBM part or feature installed during the initial installation of an IBM machine is subject to a full warranty effective on the date of installation of the machine. An IBM part or feature that replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty effective on its date of installation. Unless specified otherwise, the warranty period, type of warranty service, and service level of a part or feature are the same as those for the machine in which it is installed.

The following have been designated as consumables or supply items and are, therefore, not covered by this warranty:

- ServeRAID SAS controller battery
- Raid Battery

Warranty service

If required, IBM provides repair or exchange service, depending on the type of warranty service specified below for the machine. IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. Service levels are response-time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country- and location-specific information.

The type of service is Customer Replaceable Unit (for example, keyboard, mouse, speaker, memory, or hard disk drive) Service and On-site Service.

Customer Replaceable Unit (CRU) Service

IBM provides a replacement CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request. A CRU is designated as being either a Tier 1 (mandatory) or a Tier 2 (optional) CRU. Installation of Tier 1 CRUs, as specified in this announcement, is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation. You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge, under the type of warranty service designated for your machine.

Based upon availability, a CRU will be shipped for next business day (NBD) delivery. IBM specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to IBM. When return is required, return instructions and a container are shipped with the replacement CRU, and you may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

The following parts have been designated as Tier 1 CRUs:

- Battery 3.0 Volt CMOS
- Op panel card
- 1975W PS
- PDU power cord
- 60 mm fan
- 120 mm fan
- Top cover
- Top bckt asm
- Sys bezel
- Rail kit
- Shipping brkt
- Cable management arm
- Filler kit
- Label kit
- SAS data cable
- Memory DIMMs
- Hard disk drives
- Ethernet adapter
- RAID card

- MAX5 fans
- MAX5 675W PS

On-site Service

At IBM's discretion you will receive CRU service or IBM or your reseller will repair the failing machine at your location and verify its operation. If required, On-site Repair is provided, 9 hours per day, Monday through Friday excluding holidays, NBD response. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose. On-site Service is not available in all countries, and some countries have kilometer or mileage limitations from an IBM service center. In those locations where On-site Service is not available, the normal in-country service delivery is used.

Call IBM at 1-800-IBM-SERV (426-7378) to assist with problem isolation for hardware to determine if warranty service is required. Telephone support may be subject to additional charges, even during the limited warranty period.

Calls must be received by 5:00 p.m. local time in order to qualify for NBD service.

International Warranty Service

International Warranty Service (IWS) is available in selected countries or regions.

The warranty service type and the service level provided in the servicing country may be different from that provided in the country in which the machine was purchased.

Under IWS, warranty service will be provided with the prevailing warranty service type and service level available for the IWS-eligible machine type in the servicing country, and the warranty period observed will be that of the country in which the machine was purchased.

To determine the eligibility of your machine and to view a list of countries where service is available, visit

<http://www-947.ibm.com/support/entry/portal/docdisplay?Indocid=GCOR-3FBJK2>

For more information on IWS, refer to Services Announcement 601-034, dated September 25, 2001.

Licensing

Programs included with this product are licensed under the terms and conditions of the License Agreements that are shipped with the system.

Maintenance services

ServicePac , ServiceSuite , ServiceElect, and ServiceElite

ServicePac®, ServiceSuite™, ServiceElect, and ServiceElite provide hardware warranty service upgrades, maintenance, and selected support services in one agreement.

Warranty service upgrade

During the warranty period, a warranty service upgrade provides an enhanced level of On-site Service for an additional charge. A warranty service upgrade must be purchased during the warranty period and is for a fixed term (duration). It is not refundable or transferable and may not be prorated. If required, IBM will provide the warranty service upgrade enhanced level of On-site Service acquired by the customer. Service levels are response-time objectives and are not guaranteed.

IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts.

CRUs will be provided as part of the machine's standard warranty CRU Service except that you may install a Tier 1 CRU yourself or request IBM installation, at no additional charge, under one of the On-site Service levels specified below.

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

See the [Pricing](#) section for specific offerings.

Maintenance service

If required, IBM provides repair or exchange service, depending on the type of maintenance service specified below for the machine. IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. Service levels are response-time objectives and are not guaranteed.

CRU Service

If your problem can be resolved with a CRU (for example, keyboard, mouse, speaker, memory, or hard disk drive), IBM will ship the CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request.

IBM specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to IBM. When return is required, return instructions and a container are shipped with the replacement CRU, and you may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

On-site Service

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

See the [Pricing](#) section for specific offerings.

Maintenance service (ICA)

Maintenance services are available for ICA legacy contracts.

Alternative service (warranty service upgrades)

During the warranty period, a warranty service upgrade provides an enhanced level of On-site Service for an additional charge. A warranty service upgrade must be purchased during the warranty period and is for a fixed term (duration). It is not refundable or transferable and may not be prorated. If required, IBM will provide the warranty service upgrade enhanced level of On-site Service acquired by the customer. Service levels are response-time objectives and are not guaranteed.

IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts.

A CRU will be provided as part of the machine's standard warranty CRU Service except that you may install a Tier 1 CRU yourself or request IBM to install it, at no additional charge, under the type of warranty service designated for your machine.

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

See the [Pricing](#) section for specific offerings.

Maintenance service

If required, IBM provides repair or exchange service, depending on the type of maintenance service specified below for the machine. IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. Service levels are response-time objectives and are not guaranteed.

CRU Service

If your problem can be resolved with a CRU (for example, keyboard, mouse, speaker, memory, or hard disk drive), IBM will ship the CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request.

IBM specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to IBM. When return is required, return instructions and a container are shipped with the replacement CRU, and you may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

On-site Service

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

See the [Pricing](#) section for specific offerings.

Non-IBM parts support

Warranty service

IBM is now shipping machines with selected non-IBM parts that contain an IBM field replaceable unit (FRU) part number label. These parts are to be serviced during the IBM machine warranty period. IBM is covering the service on these selected non-IBM parts as an accommodation to its customers, and normal warranty service procedures for the IBM machine apply.

Warranty service upgrades and maintenance services

Under certain conditions, IBM Integrated Technology Services repairs selected non-IBM parts at no additional charge for machines that are covered under warranty service upgrades or maintenance services.

IBM Service provides hardware problem determination on non-IBM parts (for example, adapter cards, PCMCIA cards, disk drives, or memory) installed within IBM machines covered under warranty service upgrades or maintenance services and provides the labor to replace the failing parts at no additional charge.

If IBM has a Technical Service Agreement with the manufacturer of the failing part, or if the failing part is an accommodations part (a part with an IBM FRU label), IBM may also source and replace the failing part at no additional charge. For all other non-IBM parts, customers are responsible for sourcing the parts. Installation labor is provided at no additional charge, if the machine is covered under a warranty service upgrade or a maintenance service.

Warranty service upgrades

IBM hourly service rate classification

One

Field-installable features

Yes

Model conversions

No

Machine installation

Customer setup. Customers are responsible for installation according to the instructions IBM provides with the machine.

Graduated program license charges apply

No

Licensed Machine Code

IBM Machine Code is licensed for use by a customer on the IBM machine for which it was provided by IBM under the terms and conditions of the IBM License Agreement for Machine Code, to enable the machine to function in accordance with its specifications, and only for the capacity authorized by IBM and acquired by the customer. You can obtain the agreement by contacting your IBM representative or visiting

http://www-304.ibm.com/systems/support/machine_warranties/machine_code.html

IBM may release changes to the Machine Code. IBM plans to make the Machine Code changes available for download from the IBM System x technical support website

<http://www-304.ibm.com/systems/support/>

If the machine does not function as warranted and your problem can be resolved through your application of downloadable Machine Code, you are responsible for downloading and installing these designated Machine Code changes as IBM specifies. If you would prefer, you may request IBM to install downloadable Machine Code changes; however, you may be charged for that service.

Pricing

For current prices, contact IBM at 888-Shop-IBM (746-7426) or visit

<http://www-03.ibm.com/systems/x/>

Product charges

The following features are already announced for the 0446 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA				
	HC7	A1NN	Initial	
	HC8		Initial	

The following features are already announced for the 0448 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA				
	HC3	A1NN	Initial	
	HC4		Initial	

The following features are already announced for the 0449 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA				
	HCC	A1NN	Initial	
	HCD		Initial	
	HCE		Initial	
	HCF		Initial	
	HCG		Initial	
	HCH		Initial	
	HCJ		Initial	
	HCK		Initial	
	HCL		Initial	
	HCM		Initial	
	HCN		Initial	

The following features are already announced for the 0563 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA				
	HC5	A1NN	Initial	
	HCF		Initial	
	HCG		Initial	
	HCH		Initial	
	HCJ		Initial	

The following features are already announced for the 0719 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA				
	HC4	A1NN	Initial	
	HC5		Initial	
	HC6		Initial	
	HC7		Initial	

The following features are already announced for the 0724 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA				
	HC3	A1NN	Initial	
	HC4		Initial	
	HC5		Initial	
	HC6		Initial	
	HC7		Initial	
	HC8		Initial	

The following feature are already announced for the 1410 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA				
	RC2	A1NN	Initial	
	RC4		Initial	

The following features are already announced for the 1723 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA				
	HC1	A1NN	Initial	

The following features are already announced for the 1754 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA				
	HC1	A1NN	Initial	
	HC2		Initial	
	HC3		Initial	
	HC4		Initial	

The following features are already announced for the 4667 machine type:

Model	Feature	Initial/MES/Both support	RP
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Description	number	number	support	CSU	MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA					
	HCR	A1NN	Initial		
	HCS		Initial		
	HCT		Initial		
	HCU		Initial		
	HCV		Initial		
	HCW		Initial		
	HCX		Initial		
	HCY		Initial		

The following features are already announced for the 4668 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU	MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA					
	HC6	A1NN	Initial		
	HC7		Initial		
	HC8		Initial		

The following features are already announced for the 4669 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU	MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA					
	HCN	A1NN	Initial		
	HCP		Initial		
	HCQ		Initial		
	HCR		Initial		
	HCS		Initial		
	HCT		Initial		
	HCU		Initial		
	HCV		Initial		
	HCW		Initial		
	HCX		Initial		

The following features are already announced for the 4670 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU	MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA					
	HCE	A1NN	Initial		
	HCF		Initial		
	HCG		Initial		
	HCV		Initial		
	HCY		Initial		

The following features are already announced for the 6385 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU	MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA					
	HC1	A1NN	Initial		

The following features are already announced for the 6386 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: Workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	HC1	A1NN	Initial	

The following features are already announced for the 6391 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: Workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	AC1	A1NN	Initial	

The following features are already announced for the 7143 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
QLogic 10Gb SFP+ SR Optical Transceiver	AC1 MC1	0064	Initial Initial	
Brocade 10Gb SFP+ SR Optical Transceiver	AC1 MC1	0069	Initial Initial	
ServerRAID M5015 SAS/SATA Controller (Battery not included)	AC1 MC1	0093	Initial Initial	
ServerRAID M5025 SAS/SATA Controller	AC1 MC1	0094	Initial Initial	
ServerRAID M1015 SAS/SATA Controller	AC1 MC1	0095	Initial Initial	
IBM 160GB High IOPS SS Class SSD PCIe Adapter	AC1 MC1	0096	Initial Initial	
IBM 320GB High IOPS SD Class SSD PCIe Adapter	AC1 MC1	0097	Initial Initial	
7143-AC1 Routing Code	AC1	4252	Initial	
7143-MC1 Routing Code	MC1	4253	Initial	
ex5 MAX5 Packaging	AC1	0746	Initial	
Optical Blank Bezel	AC1 MC1	0906	Initial Initial	
NetXtreme II 1000 Express G Ethernet Adapter- PCIe	AC1 MC1	1485	Initial Initial	
Brocade 10Gb CNA for IBM System x	AC1 MC1	1637	Initial Initial	
IBM 320GB High IOPS MS Class SSD PCIe Adapter	AC1 MC1	1649	Initial Initial	
Emulex 4Gb FC Single-Port PCI-E HBA for IBM System x	AC1 MC1	1698	Initial Initial	
Emulex 4Gb FC Dual-Port PCI-E HBA for IBM System x				

	AC1	1699	Initial
	MC1		Initial
8GB (1x8GB, Quad Rankx8) PC3-8500 CL7 ECC DDR3 1066MHZ LP RDIMM			
	AC1	1706	Initial
	MC1		Initial
16GB (1x16GB, 4Rx4, 1.5V) PC3-8500 CL7 ECC DDR3 1066MHZ LP RDIMM			
	AC1	1707	Initial
	MC1		Initial
2GB (1x2GB, 1Rx8, 1.5V) PC3-10600 CL9 ECC DDR3 1333MHZ LP RDIMM			
	AC1	1712	Initial
	MC1		Initial
4GB (1x4GB, Dual Rankx8) PC3-10600 CL9 ECC DDR3 1333MHZ LP RDIMM			
	AC1	1713	Initial
	MC1		Initial
EMEA Long Leadtime Configurations			
	AC1	1763	Initial
	MC1		Initial
Hungary CHW plant 9SH			
	AC1	1764	Initial
	MC1		Initial
Guad CHW plant 9KQ			
	AC1	1765	Initial
	MC1		Initial
ISTC CHW 9K2			
	AC1	1766	Initial
	MC1		Initial
RTP CHW 9NR			
	AC1	1767	Initial
	MC1		Initial
Offload Manufacturing to Guadalajara HVEC			
	AC1	1768	Initial
	MC1		Initial
Offload Manufacturing to RTP HVEC			
	AC1	1769	Initial
	MC1		Initial
Capacity Scheduling Service			
	AC1	1772	Initial
	MC1		Initial
Custom SLA Scheduling Service			
	AC1	1796	Initial
	MC1		Initial
IBM 1975w Power Supply			
	AC1	2111	Initial
	MC1		Initial
x3850 X5 Insert			
	AC1	2131	Initial
	MC1		Initial
x3950 X5 Insert			
	AC1	2132	Initial
	MC1		Initial
Custom Asset Tagging - Standard			
	AC1	2200	Initial
	MC1		Initial
Custom Asset Tagging - Enhanced			
	AC1	2201	Initial
	MC1		Initial
Custom Image Load - Server			
	AC1	2204	Initial
	MC1		Initial
Custom Media Shipgroup			
	AC1	2206	Initial
	MC1		Initial
Request for Global Trade Number (UPC or EAN)			
	AC1	2207	Initial
	MC1		Initial
Custom Software/Firmware Setting - Standard			
	AC1	2208	Initial
	MC1		Initial
Custom Software/Firmware Setting - Enhanced			
	AC1	2209	Initial

	MC1		Initial
Custom RAID Configuration	AC1	2212	Initial
	MC1		Initial
Custom Labeling	AC1	2220	Initial
	MC1		Initial
Custom Palletization	AC1	2221	Initial
	MC1		Initial
Request for a new Vendor Logo Hardware	AC1	2247	Initial
	MC1		Initial
Request for an existing IBM Feature	AC1	2248	Initial
	MC1		Initial
Request for an existing Public RPQ	AC1	2249	Initial
	MC1		Initial
RAID Configuration	AC1	2302	Initial
	MC1		Initial
Rack Installation >1U Component	AC1	2306	Initial
	MC1		Initial
Department of Defense UID Label	AC1	2320	Initial
	MC1		Initial
Tertiary Array 2 HDDs	AC1	2411	Initial
	MC1		Initial
Tertiary Array 3 HDDs	AC1	2412	Initial
	MC1		Initial
Tertiary Array 4 HDDs	AC1	2413	Initial
	MC1		Initial
Tertiary Array 5 HDDs	AC1	2414	Initial
	MC1		Initial
Tertiary Array 6 HDDs	AC1	2415	Initial
	MC1		Initial
Tertiary Array 7 HDDs	AC1	2416	Initial
	MC1		Initial
Tertiary Array 8 HDDs	AC1	2417	Initial
	MC1		Initial
2GB MAX5 1x2GB 1Rx8 1.5V PC3-10600 CL9 ECC DDR3 1333MHZ LP RDIMM	AC1	2429	Initial
	MC1		Initial
4GB MAX5 1x4GB DualRankx8 PC310600 CL9 ECC DDR3 1333MHZ LP RDIMM	AC1	2431	Initial
	MC1		Initial
8GB MAX5 1x8GB QuadRankx8 PC3-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	AC1	2432	Initial
	MC1		Initial
16GB MAX5 1x16G QuadRankx4 PC3-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	AC1	2433	Initial
	MC1		Initial
Enable selection of Solid State Drives for Secondary Array	AC1	2498	Initial
	MC1		Initial
Enable selection of Solid State Drives for Primary Array	AC1	2499	Initial
	MC1		Initial
PS Filler			

	AC1	2503	Initial
	MC1		Initial
QPI wrap card filler			
	AC1	2508	Initial
	MC1		Initial
x3850 System Packaging - WW			
	AC1	2583	Initial
	MC1		Initial
x3850 1 Node			
	AC1	2588	Initial
	MC1		Initial
x3850 2 Node - Node 1 of 2			
	AC1	2589	Initial
	MC1		Initial
x3950			
	AC1	2590	Initial
	MC1		Initial
x3850 / MAX5 Bundle Packaging - WW			
	AC1	2595	Initial
	MC1		Initial
PRO/1000 PF Server Adapter			
	AC1	2975	Initial
	MC1		Initial
NetXtreme II 1000 Express Dual Port Ethernet Adapter			
	AC1	2995	Initial
	MC1		Initial
RAID 1 - Tertiary Array (SSD) - 2 SSDs required			
	AC1	3034	Initial
	MC1		Initial
Rack 01			
	AC1	3101	Initial
	MC1		Initial
Rack 02			
	AC1	3102	Initial
	MC1		Initial
Rack 03			
	AC1	3103	Initial
	MC1		Initial
Rack 04			
	AC1	3104	Initial
	MC1		Initial
Rack 05			
	AC1	3105	Initial
	MC1		Initial
Rack 06			
	AC1	3106	Initial
	MC1		Initial
Rack 07			
	AC1	3107	Initial
	MC1		Initial
Rack 08			
	AC1	3108	Initial
	MC1		Initial
Rack 09			
	AC1	3109	Initial
	MC1		Initial
Rack 10			
	AC1	3110	Initial
	MC1		Initial
Rack 11			
	AC1	3111	Initial
	MC1		Initial
Rack 12			
	AC1	3112	Initial
	MC1		Initial
Rack 13			
	AC1	3113	Initial
	MC1		Initial
Rack 14			
	AC1	3114	Initial
	MC1		Initial
Rack 15			
	AC1	3115	Initial

	MC1		Initial
Rack 16	AC1 MC1	3116	Initial Initial
Rack 17	AC1 MC1	3117	Initial Initial
Rack 18	AC1 MC1	3118	Initial Initial
Rack 19	AC1 MC1	3119	Initial Initial
Rack 20	AC1 MC1	3120	Initial Initial
Rack 21	AC1 MC1	3121	Initial Initial
Rack 22	AC1 MC1	3122	Initial Initial
Rack 23	AC1 MC1	3123	Initial Initial
Rack 24	AC1 MC1	3124	Initial Initial
Rack 25	AC1 MC1	3125	Initial Initial
Rack 26	AC1 MC1	3126	Initial Initial
Rack 27	AC1 MC1	3127	Initial Initial
Rack 28	AC1 MC1	3128	Initial Initial
Rack 29	AC1 MC1	3129	Initial Initial
Rack 30	AC1 MC1	3130	Initial Initial
Rack 31	AC1 MC1	3131	Initial Initial
Rack 32	AC1 MC1	3132	Initial Initial
Rack 33	AC1 MC1	3133	Initial Initial
Rack 34	AC1 MC1	3134	Initial Initial
Rack 35	AC1 MC1	3135	Initial Initial
Rack 36	AC1 MC1	3136	Initial Initial
Rack 37	AC1 MC1	3137	Initial Initial
Rack 38	AC1 MC1	3138	Initial Initial
Rack 39	AC1 MC1	3139	Initial Initial
Rack 40			

	AC1 MC1	3140	Initial Initial
Rack 41			
	AC1 MC1	3141	Initial Initial
Rack 42			
	AC1 MC1	3142	Initial Initial
Rack 43			
	AC1 MC1	3143	Initial Initial
Rack 44			
	AC1 MC1	3144	Initial Initial
Rack 45			
	AC1 MC1	3145	Initial Initial
Rack 46			
	AC1 MC1	3146	Initial Initial
Rack 47			
	AC1 MC1	3147	Initial Initial
Rack 48			
	AC1 MC1	3148	Initial Initial
Rack 49			
	AC1 MC1	3149	Initial Initial
Rack 50			
	AC1 MC1	3150	Initial Initial
Rack 51			
	AC1 MC1	3151	Initial Initial
Rack 52			
	AC1 MC1	3152	Initial Initial
Rack 53			
	AC1 MC1	3153	Initial Initial
Rack 54			
	AC1 MC1	3154	Initial Initial
Rack 55			
	AC1 MC1	3155	Initial Initial
Rack 56			
	AC1 MC1	3156	Initial Initial
Rack 57			
	AC1 MC1	3157	Initial Initial
Rack 58			
	AC1 MC1	3158	Initial Initial
Rack 59			
	AC1 MC1	3159	Initial Initial
Rack 60			
	AC1 MC1	3160	Initial Initial
Rack 61			
	AC1 MC1	3161	Initial Initial
Rack 62			
	AC1 MC1	3162	Initial Initial
Rack 63			
	AC1 MC1	3163	Initial Initial
Rack 64			
	AC1 MC1	3164	Initial Initial

Rack location U01	AC1 MC1	3201	Initial Initial
Rack location U02	AC1 MC1	3202	Initial Initial
Rack location U03	AC1 MC1	3203	Initial Initial
Rack location U04	AC1 MC1	3204	Initial Initial
Rack location U05	AC1 MC1	3205	Initial Initial
Rack location U06	AC1 MC1	3206	Initial Initial
Rack location U07	AC1 MC1	3207	Initial Initial
Rack location U08	AC1 MC1	3208	Initial Initial
Rack location U09	AC1 MC1	3209	Initial Initial
Rack location U10	AC1 MC1	3210	Initial Initial
Rack location U11	AC1 MC1	3211	Initial Initial
Rack location U12	AC1 MC1	3212	Initial Initial
Rack location U13	AC1 MC1	3213	Initial Initial
Rack location U14	AC1 MC1	3214	Initial Initial
Rack location U15	AC1 MC1	3215	Initial Initial
Rack location U16	AC1 MC1	3216	Initial Initial
Rack location U17	AC1 MC1	3217	Initial Initial
Rack location U18	AC1 MC1	3218	Initial Initial
Rack location U19	AC1 MC1	3219	Initial Initial
Rack location U20	AC1 MC1	3220	Initial Initial
Rack location U21	AC1 MC1	3221	Initial Initial
Rack location U22	AC1 MC1	3222	Initial Initial
Rack location U23	AC1 MC1	3223	Initial Initial
Rack location U24	AC1 MC1	3224	Initial Initial
Rack location U25	AC1	3225	Initial

	MC1		Initial
Rack location U26	AC1	3226	Initial
	MC1		Initial
Rack location U27	AC1	3227	Initial
	MC1		Initial
Rack location U28	AC1	3228	Initial
	MC1		Initial
Rack location U29	AC1	3229	Initial
	MC1		Initial
Rack location U30	AC1	3230	Initial
	MC1		Initial
Rack location U31	AC1	3231	Initial
	MC1		Initial
Rack location U32	AC1	3232	Initial
	MC1		Initial
Rack location U33	AC1	3233	Initial
	MC1		Initial
Rack location U34	AC1	3234	Initial
	MC1		Initial
Rack location U35	AC1	3235	Initial
	MC1		Initial
Rack location U36	AC1	3236	Initial
	MC1		Initial
Rack location U37	AC1	3237	Initial
	MC1		Initial
Rack location U38	AC1	3238	Initial
	MC1		Initial
Rack location U39	AC1	3239	Initial
	MC1		Initial
Rack location U40	AC1	3240	Initial
	MC1		Initial
Rack location U41	AC1	3241	Initial
	MC1		Initial
Rack location U42	AC1	3242	Initial
	MC1		Initial
No RAID - Primary Array set up by customer	AC1	3270	Initial
	MC1		Initial
No RAID - Secondary Array set up by customer	AC1	3271	Initial
	MC1		Initial
No RAID - Tertiary Array set up by customer	AC1	3272	Initial
	MC1		Initial
QLogic 4Gb FC Single-Port PCIe HBA for IBM System x	AC1	3567	Initial
	MC1		Initial
QLogic 4Gb FC Dual-Port PCIe HBA for IBM System x	AC1	3568	Initial
	MC1		Initial
ServerRAID-BR10i SAS/SATA Controller	AC1	3577	Initial
	MC1		Initial
QLogic 8Gb FC Single-port HBA for IBM System x	AC1	3578	Initial
	MC1		Initial
QLogic 8Gb FC Dual-port HBA for IBM System x			

	AC1	3579	Initial
	MC1		Initial
Emulex 8Gb FC Single-port HBA for IBM System x	AC1	3580	Initial
	MC1		Initial
Emulex 8Gb FC Dual-port HBA for IBM System x	AC1	3581	Initial
	MC1		Initial
IBM 3Gb SAS HBA Controller v2	AC1	3583	Initial
	MC1		Initial
Brocade 8Gb FC Single-port HBA for IBM System x	AC1	3589	Initial
	MC1		Initial
Brocade 8Gb FC Dual-port HBA for IBM System x	AC1	3591	Initial
	MC1		Initial
1m LC-LC Fiber Cable (networking)	AC1	3700	Initial
5m LC-LC Fiber Cable (networking)	AC1	3701	Initial
25m LC-LC Fiber Cable (networking)	AC1	3702	Initial
0.5m QLogic Copper QDR InfiniBand QSFP 30AWG Cable	AC1	3725	Initial
1m QLogic Copper QDR InfiniBand QSFP 30AWG Cable	AC1	3726	Initial
3m QLogic Copper QDR InfiniBand QSFP 28AWG Cable	AC1	3727	Initial
3m QLogic Optical QDR InfiniBand QSFP Cable	AC1	3731	Initial
10m QLogic Optical QDR InfiniBand QSFP Cable	AC1	3732	Initial
30m QLogic Optical QDR InfiniBand QSFP Cable	AC1	3733	Initial
0.5m Molex Direct Attach Copper SFP+ Cable	AC1	3735	Initial
1m Molex Direct Attach Copper SFP+ Cable	AC1	3736	Initial
3m Molex Direct Attach Copper SFP+ Cable	AC1	3737	Initial
7m Molex Direct Attach Copper SFP+ Cable	AC1	3738	Initial
IBM 50GB SATA 2.5" SFF Slim-HS High IOPS SSD	AC1	3745	Initial
	MC1		Initial
3m Console Switch Cable (USB)	AC1	3751	Initial
	MC1		Initial
IBM Single Cable USB Conversion Option (UCO)	AC1	3757	Initial
	MC1		Initial
0.6m Yellow Cat5e Cable	AC1	3791	Initial
1.5m Yellow Cat5e Cable	AC1	3792	Initial
3m Yellow Cat5e Cable	AC1	3793	Initial
10m Yellow Cat5e Cable	AC1	3794	Initial
25m Yellow Cat5e Cable	AC1	3795	Initial
0.6m Green Cat5e Cable	AC1	3796	Initial
1.5m Green Cat5e Cable	AC1	3797	Initial
3m Green Cat5e Cable	AC1	3798	Initial
10m Green Cat5e Cable	AC1	3799	Initial
25m Green Cat5e Cable	AC1	3800	Initial
0.6m Blue Cat5e Cable	AC1	3801	Initial

1.5m Blue Cat5e Cable			
	AC1	3802	Initial
3m Blue Cat5e Cable			
	AC1	3803	Initial
10m Blue Cat5e Cable			
	AC1	3804	Initial
25m Blue Cat5e Cable			
	AC1	3805	Initial
10m Emcore Connects/Intel Connects Optical Cable			
	AC1	3856	Initial
30m Emcore Connects/Intel Connects Optical Cable			
	AC1	3857	Initial
3m Emcore Connects/Intel Connects Optical Cable			
	AC1	3858	Initial
1m Mellanox Copper Cable for 4X IB and 10GbE			
	AC1	3859	Initial
3m Mellanox Copper Cable for 4X IB and 10GbE			
	AC1	3860	Initial
5m Mellanox Copper Cable for 4X IB and 10GbE			
	AC1	3861	Initial
8m Mellanox Copper Cable for 4X IB and 10GbE			
	AC1	3862	Initial
IBM Hot Swap SAS Hard Disk Drive Backplane			
	AC1	3873	Initial
	MC1		Initial
IBM 6Gb SSD HBA			
	AC1	3876	Initial
	MC1		Initial
ServerRAID M5014 SAS/SATA Controller (Battery not included)			
	AC1	3877	Initial
	MC1		Initial
Brocade 4Gb FC Single-port HBA for IBM System x			
	AC1	3885	Initial
	MC1		Initial
Brocade 4Gb FC Dual-port HBA for IBM System x			
	AC1	3886	Initial
	MC1		Initial
ServerRAID B5015 SSD Controller			
	AC1	3889	Initial
	MC1		Initial
Power Supply Blank Filler			
	AC1	4042	Initial
	MC1		Initial
2.5" HDD Filler Bezel			
	AC1	4069	Initial
	MC1		Initial
IBM UltraSlim Enhanced SATA DVD-ROM			
	AC1	4161	Initial
	MC1		Initial
IBM UltraSlim Enhanced SATA Multi-Burner			
	AC1	4163	Initial
	MC1		Initial
IBM exFlash 8x 1.8" HS SAS SSD Backplane			
	AC1	4191	Initial
	MC1		Initial
IBM MAX5 to x3850 X5 Cable Kit			
	AC1	4192	Initial
	MC1		Initial
IBM ex5 MAX5 2-Node EXA Scalability Kit			
	AC1	4198	Initial
	MC1		Initial
IBM 675W HE Redundant Power Supply			
	AC1	4782	Initial
IBM BNT SFP+ SR Transceiver			
	AC1	5053	Initial
IBM x3850 X5 QPI Scalability Kit			
	AC1	5103	Initial
	MC1		Initial
IBM x3850 X5 and x3950 X5 QPI Wrap Card			
	AC1	5104	Initial
	MC1		Initial
ServerRAID M5000 Series Advance Feature Key			
	AC1	5106	Initial

	MC1		Initial
IBM 50GB SATA 1.8" NHS SSD	AC1	5314	Initial
	MC1		Initial
IBM 160GB 7200 NL SATA 2.5" SFF Slim-HS HDD	AC1	5405	Initial
	MC1		Initial
IBM 500GB 7200 NL SATA 2.5" SFF Slim-HS HDD	AC1	5407	Initial
	MC1		Initial
IBM 500GB 7200 6Gbps NL SAS 2.5" SFF Slim-HS HDD	AC1	5409	Initial
	MC1		Initial
IBM 200GB SATA 1.8" MLC SSD	AC1	5420	Initial
	MC1		Initial
IBM 50GB SATA 1.8" MLC SSD	AC1	5428	Initial
	MC1		Initial
IBM 600GB 10K 6Gbps SAS 2.5" SFF Slim-HS HDD	AC1	5433	Initial
	MC1		Initial
IBM 73GB 15K 6Gbps SAS 2.5" SFF Slim-HS HDD	AC1	5522	Initial
	MC1		Initial
IBM 146GB 15K 6Gbps SAS 2.5" SFF Slim-HS HDD	AC1	5536	Initial
	MC1		Initial
IBM 146GB 10K 6Gbps SAS 2.5" SFF Slim-HS HDD	AC1	5537	Initial
	MC1		Initial
IBM 300GB 10K 6Gbps SAS 2.5" SFF Slim-HS HDD	AC1	5599	Initial
	MC1		Initial
IBM 10GbE SW SFP+ Transceiver	AC1	5721	Initial
RAID 5 - Tertiary Array (SSD) - minimum of 3 SSDs required	AC1	5731	Initial
	MC1		Initial
ServerRAID M5000 Series Battery Assembly	AC1	5744	Initial
	MC1		Initial
QLogic 10Gb CNA for IBM System x	AC1	5751	Initial
	MC1		Initial
NetXtreme II 1000 Express Quad Port Ethernet Adapter	AC1	5766	Initial
	MC1		Initial
Intel Ethernet Dual Port Server Adapter I340-T2 for IBM System x	AC1	5767	Initial
	MC1		Initial
Intel Ethernet Quad Port Server Adapter I340-T4 for IBM System x	AC1	5768	Initial
	MC1		Initial
SSD Blank Filler	AC1	5779	Initial
	MC1		Initial
Entry Cable Management Arm	AC1	5782	Initial
	MC1		Initial
x3850/x3950 X5 Bezel	AC1	5789	Initial
	MC1		Initial
MemCard Filler	AC1	5791	Initial
	MC1		Initial
HDD Backplane Filler	AC1	5792	Initial
	MC1		Initial
HS Filler			

	AC1	5793	Initial
	MC1		Initial
Select Storage devices - no IBM-configured RAID required			
	AC1	5977	Initial
	MC1		Initial
Select Storage devices - IBM-configured RAID			
	AC1	5978	Initial
	MC1		Initial
RAID 1 - Primary Array (SSD) - 2 SSDs required			
	AC1	5979	Initial
	MC1		Initial
RAID 5 - Primary Array (SSD) - minimum of 3 SSDs required			
	AC1	5980	Initial
	MC1		Initial
RAID 1 - Secondary Array (SSD) - 2 SSDs required			
	AC1	5981	Initial
	MC1		Initial
IBM 6Gb SAS HBA			
	AC1	5982	Initial
	MC1		Initial
640GB High IOPS MLC Duo Adapter for IBM System x			
	AC1	5985	Initial
	MC1		Initial
3m IBM Optical QDR InfiniBand QSFP Cable			
	AC1	5989	Initial
10m IBM Optical QDR InfiniBand QSFP Cable			
	AC1	5990	Initial
30m IBM Optical QDR InfiniBand QSFP Cable			
	AC1	5991	Initial
SOFS Solution Code MFG Instruction			
	AC1	6124	Initial
SAP-BWA Solution Code MFG Instruction			
	AC1	6125	Initial
InfoSphere-BWA Solution Code MFG Instruction			
	AC1	6126	Initial
GMAS Solution Code MFG Instruction			
	AC1	6127	Initial
IBW-SSD Solution Code MFG Instruction			
	AC1	6128	Initial
Cloudburst Solution Code MFG Instruction			
	AC1	6129	Initial
SoNAS Solution Code MFG Instruction			
	AC1	6130	Initial
Unique SBB for AC1/MC1 models			
	AC1	6134	Initial
	MC1		Initial
1.8" SAS Storage Support			
	AC1	6138	Initial
	MC1		Initial
SF Instruction			
	AC1	6139	Initial
	MC1		Initial
1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable			
	AC1	6201	Initial
	MC1		Initial
2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable			
	AC1	6204	Initial
	MC1		Initial
Line cord - 4.3M, 10A/125V, C13 to NEMA 5-15P (US)			
	AC1	6207	Initial
	MC1		Initial
4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable			
	AC1	6263	Initial
	MC1		Initial
2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable			
	AC1	6311	Initial
	MC1		Initial

Line cord - 2.8m, 10A/250V, C13 to NEMA 6-15P (US)	AC1	6372	Initial
	MC1		Initial
HDD Backplane Cable Assembly	AC1	6426	Initial
	MC1		Initial
IBM MAX5 for System x Memory DIMM Filler	AC1	6437	Initial
	MC1		Initial
x3850 X5 drive ID label for dual FlashPack configuration	AC1	6438	Initial
	MC1		Initial
x3850 X5 drive ID label for mixed HDD and FlashPack configuration	AC1	6439	Initial
	MC1		Initial
x3850 X5 backplane power cable for dual FlashPack configuration	AC1	6440	Initial
	MC1		Initial
x3850 X5 backplane power cable for mixed HDD and FlashPack configuration	AC1	6441	Initial
	MC1		Initial
RAID 5 - Secondary Array (SSD) - minimum of 3 SSDs required	AC1	6472	Initial
	MC1		Initial
Primary Array 2 HDDs	AC1	7008	Initial
	MC1		Initial
Primary Array 3 HDDs	AC1	7009	Initial
	MC1		Initial
Primary Array 4 HDDs	AC1	7010	Initial
	MC1		Initial
Primary Array 5 HDDs	AC1	7011	Initial
	MC1		Initial
Primary Array 6 HDDs	AC1	7012	Initial
	MC1		Initial
Primary Array 7 HDDs	AC1	7013	Initial
	MC1		Initial
Primary Array 8 HDDs	AC1	7014	Initial
	MC1		Initial
Secondary Array 2 HDDs	AC1	7015	Initial
	MC1		Initial
Secondary Array 3 HDDs	AC1	7016	Initial
	MC1		Initial
Secondary Array 4 HDDs	AC1	7017	Initial
	MC1		Initial
Secondary Array 5 HDDs	AC1	7057	Initial
	MC1		Initial
Secondary Array 6 HDDs	AC1	7058	Initial
	MC1		Initial
Secondary Array 7 HDDs	AC1	7059	Initial
	MC1		Initial
Secondary Array 8 HDDs	AC1	7060	Initial
	MC1		Initial
RAID 10 - Primary Array (SATA) - minimum of 4 HDDs required			

	AC1	7076	Initial
	MC1		Initial
eX5 MAX5 bezel			
	AC1	7485	Initial
	MC1		Initial
x3850 X5/x3950 X5 Base			
	AC1	7626	Initial
	MC1		Initial
Grouped Product			
	AC1	7830	Initial
	MC1		Initial
Customer Solution Center Services			
	AC1	7831	Initial
	MC1		Initial
RAID 5 - Primary Array (SATA) - minimum of 3 HDDs required			
	AC1	7851	Initial
	MC1		Initial
RAID 5 - Primary Array (SAS) - minimum of 3 HDDs required			
	AC1	7853	Initial
	MC1		Initial
RAID 5 - Secondary Array (SAS) - minimum of 3 HDDs required			
	AC1	7854	Initial
	MC1		Initial
RAID 6 - Primary Array (SATA) - minimum of 4 HDDs required			
	AC1	7855	Initial
	MC1		Initial
RAID 6 - Primary Array (SAS) - minimum of 4 HDDs required			
	AC1	7857	Initial
	MC1		Initial
RAID 6 - Secondary Array (SAS) - minimum of 4 HDDs required			
	AC1	7858	Initial
	MC1		Initial
e1350 Special Bid Solution Component			
	AC1	7929	Initial
No HDD Selected			
	AC1	8026	Initial
	MC1		Initial
Consolidate Shipment			
	AC1	8031	Initial
	MC1		Initial
e1350 Solution Component			
	AC1	8034	Initial
Compute Node			
	AC1	8036	Initial
	MC1		Initial
Management Node			
	AC1	8037	Initial
	MC1		Initial
Storage Node			
	AC1	8038	Initial
	MC1		Initial
TAA Compliant Order			
	AC1	8067	Initial
	MC1		Initial
General Racking Solution			
	AC1	8072	Initial
	MC1		Initial
No 2.5" SAS HDD Selected			
	AC1	8081	Initial
	MC1		Initial
No Publications Selected			
	AC1	8086	Initial
	MC1		Initial
RAID 0 - Primary Array (SATA) - minimum of 2 HDDs required			
	AC1	8135	Initial
	MC1		Initial
RAID 1 - Primary Array (SATA) - 2 HDDs required			

	AC1	8136	Initial
	MC1		Initial
RAID 1E - Primary Array (SATA) - minimum of 3 HDDs required			
	AC1	8137	Initial
	MC1		Initial
RAID 0 - Primary Array (SAS) - minimum of 2 HDDs required			
	AC1	8141	Initial
	MC1		Initial
RAID 1 - Primary Array (SAS) - 2 HDDs required			
	AC1	8142	Initial
	MC1		Initial
RAID 0 - Secondary Array (SAS) - minimum of 2 HDDs required			
	AC1	8144	Initial
	MC1		Initial
RAID 1 - Secondary Array (SAS) - 2 HDDs required			
	AC1	8145	Initial
	MC1		Initial
System Documentation and Software-US English			
	AC1	8626	Initial
	MC1		Initial
16GB (1x16GB, 4Rx4, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHZ LP RDIMM			
	AC1	8939	Initial
	MC1		Initial
4GB (1x4GB, 2Rx8, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP RDIMM			
	AC1	8942	Initial
	MC1		Initial
Performance Memory Configuration			
	AC1	8957	Initial
	MC1		Initial
Integrate in manufacturing			
	AC1	8971	Initial
	MC1		Initial
Ship Uninstalled (Safety)			
	AC1	8972	Initial
	MC1		Initial
Hot Spare			
	AC1	9013	Initial
	MC1		Initial
Enable Memory Mirroring			
	AC1	9017	Initial
	MC1		Initial
Storage Subsystem ID 01			
	AC1	9170	Initial
	MC1		Initial
Storage Subsystem ID 02			
	AC1	9171	Initial
	MC1		Initial
Storage Subsystem ID 03			
	AC1	9172	Initial
	MC1		Initial
Storage Subsystem ID 04			
	AC1	9173	Initial
	MC1		Initial
Storage Subsystem ID 05			
	AC1	9174	Initial
	MC1		Initial
Storage Subsystem ID 06			
	AC1	9175	Initial
	MC1		Initial
Storage Subsystem ID 07			
	AC1	9176	Initial
	MC1		Initial
Storage Subsystem ID 08			
	AC1	9177	Initial
	MC1		Initial
Storage Subsystem ID 09			
	AC1	9178	Initial
	MC1		Initial

Storage Subsystem ID 10	AC1 MC1	9179	Initial Initial
Storage Subsystem ID 11	AC1 MC1	9180	Initial Initial
Storage Subsystem ID 12	AC1 MC1	9181	Initial Initial
Storage Subsystem ID 13	AC1 MC1	9182	Initial Initial
Storage Subsystem ID 14	AC1 MC1	9183	Initial Initial
Storage Subsystem ID 15	AC1 MC1	9184	Initial Initial
Storage Subsystem ID 16	AC1 MC1	9185	Initial Initial
Storage Subsystem ID 17	AC1 MC1	9186	Initial Initial
Storage Subsystem ID 18	AC1 MC1	9187	Initial Initial
Storage Subsystem ID 19	AC1 MC1	9188	Initial Initial
Storage Subsystem ID 20	AC1 MC1	9189	Initial Initial
Preload Specify	AC1 MC1	9200	Initial Initial
Windows Specify	MC1	9201	Initial
Red Hat Specify	AC1	9202	Initial
SUSE Specify	AC1	9203	Initial
Drop-in-the-Box Specify	AC1 MC1	9205	Initial Initial
No Preload Specify	AC1 MC1	9206	Initial Initial
VMware Specify	AC1 MC1	9207	Initial Initial
Preload by Hardware Feature Specify	AC1 MC1	9220	Initial Initial
Server RAID M1000 Series Advance Feature Key	AC1 MC1	9749	Initial Initial
5m IBM QSFP -to- 4-SFP+ Copper cable	AC1	A0R5	Initial
1m IBM QSFP -to- 4-SFP+ Copper cable	AC1	A0R6	Initial
3m IBM QSFP -to- 4-SFP+ Copper cable	AC1	A0R7	Initial
Software Application (Not Preinstalled) Specify	AC1 MC1	A0UF	Initial Initial
System x Cluster Upgrade	AC1 MC1	A103	Initial Initial
Emulex 10GbE Integrated Virtual Fabric Adapter II for IBM System x	AC1 MC1	A148	Initial Initial
Mfg Code			

	AC1	A149	Initial
	MC1		Initial
x3850 X5/x3950 X5 System Planar			
	AC1	A14C	Initial
	MC1		Initial
IBM x3850 X5 and x3950 X5 Memory Expansion Card			
	AC1	A14D	Initial
	MC1		Initial
8GB (1x8GB, 4Rx8, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHz LP RDIMM			
	AC1	A14E	Initial
	MC1		Initial
Intel Xeon Processor E7-4870 10C (2.40GHz 30MB L3 130w 4S)			
	AC1	A14F	Initial
	MC1		Initial
Intel Xeon Processor E7-8837 8C (2.67GHz 24MB L3 130w 8S)			
	AC1	A14G	Initial
	MC1		Initial
Intel Xeon Processor E7-8830 8C (2.13GHz 24MB L3 105w 8S)			
	AC1	A14H	Initial
	MC1		Initial
Intel Xeon Processor E7-8867L 10C (2.13GHz 30MB L3 105w 8S)			
	AC1	A14J	Initial
	MC1		Initial
Intel Xeon Processor E7-8860 10C (2.26GHz 24MB L3 130w 8S)			
	AC1	A14K	Initial
	MC1		Initial
Intel Xeon Processor E7-8870 10C (2.40GHz 30MB L3 130w 8S)			
	AC1	A14L	Initial
	MC1		Initial
Intel Xeon Processor E7-4807 6C (1.86GHz 18MB L3 95w 4S)			
	AC1	A14M	Initial
	MC1		Initial
Intel Xeon Processor E7-4820 8C (2.00GHz 18MB L3 105w 4S)			
	AC1	A14N	Initial
	MC1		Initial
Intel Xeon Processor E7-4830 8C (2.13GHz 24MB L3 105w 4S)			
	AC1	A14P	Initial
	MC1		Initial
Intel Xeon Processor E7-4860 10C (2.26GHz 24MB L3 130w 4S)			
	AC1	A14Q	Initial
	MC1		Initial
Intel Xeon Processor E7-4850 10C (2.00GHz 24MB L3 130w 4S)			
	AC1	A14R	Initial
	MC1		Initial
Intel Xeon Processor E7-8850 10C (2.00GHz 24MB L3 130w 8S)			
	AC1	A14S	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-4870 10C 2.40GHz 30MB Cache 130w			
	AC1	A14T	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-8837 8C 2.67GHz 24MB Cache 130w			
	AC1	A14U	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-8830 8C 2.13GHz 24MB Cache 105w			
	AC1	A14V	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-8867L 10C 2.13GHz 30MB Cache 105w			

	AC1	A14W	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-8860	10C	2.26GHz	24MB
Cache 130w			
	AC1	A14X	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-8870	10C	2.40GHz	30MB
Cache 130w			
	AC1	A14Y	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-4807	6C	1.86GHz	18MB
Cache 95w			
	AC1	A14Z	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-4820	8C	2.00GHz	18MB
Cache 105w			
	AC1	A150	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-4830	8C	2.13GHz	24MB
Cache 105w			
	AC1	A151	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-4860	10C	2.26GHz	24MB
Cache 130w			
	AC1	A152	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-4850	10C	2.00GHz	24MB
Cache 130w			
	AC1	A153	Initial
	MC1		Initial
Addl Intel Xeon Processor E7-8850	10C	2.00GHz	24MB
Cache 130w			
	AC1	A154	Initial
	MC1		Initial
IBM MAX5 V2 for System x			
	AC1	A19H	Initial
	MC1		Initial
ex5 MAX5 labels			
	AC1	A19J	Initial
	MC1		Initial
Labels GBM			
	AC1	A14A	Initial
	MC1		Initial
MAX5 code			
	AC1	A19K	Initial
	MC1		Initial
IBM MAX5 for System x Documentation			
	AC1	A19L	Initial
	MC1		Initial
32GB (1x32GB, 4Rx4, 1.35V) PC3L-8500 CL7 ECC DDR3			
1066MHZ LP RDIMM			
	AC1	A1CP	Initial
	MC1		Initial
x3850 2 Node - Node 2 of 2 with scalability cables			
	AC1	A1JK	Initial
	MC1		Initial
No QPI wrap Selected			
	AC1	A1JL	Initial
	MC1		Initial
4GB MAX5 (1x4GB, 2Gb, 2Rx8, 1.35V) PC3L-10600R-999			
LP ECC RDIMM			
	AC1	A1MH	Initial
	MC1		Initial
640GB HIGH IOPS MLC ADAPTER FOR IBM SYSTEM X			
	AC1	A1NC	Initial
	MC1		Initial
640GB HIGH IOPS SLC DUO ADAPTER FOR IBM SYSTEM X			
	AC1	A1ND	Initial
	MC1		Initial
320GB HIGH IOPS SLC ADAPTER FOR IBM SYSTEM X			
	AC1	A1NE	Initial
	MC1		Initial
IBM System x3950 X5: workload Optimized			
Solution for SAP In-Memory Appliance, SAP HANA			

RAID 0 - Primary Array (SSD) - minimum of 2 SSDs required	AC1 MC1	A1NN A1P4	Initial Initial
RAID 0 - Secondary Array (SSD) - minimum of 2 SSDs required	AC1 MC1	A1P5	Initial Initial
RAID 0 - Tertiary Array (SSD) - minimum of 2 SSDs required	AC1 MC1	A1P6	Initial Initial
HANA SW Stack S+	AC1	A1P7	Initial
HANA SW Stack M	AC1	A1P8	Initial
HANA SW Stack L	AC1	A1P9	Initial
32GB (4GB, 4Rx4, 1.35V) PC3L-8500 DDR3-1066MHZ LP RDIMM	AC1 MC1	A1R2	Initial Initial

The following features are already announced for the 7164 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	AC1	A1NN	Initial	

The following features are already announced for the 7176 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	PM1 PN1	A1NN	Initial Initial	

The following features are already announced for the 7309 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	HC1 HC2 HC3 HC4	A1NN	Initial Initial Initial Initial	

The following features are already announced for the 7825 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	RC1	A1NN	Initial	

The following features are already announced for the 7870 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	AC1	A1NN	Initial	

The following features are already announced for the 7871 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	AC1	A1NN	Initial	

The following features are already announced for the 7873 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	AC1	A1NN	Initial	

The following features are already announced for the 7944 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	AC1	A1NN	Initial	

The following features are already announced for the 7945 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	AC1	A1NN	Initial	

The following features are already announced for the 8852 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized Solution for SAP In-Memory Appliance, SAP HANA	HC1	A1NN	Initial	

The following features are already announced for the 8886 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
IBM System x3950 X5: workload Optimized				

Solution for SAP In-Memory Appliance, SAP HANA
AC1 A1NN

Description	SEO number	Initial	
		Initial/ MES/ Both support	RP CSU MES
x3850 X5 - 2x1.86 GHz/18 MB, 4 GB Xeon E7-4807 6-core 95w	7143B1U	Both	Yes
x3850 X5 - 2x2.0 GHz/18 MB, 8 GB Xeon E7-4820 8-core 105w	7143B2U	Both	Yes
x3850 X5 - 2x2.13 GHz/24 MB, 8 GB Xeon E7-4830 8-core 105w	7143B3U	Both	Yes
x3850 X5 - 2x2.0 GHz/24 MB, 8 GB Xeon E7-4850 10-core 130w	7143B5U	Both	Yes
x3850 X5 - 2x2.26 GHz/24 MB, 8 GB Xeon E7-4860 10-core 130w	7143B6U	Both	Yes
x3850 X5 - 2x2.4 GHz/30 MB, 8 GB Xeon E7-4870 10-core 130w	7143B7U	Both	Yes
x3850 X5 - 2x2.0 GHz/24 MB, 8 GB Xeon E7-8850 10-core 130w	7143C1U	Both	Yes
x3850 X5 - 2x2.26 GHz/24 MB, 8 GB Xeon E7-8860 10-core 130w	7143C2U	Both	Yes
x3950 X5 - 4x2.0 GHz/24 MB, 32 GB Xeon E7-4850 10-core 130w	7143D1U	Both	Yes
x3950 X5 - 4x2.26 GHz/24 MB, 32 GB Xeon E7-4860 10-core 130w	7143D2U	Both	Yes
x3950 X5 - 2x2.40 GHz/30 MB, 256 GB Xeon E7-8870 10-core 130w	7143H1U	Both	Yes
x3950 X5 - 4x2.40 GHz/30 MB, 512 GB Xeon E7-8870 10-core 130w	7143H2U	Both	Yes
x3950 X5 - 4x2.40 GHz/30 MB, 512 GB Xeon E7-8870 10-core 130w	7143H3U	Both	Yes

Option SEOs

Description	SEO number	Initial/ MES/ Both support	
		CSU	MES
32 GB (1x32GB, 4Rx4, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	90Y3101	Both	Yes
8 GB (1x8GB, 4Rx8, 1.35V) PC3L-8500 CL7 ECC DDR3 1066MHZ LP RDIMM	49Y1399	Both	Yes
Memory Expansion Card	69Y1888	Both	Yes
2 Node eEXA Scaling Kit	59Y6271	Both	Yes
Intel Xeon Processor E7-4870 10C 2.40GHz 30MB Cache 130w	69Y1893	Both	Yes
Intel Xeon Processor E7-8837 8C 2.67GHz 24MB Cache 130w	69Y1894	Both	Yes
Intel Xeon Processor E7-8830 8C 2.13GHz 24MB Cache 105w	69Y1896	Both	Yes
Intel Xeon Processor E7-8867L 10C 2.13GHz 30MB Cache 105w	69Y1897	Both	Yes
Intel Xeon Processor E7-8860 10C 2.26GHz 24MB Cache 130w	69Y1898	Both	Yes
Intel Xeon Processor E7-8870 10C 2.40GHz 30MB Cache 130w	69Y1899	Both	Yes
Intel Xeon Processor E7-4807 6C 1.86GHz 18MB Cache 95w	69Y1889	Both	Yes
Intel Xeon Processor E7-4820 8C 2.00GHz 18MB Cache 105w	69Y1890	Both	Yes
Intel Xeon Processor E7-4830 8C 2.13GHz 24MB Cache 105w	69Y1891	Both	Yes
Intel Xeon Processor E7-4860 10C 2.26GHz 24MB Cache 130w	69Y1892	Both	Yes
Intel Xeon Processor E7-4850 10C 2.00GHz 24MB Cache 130w	88Y5358	Both	Yes

Intel Xeon Processor E7-8850 10C 2.00GHZ 24MB Cache 130w	88Y5357	Both	Yes
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This option is not associated with the models in this announcement.

Description	SEO number	Initial/ MES/ Both support	CSU
Emulex 10GbE Virtual Fabric Adapter Adapter II for IBM System x	49Y7950	Both	Yes

ServicePac for Warranty and Maintenance

Machine type/Model	Description	ServicePac part number
7143-XXX	3 YR onsite repair 9x5x4 hour average response	10N3058
7143-XXX	3 YR onsite repair 24x7x4 hour average response	10N3059
7143-XXX	3 YR onsite repair 24x7x2 hour average response	10N3060
7143-XXX	4 YR onsite repair 9x5/next day average response	10N3061
7143-XXX	4 YR onsite repair 9x5x4 hour average response	10N3062
7143-XXX	4 YR onsite repair 24x7x4 hour average response	10N3063
7143-XXX	4 YR onsite repair 24x7x2 hour average response	10N3064
7143-XXX	5 YR onsite repair 9x5/next day average response	10N3065
7143-XXX	5 YR onsite repair 9x5x4 hour average response	10N3066
7143-XXX	5 YR onsite repair 24x7x4 hour average response	10N3067
7143-XXX	5 YR onsite repair 24x7x2 hour average response	10N3068
7143-XXX	1-year MA IOR 9 x 5 Next Business Day average response	10N3069
7143-XXX	1-year MA IOR 9 x 5 4-hour average response	10N3070
7143-XXX	1-year MA IOR 24 x 7 4-hour average response	10N3071
7143-XXX	1-year MA IOR 24 x 7 2-hour average response	10N3072
7143-XXX	2-year MA IOR 9 x 5 Next Business Day average response	10N3073
7143-XXX	2-year MA IOR 9 x 5 4-hour average response	10N3074
7143-XXX	2-year MA IOR 24 x 7 4-hour average response	10N3075
7143-XXX	2-year MA IOR 24 x 7	10N3076

4-hour average response

These ServicePac offerings are valid for models announced in the United States.

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ServicePac for Warranty and Maintenance

Machine type/Model	Description	ServicePac part number
7143-XXX	3 YR onsite repair 9x5x4 hour average response	10N3058
7143-XXX	3 YR onsite repair 24x7x4 hour average response	10N3059
7143-XXX	3 YR onsite repair 24x7x2 hour average response	10N3060
7143-XXX	4 YR onsite repair 9x5/next day average response	10N3061
7143-XXX	4 YR onsite repair 9x5x4 hour average response	10N3062
7143-XXX	4 YR onsite repair 24x7x4 hour average response	10N3063
7143-XXX	4 YR onsite repair 24x7x2 hour average response	10N3064
7143-XXX	5 YR onsite repair 9x5/next day average response	10N3065
7143-XXX	5 YR onsite repair 9x5x4 hour average response	10N3066
7143-XXX	5 YR onsite repair 24x7x4 hour average response	10N3067
7143-XXX	5 YR onsite repair 24x7x2 hour average response	10N3068

7143-XXX	1-year MA IOR 9 x 5 Next Business Day average response	10N3069
7143-XXX	1-year MA IOR 9 x 5 4-hour average response	10N3070
7143-XXX	1-year MA IOR 24 x 7 4-hour average response	10N3071
7143-XXX	1-year MA IOR 24 x 7 2-hour average response	10N3072
7143-XXX	2-year MA IOR 9 x 5 Next Business Day average response	10N3073
7143-XXX	2-year MA IOR 9 x 5 4-hour average response	10N3074
7143-XXX	2-year MA IOR 24 x 7 4-hour average response	10N3075
7143-XXX	2-year MA IOR 24 x 7 4-hour average response	10N3076

These ServicePac offerings are valid for models announced in the United States.

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