IBM System x3300 M4 tower servers feature fast 4C or 6C Intel Xeon processors with one QPI link and 10 MB or 15 MB cache for enhanced performance and scalability

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At a glance

IBM® System x3300 M4 servers feature:

- A 1.8 GHz/6.4 GTS-10 MB 4C Intel™ E5-2403, a 2.2 GHz/6.4 GTS-10 MB 4C E5-2407, a 1.9 GHz/7.2 GTS-15 MB 6C E5-2420, a 2.2 GHz/7.2 GTS-15 MB 6C E5-2430, or a 2.4 GHz/7.2 GTS-15 MB 6C E5-2440, Intel Xeon™ processor data bus to the system with one QPI link.

- 2 GB or 4 GB of 1333 MHz DDR3 ECC system memory[1]; 48 GB maximum or 384 GB maximum when 32 GB DIMMs installed; Express® models have 8 GB.

- Eight-port SAS/SATA with RAID controller.

- One fixed 460-watt 80 Plus Bronze certified power supply fitted standard; one hot-swap 550-watt 80 Plus Platinum certified redundant power supply on Models D2, D4,and F2.

- Integrated management module (IMM2).

- Five PCI-Express card slots standard, one PCI-Express card slot enabled with dual processors, and one optional PCI-X card slot when using interposer card.

- Support for up to sixteen 2.5-inch drives plus one standard optical drive and one optional half-height tape drive, or up to eight 3.5-inch drives plus one standard optical drive and one optional half-height tape drive.

- Up to 16 TB[2] with 1 TB 2.5-inch HS NL SFF SAS/SATA disk drives.

- Intel I350CM2 integrated Quad Gigabit Ethernet controllers, two ports standard and two more ports using Software license key and SAS or SATA support.
- SVGA video with 16 MB memory shared.
- Support for optional Remote Presence function.
- 4U tower industry-standard models, rack mount through special bid or option.
- Two USB front and four USB rear ports, two USB internal port, one d-sub connector, four 10/100/1000 RJ45 ports, and one serial port.

Overview

The System x3300 M4 servers include:

- Quickpath Interconnect (QPI) support for 6.4 and 7.2 Gigabit transfers per second (GTS), supporting one QPI link.
- Two simple-swap fans standard with single processor or three simple-swap fans standard with dual processors. Optional redundant cooling option and power supplies are available.
- Five PCI-Express card slots standard; one PCI-Express card slot enabled with dual processors; and one optional PCI-X card slot when using interposer card.
- Integrated dual Gigabit Ethernet, quad with software upgrade.
- RAID-0, RAID-1, and RAID-10 support standard or optional RAID-1E, RAID-5, RAID-10, and RAID-50 using a PCI-E adapter.
- DDR3 ECC DIMMs, combined with an integrated ECC memory controller in core logic that corrects many soft and hard single-bit memory errors and minimizes disruption of service to LAN clients.
- Integrated management module (IMM2) with optional Remote Presence function.
- Light path diagnostics with a light path panel visible at front of chassis.

Powered and scaled for business growth

- These servers contain one of the following:
  - A 1.8 GHz/6.4 GTS-10 MB 4C Intel E5-2403, a 2.2 GHz/6.4 GTS-10 MB 4C E5-2407, a 1.9 GHz/7.2 GTS-15 MB 6C E5-2420, a 2.2 GHz/7.2 GTS-15 MB 6C E5-2430, or a 2.4 GHz/7.2 GTS-15 MB 6C E5-2440, Intel Xeon processor data bus to the system with one QPI link.
- Either a 1066 MHz or 1333 MHz functional speed processor operations to memory.
- 2 GB or 4 GB of high-speed DDR3 - 1333 MHz ECC memory[1], 48 GB maximum using 4 GB memory DIMMs[6], or 384 GB maximum using 32 GB memory DIMMs[7], Express models come standard with 8 GB.
- High-speed, wide-bandwidth slots: Five PCI-Express card slots with single processor, one more PCI-Express card slot with dual processors, and one optional PCI-X card slot when using interposer card.
- Intel I350CM2 integrated Quad Gigabit Ethernet controllers, two ports standard and two more ports using Software license key and SAS or SATA support.
- Standard SATA DVD-ROM and tape drive bay.
- Eight standard 2.5-inch hot-swap drive bays and up to sixteen 2.5-inch bays available when using upgrade options with total HDD storage capacity of 16 TB, when using 1 TB Near-Line SFF SAS/SATA HDD options.

High availability for around-the-clock business demands

- Integrated management module (IMM2) and support for the optional Remote Presence function.
- Wake on LAN.
- ECC memory to detect double-bit errors and correct single-bit errors.
- Integrated memory mirroring and sparing.

Service and support perfected for business needs

- ServerGuide and IBM Director.
- IBM Server support and web support[3].
- Three-year, customer replaceable unit (CRU) and on-site service[4], limited warranty[5]; optional warranty service upgrades available.

Note: For configurations that support the RAID battery, the RAID battery will be warranted for one year effective on its "date of installation." All other product warranty terms for the machine remain unchanged.

Notes :

[1]DDR3 1333 RDIMM memory. DDR3 memory stands for double data rate, which means up to twice the data is transferred compared to SDRAM in the same clock cycle.

[2]When referring to HDD or tape backup capacity, GB stands for 1,000,000,000 bytes and TB stands for 1,000,000,000,000 bytes. User capacity may vary depending on operating environments.

[3]Some programs may not be available in all countries.

[4]With respect to on-site service, you may be asked certain diagnostic questions before a technician is sent.

[5]For information on the IBM Statement of Limited Warranty, contact your IBM representative or reseller. Copies are available upon request.

[6]Twelve DIMM slots that enable you to deploy up to 384 GB of DDR3 SDRAM Registered DIMM memory, with 12 slots populated with 32 GB DIMMs optional, 2 GB or 4 GB memory standard.

[7]2.5-inch Drive bays provide 8.0 TB using 8x 1 TB SFF SAS HDD options, this can be doubled to 16 TB with optional 8x 2.5-inch HDD upgrade. (Special bid models support up to sixteen 2.5-inch bays with an additional 8 TB of HDD capacity for a total of 16 TB).

3.5-inch Drive bays provide 12 TB as standard using 4x 3 TB LFF SAS/SATA HDD options. This can be doubled to 24 TB with optional 4x 3.5-inch HDD upgrade. For the latest information on supported HDD options, visit

http://www-03.ibm.com/systems/info/x86servers/serverproven/compat/us/

Key prerequisites

- Monitor

Planned availability date

August 22, 2012: System x3300 M4 - 7382

Description

Related options

IBM memory options

- 2 GB (1 x 2 GB, 2R x 8, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHz LP RDIMM (49Y1392)
- 2 GB (1 x 2 GB, 1R x 4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHz LP RDIMM (49Y1393)
- 4 GB (1 x 4 GB, 2R x 4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHz LP RDIMM (49Y1394)

IBM processor options

- Intel Xeon Processor E5-2403 4C 1.8GHz 10MB Cache 1066MHz 80W (00D2581)
- Intel Xeon Processor E5-2407 4C 2.2GHz 10MB Cache 1066MHz 80W (00D2582)
- Intel Xeon Processor E5-2420 6C 1.9GHz 15MB Cache 1333MHz 95W (00D2583)
- Intel Xeon Processor E5-2430 6C 2.2GHz 15MB Cache 1333MHz 95W (00D2584)
- Intel Xeon Processor E5-2440 6C 2.4GHz 15MB Cache 1333MHz 95W (00D2585)

These 4C and 6C processors are ideal for data-intensive applications that range from data mining to evolving web services. Innovative technologies deliver processing speeds of up to 2.7 GHz/8.0 GTS with performance headroom for unpredictable server workloads and escalating computing needs.

Intel Xeon processors with 10 MB or 15 MB cache feature Intel Turbo Boost 2.0 Technology that provides maximum turbo mode duration and speed to improve power and thermal management. The new intelligent performance processors adapt to software workload environment, delivering more computing power when needed. The new Intel Integrated I/O integrates PCIe adaptors into the processor for lower latency and power while growing total capacity and bandwidth.

These enhancements add up to faster response times, support for more simultaneous users, and increased transaction workloads.

These Intel DP processors with Quickpath Interconnect (QPI), with one link, support SMP applications when installed in the second processor slot of System x3300 M4 models with similar processors.

Note: DDR3 ECC DIMMs, combined with an integrated ECC memory controller, correct many soft and hard single-bit memory errors, and minimize disruption of service to LAN clients. Chipkill distributes information covered by error correction coding across separate memory chips, so if any of the chips fail, the data can still be reconstructed from the remaining chips, and the system can continue running.

Increased processor performance coupled with DDR memory enables you to retrieve and process information faster and more efficiently. DDR memory executes twice the number of operations per cycle than traditional SDRAM memory, effectively doubling the data exchange rate between memory and processors.

ServeRAID controllers supported

- IBM 6Gb SAS HBA Controller (46M0907)
- ServeRAID M1115 SAS/SATA Controller for System x® (81Y4448)
- ServeRAID M5110 SAS/SATA Controller for IBM System x(81Y4481)
- ServeRAID M5100 Series 512MB Cache/RAID 5 Upgrade for IBM System x (81Y4484)
- ServeRAID M5100 Series 512MB Flash/RAID 5 Upgrade for IBM System x (81Y4487)

- ServeRAID M5100 Series Battery Kit for IBM System x (81Y4508)
- ServeRAID M1100 Series Zero Cache/RAID 5 Upgrade for IBM System x (81Y4542)
- ServeRAID M5100 Series Zero Cache/RAID 5 Upgrade for IBM System x (81Y4544)
- ServeRAID M5100 Series RAID 6 Upgrade for IBM System x (81Y4546)
- ServeRAID M5100 Series 1GB Flash/RAID Upgrade for IBM System x (81Y4559)

IBM support options

- Tower to Rack Conversion Kit (00D2594)
- PCI-X Interposer Conversion Kit (81Y7012)
- Additional 8 x 2.5" Hot-Swap SAS/SATA Upgrade Kit for 16 (00D2592)
- Redundant Cooling Upgrade Kit (00D2593)

IBM Redundant Power and Cooling Option

The redundant power supplies are designed to supply power for all systems.

High-performance server subsystems

System x3300 M4 servers are high-throughput, two-way, SMP-capable network servers with excellent performance scalability when you add memory and a second processor. They incorporate powerful Intel Xeon processors with 10 MB or 15 MB cache, model dependent. These flip-chip, land grid array 6 (FC-LGA6) processors feature advanced transfer caches integrated onto the processor core and run at the same clock speed as the processor core.

Two processor connectors are standard on the system board to support installation of a second processor. High-speed, 1333 MHz DDR3 RDIMMs are optimized for 1333 MHz processor-to-memory subsystem performance. The System x3300 M4 server uses the Intel Patsburg chipset- C600 to maximize throughput from processor to memory and system I/O buses.

Standard System x3300 M4 configurations

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    Model     Processor         Cache  Memory   SAS Interface  Mechanical

    7382-A2x  1.8 GHz/6.4 GTS  10 MB   2 GB    SS      SATA       Tower
    7382-B2x  2.2 GHz/6.4 GTS  10 MB   4 GB    HS      SATA       Tower
    7382-C2x  1.9 GHz/7.2 GTS  15 MB   4 GB    HS      SAS/SATA   Tower
    7382-D2x  2.2 GHz/7.2 GTS  15 MB   4 GB    HS      SAS/SATA   Tower
    7382-D4x  2.2 GHZ/7.2 GTS  15 MB   4 GB    HS SFF  SAS/SATA   Tower
    7382-F2x  2.4 GHz/7.2 GTS  15 MB   4 GB    HS SFF  SAS/SATA   Tower

Note:  For EMEA x=G
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Additional features:

- Ability to upgrade to two-way processing by adding a second processor of the same speed and processor type
- System board that contains 6 DIMM connectors and CPU expansion board that contains 6 DIMM connectors supporting 2 GB, 4 GB, 8 GB, 16 GB, or 32 GB 1066 MHz, or 1333 MHz, DDR3 memory, model dependent
  - Up to 192 GB of system memory with 16 GB memory RDIMMs installed or up to 384 GB system memory with 32 GB memory LR DIMMs installed
- High-speed, wide-bandwidth, PCI-E and PCIx bus slots support
  - Slot 1 : PCIe 3.0 x8 : PCI-E x8 slot with x8lanes (3.0, from processor 2)
  - Slot 2 : PCIe 3.0 x8 : PCI-E x8 slot with x8lanes (3.0, from processor 1)
  - Slot 3 : PCIe 3.0 x8 : PCI-E x8 slot with x4 lanes (3.0, from processor 1)

- Slot 4 : PCIe 3.0 x16 : PCI-E x16 slot with x8 lanes (3.0, from processor 1)
- Slot 5 : PCIe2 x4 : PCI-E x4 slot with x1 lanes (Gen2, from PCH)
- Slot 6 : PCIe2 x8 : PCI-E x8slot with x4 lanes (Gen2, from PCH)

  Note: Slot 6 can optionally be changed to a PCI-X slot using interposer card.

- Eight-port SAS/SATA RAID controller that supports high-speed internal storage solutions
- Two Ethernet controller ports standard and can be upgraded to quad ports using software license, increasing speed for network communications to LAN clients

The x3300 M4 subsystems are tuned to provide solid system throughput from processor, to memory, to bus, to disk-intensive I/O. These features, combined with SMP capability, make the System x3300 M4 server an excellent choice for a stand-alone or clustered business-critical application, storage, file, and print server.

High-availability and serviceability features

- Redundant cooling includes:
  - Three simple-swap fans (single replaceable unit)

- One fixed power supply standard, and one optional redundant power supply to support robust high-availability applications
- Hot-swap HDD bays with SAS/SATA backplane
- Standard SAS controller to support up to eight internal hot-swap SATA or SAS HDD devices
- DDR3 ECC RDIMMs, combined with an integrated ECC memory controller in core logic, to correct many soft and hard single-bit memory errors (using memory mirroring), while minimizing disruption of services to LAN clients
- Memory hardware scrubbing to correct soft memory errors automatically without software intervention
- 10 MB and 15 MB cache processors to improve data integrity and help reduce downtime
- PFA on memory to help alert the system administrator of an imminent component failure
- Up to four simple-swap redundant system cooling fans to cool system

- Integrated management module (IMM2) that supports:
  - Fan monitoring and control
  - Power supply monitoring
  - Temperature monitoring
  - Voltage monitoring
  - Power on/off, reset sequencing
  - LED controls (light path diagnostics support)
  - IPMI capability that allows you to accept commands and send status
  - Remote firmware update
  - Automatic server restart (ASR)[8]
  - Numeric error logging

- Information LED panel to give visual indications of system health
- Light path diagnostics and onboard diagnostics for an LED map that provides error codes (which are explained in the hardware maintenance manual)
- Easy access to system board, adapter cards, processor, and memory
- CPU failure recovery in SMP configurations
  - Generates alerts error logs

[8]The ASR function is currently supported on Microsoft™ Windows™ 2003 and Windows 2008.

Expandability and growth

The System x3300 M4 server is a 4U tower configuration engineered to meet the compactness of a 4U rack drawer. SVGA video, SAS/SATA, and full-duplex Gigabit Ethernet are integrated on the system board.

Features include:

- System memory expansion to 192 GB with 16 GB memory RDIMMs installed in 12 DIMM slots or 384 GB with 32 GB Memory LRDIMMs installed in 12 DIMM slots
- Five PCI-E slots with single processor, one PCI-Express slot enabled with dual processors and one optional PCI-X card slot when using interposer card
- Up to 16 drive bays plus two 5.25 inch, half-high device bays:
  - Eight 2.5-inch, hot-swap drive bays; two 5.25-inch, half-high device bays standard
  - Optional HDD upgrade kits available to increase the number of storage devices from eight to sixteen, 2.5-inch hot-swap drive bays
  - Internal support for high performance (up to 15,000 rpm) for up to eight SAS HDDs and a high-capacity half-height tape backup device
  - Up to 16 TB, using 1 TB 2.5-inch NL SFF SAS/SATA hot-swap HDDs[2]

These servers can handle applications for today and expand for future growth.

[2]When referring to HDD or tape backup capacity, GB stands for 1,000,000,000 bytes and TB stands for 1,000,000,000,000 bytes. User capacity may vary depending on operating environments.

Systems management

Integrated management module controller (IMM2)

The System x3300 M4 server includes an integrated management module controller that provides industry-standard Intelligent Platform Management Interface (IPMI) 2.0-compliant systems management. The IMM2 comes standard, and has a dedicated onboard Ethernet port for access. IMM2 can be accessed using software that is compatible with IPMI 2.0 (such as xCAT).

- Features and benefits
  - Monitoring of system and CMOS battery voltages.
  - Monitoring of system temperatures.
  - Fan speed control.
  - Fan tachometer monitor.
  - Power good signal monitor.
  - System ID and planar version detection.
  - System power control.
  - System reset control.
  - NMI and SMI detection and generation (System Interrupts).
  - Serial port text console redirection.
  - System LED control (power, HDD, activity, alerts, and heartbeat).
  - An embedded web server gives you remote control from any standard web browser. No additional software is required on the remote administrator's workstation.
  - For users who are accustomed to a command-line interface (CLI), the ability for the administrator to use the CLI from a Telnet session to perform some of the functions that can be performed from the web server.
  - Secure Sockets Layer (SSL) and Lightweight Directory Access Protocol (LDAP).
  - Built-in LAN and serial connectivity that supports virtually any network infrastructure.

– Multiple alerting functions that warn systems administrators of potential problems through email, IPMI PETs, and SNMP.

IBM Director

x3300 M4 servers feature IBM Director, a powerful, highly integrated systems management software solution built on industry standards and designed for ease of use. Exploit your existing enterprise or workgroup management environments and use rich security features to access and manage physically dispersed IT assets more efficiently over the Internet.

Potentially reduce costs through:

- Reduced downtime
- Increased productivity of IT personnel and end users
- Reduced service and support costs

IBM Director provides integration into leading workgroup and enterprise systems management environments through upward integration modules. The advanced management capabilities built into System x servers can be accessed from:

- Tivoli® Enterprise and Tivoli NetView®
- Computer Associates CA Unicenter TNG Framework
- NetIQ
- IMM Patrol
- Microsoft SMS
- Intel LANDesk Management Suite
- HP OpenView Network Node Manager

IT administrators can view the hardware configuration of remote systems in detail and monitor the usage and performance of critical components such as processors, HDDs, and memory.

IBM Director includes IBM Director Extensions, a portfolio of server tools that integrate into the Director framework and work with the integrated systems management processor to access environmental system information.

The processor supervises the operating system status and the following system components, and alerts the IT administrator to critical errors:

- Fan monitoring and control; status and presence are monitored. Fan speed is controlled and automatically increased to maintain system cooling if temperature thresholds are exceeded. An alert is generated if:
  - Failure occurs or is predicted.
  - Installation or removal occurs.
- Power supply condition changes for the power supply.
  - CPU temperatures are monitored. An alert is generated if (preset) temperature warning thresholds are exceeded or restored, and if critical temperature thresholds are exceeded. Soft and hard system shutdowns are automatically initiated if critical temperature thresholds are exceeded.
  - CPU and power subsystem voltage thresholds are monitored.
  - Light path diagnostics LEDs are illuminated in case of key component errors or failures to enable quick local diagnostics and servicing.
  - Flash update enables updates to the integrated systems management processor firmware.

The IT administrator has comprehensive, virtual on-site control of System x servers and can remotely:

- Access the server regardless of the status

- Inventory and often 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, SAS/SATA setup, 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
- Define automated actions, such as:
  - Send email or a page to an administrator
  - Run a command or program
  - Deliver an error message to the Director console
- Monitor 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
- Monitor, manage, and configure RAID subsystems without taking them offline

Advanced Configuration and Power Interface (ACPI)

This open industry specification defines a flexible and extensible hardware interface for the system board. Software designers use this specification to integrate power management features throughout a computer system, including hardware, the operating system, and application software. This integration enables Windows to determine which applications are active, and handles all of the power management resources for computer subsystems and peripherals.

World-class support tools and programs

The System x3300 M4 server includes 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.

- Warranty: Three years, customer replaceable unit (CRU) and on-site service, limited warranty; optional warranty service upgrades available.
- The ServerProven® [9] program enables you to configure your server confidently with various devices and operating systems. This web-based program provides compatibility information from actual testing of the System x3300 M4 servers server with various adapters and devices.
- The ServerGuide CD includes utilities and drivers for assisted installation of popular network operating systems.
- Electronic support on the web provides additional support in an easy-to-use format.

[9] IBM makes no warranties, expressed or implied, regarding non-IBM products and services that are ServerProven , including but not limited to implied warranties of

merchantability and fitness for a particular purpose. These products are offered and warranted solely by third parties.

Product positioning

The System x3300 M4 server is positioned above the entry, one-way x3100 M4. These servers comes standard with many advanced availability features, including RAID for high system reliability. High-performance, low-voltage system memory for speed and efficiency as well as enhanced systems management control. As universal servers, they are offered in flexible tower models and can be rack-mounted using a tower-to-rack conversion kit.

The System x3300 M4 server is a compact 4U two-way, SMP-capable Xeon processor-based platform designed with integrated high-availability features for small-and-medium-sized businesses as a departmental or branch office server. They process print and file transactions or office suite applications with ease.

These servers are ideal for clients who require up to sixteen core processing power, ample memory, and storage capacity, and high-speed I/O scalability. These servers are ideal for business platforms to run everyday business applications.

Product number

Options

Description	Part Number
IBM System x3300 3.5" HS Kit for HW/SW RAID	00D2591
Redundant System FAN	00D2593
Tower to Rack Kit	00D2594
IBM System x3300 Simple-Swap SATA Kit 4x3.5"	00D2590
IBM System x3300 2nd 2.5" HS Upgrade Kit	00D2592
Intel Xeon Processor E5-2403 4C 1.8GHz 10MB Cache 1066MHz 80W	00D2581
Intel Xeon Processor E5-2407 4C 2.2GHz 10MB Cache 1066MHz 80W	00D2582
Intel Xeon Processor E5-2420 6C 1.9GHz 15MB Cache 1333MHz 95W	00D2583
Intel Xeon Processor E5-2430 6C 2.2GHz 15MB Cache 1333MHz 95W	00D2584
Intel Xeon Processor E5-2440 6C 2.4GHz 15MB Cache 1333MHz 95W	00D2585
Intel Xeon Processor E5-2430L 6C 2.0GHz 15MB Cache 1333MHz 60W	00D2586
Intel Xeon Processor E5-2450L 8C 1.8GHz 20MB Cache 1600MHz 70W	00D2587
Intel Xeon Processor E5-2450 8C 2.1GHz 20MB Cache 1600MHz 95W	00D2588
Intel Xeon Processor E5-2470 8C 2.3GHz 20MB Cache 1600MHz 95W	00D2589

The following are Pseudo Options.

Description	Part Number
Backplane signal Y cable for Norton(3.5")	00D9119
3.5" Bracket for 2nd HDD Cage	00D9120
Label GBM	00D9121
Agency Label	00D9122
3.5" HS HDD Filler	00D9123
2.5" HS HDD Filler	00D9124
HDD BP POWER 16 to 14 (RAID management Y cable)	00D9125
Backplane signal Y cable for Raptor(2.5")	00D9126
PWR cage Filler	00D9127
BIOS GBM	00D9128
IBM System x3300 Planar	00D4326
IBM System x3300 3.5" HS Kit for HW/SW RAID	00D9146
IBM System x3300 1st 2.5" HS Kit	00D9148
Redundant Power Kit	00D9149
PCI-X Riser Kit	00D4346
IBM System x3300 Packaging - Tower to Rack model	00D9129
IBM System x3300 Packaging - Tower model	00D9130
IBM 460W Fixed PSU	00D4325

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IBM 550W Redundant PSU                                              00D9131
IBM 750W Redundant PSU                                              00D9132
Intel Xeon Processor E5-2403 4C 1.8GHz 10MB Cache 1066MHz 80W  00D4314
Intel Xeon Processor E5-2407 4C 2.2GHz 10MB Cache 1066MHz 80W  00D4315
Intel Xeon Processor E5-2420 6C 1.9GHz 15MB Cache 1333MHz 95W  00D4316
Intel Xeon Processor E5-2430 6C 2.2GHz 15MB Cache 1333MHz 95W  00D4317
Intel Xeon Processor E5-2440 6C 2.4GHz 15MB Cache 1333MHz 95W  00D4318
Intel Pentium™ Processor 1403 2C 2.6GHz 5MB Cache 1066MHz 80W   00D4319
Intel Pentium Processor 1407 2C 2.8GHz 5MB Cache 1066MHz 80W    00D4320
Intel Xeon Processor E5-2430L 6C 2.0GHz 15MB Cache 1333MHz 60W 00D4321
Intel Xeon Processor E5-2450L 8C 1.8GHz 20MB Cache 1600MHz 70W 00D4322
Intel Xeon Processor E5-2450 8C 2.1GHz 20MB Cache 1600MHz 95W  00D4323
Intel Xeon Processor E5-2470 8C 2.3GHz 20MB Cache 1600MHz 95W  00D4324
IBM 550W Redundant PSU (Optional)                                  00W2311
IBM 750W Redundant PSU (Optional)                                  00W2312
NVIDIA Quadro 2000                                                 00W2299
Rack location U44                                                  44X3124
Rack location U45                                                  44X3125
Rack location U46                                                  44X3126
Rack location U47                                                  44X3127
Intel Xeon Processor E5-1410 4C 2.8GHz 10MB Cache 1333MHz 80W  00W2291
14 pin to 16 pin interposer cable for fixed PSU                   00W2360
2nd CPU FAN                                                        00W2359



System Documentation and Software-Korean                           00D9141
System Documentation and Software-Traditional Chinese Taiwan   00D9142
System Documentation and Software-Simplified Chinese China     00D9143
System Documentation and Software-Korea (English)                 00D9144
System Documentation and Software-Traditional Chinese Hong Kong00D9145
System Documentation and Software-US English                      00D9133
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Notes :

- All geographies except EMEA use the combined machine type/model number as the ordering number.
- All models are GAV except some AP models.

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Starting Point Models as follows:

  Description                 Machine      Model        Part number

  IBM System x3300 M4         7382         FT1          7382FT1


     Description              Machine    Model        Part number

  Note: Following models are GAV

     System x3300 M4          7382       A2A          7382A2A
                                         A2B          7382A2B
                                         A2K          7382A2K
                                         A2M          7382A2M
                                         A2R          7382A2R
                                         A2V          7382A2V

     System x3300 M4          7382       B2A          7382B2A
                                         B2B          7382B2B
                                         B2K          7382B2K
                                         B2M          7382B2M
                                         B2R          7382B2R
                                         B2V          7382B2V

     System x3300 M4          7382       C2A          7382C2A
                                         C2B          7382C2B
                                         C2K          7382C2K
                                         C2M          7382C2M
                                         C2R          7382C2R
                                         C2V          7382C2V
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System x3300 M4              7382      D2A        7382D2A
                                       D2B        7382D2B
                                       D2K        7382D2K
                                       D2M        7382D2M
                                       D2R        7382D2R
                                       D2V        7382D2V

System x3300 M4              7382      D4A        7382D4A
                                       D4B        7382D4B
                                       D4K        7382D4K
                                       D4M        7382D4M
                                       D4R        7382D4R
                                       D4V        7382D4V

System x3300 M4              7382      F2A        7382F2A
                                       F2B        7382F2B
                                       F2K        7382F2K
                                       F2M        7382F2M
                                       F2R        7382F2R
                                       F2V        7382F2V


Following models are MTM

System x3300 M4              7382      A2C        7382A2C
                                       A2N        7382A2N

System x3300 M4              7382      B2C        7382B2C
                                       B2N        7382B2N

System x3300 M4              7382      C2C        7382C2C
                                       C2N        7382C2N

System x3300 M4              7382      D2C        7382D2C
                                       D2N        7382D2N

System x3300 M4              7382      D4C        7382D4C
                                       D4N        7382D4N

System x3300 M4              7382      F2C        7382F2C
                                       F2N        7382F2N


Note: xxA = Taiwan, Thailand, Laos, Vietnam, India, Nepal,
            Philippines, Hong Kong, Indonesia,
            Singapore, Brunei, Cambodia,
            Malaysia, Mynmar (Burma)(GAV), Sri Lanka (GAV)

      xxB = Hong Kong (GAV)      xxN = China (PRC) (MTM)
      xxC = China (PRC) (MTM)    xxR = Korea (GAV)
      xxE = Japan (GAV)          xxV = Taiwan(GAV)
      xxJ = Japan (GAV)
      xxK = Korea (GAV)
      xxM = ANZ (GAV)
```

Model conversions

None

Feature conversions

None

Publications

The following publications and CD-ROMs are shipped with the x3300 M4 servers:

- The *System x3300 M4 Installation and Service Guide* contains an introduction to the computer, installation and setup, installing options, reference information, and problem determination. The installation and service guide has easy-to-use text and pictorials to enable you to quickly set up the System x3300 M4 server.
- Publications CD

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 *x3300 M4 Installation and Service Guide*

  http://publib14.boulder.ibm.com/infocenter/systems

IBM Publications Center Portal

  http://www.ibm.com/shop/publications/order

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided, as well as payment options via credit card. A large number of publications are available online in various file formats, which can currently be downloaded free of charge.

Supplemental information and publications

- System x3300 M4 Installation and Service Guide
- Documentation CD:
  - Installation and Service Guide
  - Environmental Notices

Source file publications

These files can be used with the BookMaster® and DCF-licensed programs to create unmodified printed copies of the manuals. The source files can also be used with the BookManager® BUILD licensed program to create unmodified displayable softcopy manuals. Terms and conditions for use of the machine-readable files are shipped with the files.

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For details on education offerings related to specific products, visit

  http://www.ibm.com/services/learning/index.html

Select your country, and then select the product as the category.

Technical information

Specified operating environment

Physical specifications

The x3300 M4

Note: US, LA, CAN x=U Brazil x=P Argentina x=T EMEA x=G

	7382-A2x	7382-B2x	7382-C2x
Processor	Xeon 4C E5-2403	Xeon 4C E5-2407	Xeon 6C E5-2420
Internal speed	1.8 GHz	2.2 GHz	1.9 GHz
External speed	6.4 GTS	6.4 GTS	7.2 GTS
Number standard	1	1	1
Maximum	2	2	2
L3 cache (full-speed)	10 MB	10 MB	15 MB
Memory (PC3-10600-	2 GB ECC	4 GB ECC	4 GB ECC
DDR3-1333	1 x 2 GB	1 x 4 GB	1 x 4 GB
	2Gb, 1Rx8,	4Gb,1Rx4,	4Gb,1Rx4
	1.35V	1.35V	1.35V
	No Chipkill	Chipkill	ChipKill
DIMM sockets standard	6	6	6
DIMM sockets maximum	12	12	12
Capacity	384 GB[10]	384 GB[10]	384 GB[10]
Video	SVGA	SVGA	SVGA
memory	16 MB	16 MB	16 MB
SAS/SATA RAID controller	C105	C105	H1110
Channels	8	8	4
Connector internal	2	2	1
Connector external	0	0	0
HDD	open-bay	open bay	open bay
Support	3.5-inch HDD	3.5-inch HDD	3.5-inch HDD
Total bays	10	10	10
5.25-in	2	2	2
Hot-swap	8	8	8
Internal capacity	8.0 TB[7]	8.0 TB[7]	8.0 TB[7]
Bays available	6	6	6
5.25 in	2	2	2
Hot-swap	0[7]	4[7]	4[7]
Simple-swap	4	0	0
Total PCI slots	6	6	6[13]
PCI-E 3.0 x16	1	1	1
PCI-E 3.0 x8	3	3	3[14]
PCI-E Gen2 x4	1	1	1[15]
PCI-E Gen2 x8	1	1	1
Slots available	5	5	5
PCI-E Gen3 x8	2	2	2
PCI-E Gen3 x16	1	1	1
PCI-E Gen2 x4	1	1	1
PCI-E Gen2 x8	1	1	1
Integrated management	Standard[11]	Standard[11]	Standard[11]
Ethernet controllers	4x1GB standard	4x1GB standard	4x1GB standard
Half-height SATA DVD	1	1	1
Power supply	460 W[12]	460 W[12]	460 W[12]
Number standard	1	1	1
Hot-swap	No	No	No
Redundant power	None	None	None

	7382-D2x	7382-D4x	7382-F2x
Processor	Xeon 6C E5-2430	Xeon 6C E5-2430	Xeon 6C E5-2440
Internal speed	2.2 GHz	2.2 GHz	2.4 GHz

External speed	7.2 GTS	7.2 GTS	7.2 GTS
Number standard	1	1	1
Maximum	2	2	2
L3 cache (full-speed)	15 MB	15 MB	15 MB
Memory (PC3-10600-	4 GB ECC	4 GB ECC	4 GB ECC
VL9 DDR3 1333 MHz	1 x 4 GB	1 x 4 GB	1 x 4 GB
	4Gb,1Rx4, 1.35V	4Gb,1Rx4, 1.35V	4Gb,1Rx4, 1.35V
	ChipKill	ChipKill	ChipKill
DIMM sockets standard	6	6	6
DIMM sockets maximum	12	12	12
Capacity	384 GB[10]	384 GB[10]	384 GB[10]
Video	SVGA	SVGA	SVGA
memory	16 MB	16 MB	16 MB
SAS/SATA RAID controller	H1110	M1115	M1115
Channels	4	8	8
Connector internal	1	2	2
Connector external	0	0	0
HDD	open-bay	open bay	open bay
Support	3.5-inch HDD	2.5-inch HDD	2.5-inch HDD
Total bays	10	18	18
5.25-in	2	2	2
Hot-swap	8 x LFF	16	16
Internal capacity	8.0 TB[7]	8.0 TB[7]	8.0 TB[7]
Bays available	6	10	10
5.25 in	2	2	2
Hot-swap	4[7]	8[7]	8[7]
Total PCI slots	6	6	6[13]
PCI-E 3.0 x16	1	1	1
PCI-E 3.0 x8	3	3	3[14]
PCI-E Gen2 x4	1	1	1[15]
PCI-E Gen2 x8	1	1	1
Slots available	5	5	5
PCI-E 3.0 x8	2	2	2
PCI-E 3.0 x16	1	1	1
PCI-E Gen2 x4	1	1	1
PCI-E Gen2 x8	1	1	1
Integrated management	Standard[11]	Standard[11]	Standard[11]
Ethernet controllers	4x1GB standard	4x1GB standard	4x1GB standard
Half-height SATA DVD	1	1	1
Power supply	550 W[12]	550 W[12]	550 W[12]
Number standard	1	1	1
Hot-swap	Yes	Yes	Yes
Redundant power	Optional	Optional	Optional

[7]2.5-inch Drive bays provide 8.0 TB using 8x 1 TB SFF SAS HDD options, this can be doubled to 16 TB with optional 8x 2.5-inch HDD upgrade. (Special bid models support up to sixteen 2.5-inch bays with an additional 8 TB of HDD capacity for a total of 16 TB).

3.5-inch Drive bays provide 12 TB as standard using 4x 3 TB LFF SAS/SATA HDD options. This can be doubled to 24 TB with optional 4x 3.5-inch HDD upgrade.

For the latest information on supported HDD options, visit

http://www-03.ibm.com/systems/info/x86servers/serverproven/compat/us/

[10]Twelve DIMM slots that enable you to deploy up to 384 GB of DDR3 SDRAM Registered DIMM memory, with 12 slots populated with 32 GB DIMMs optional, maximum 192 GB using 16 GB DIMMS optional, 2 GB or 4 GB memory standard.

[11]These systems contain an integrated management module that provides a set of monitoring and alert features. Refer to the Description section for details.

[12]The 460-watt power supply is designed to support all systems. Some models come with an HS redundant 550-watt power supply.

[13]Five PCI-e slots from processor 1. When the second processor is fitted, this adds another PCIe slot, giving a total of six.

[14]One PCIe 3.0 x8 slots and one PCIe Gen2 x8 slots operate at electrical x4.

[15]The PCIe Gen2 x8 slot can optionally be changed to a PCI-X slot via interposer card.

SATA DVD drive characteristics[16]

- Formatted capacity: 650 MB
- Average access time including latency: Less than 85 ms
- Sustained data transfer rate: 3,000 to 7,200 KBps
- Burst data transfer rate
  - ATA PIO mode 4: 16.6 MBps
  - ATA Multiword DMA Mode 2: 16.6 MBps
- Technology: Full constant angular velocity (CAV)

[16]Actual playback speed varies and is often less than maximum.

Video subsystem

- Matrox G200eR2 Video Graphics Controller
- Integrated on planar and connected to the PCI bus
- SVGA compatible video controller (Matrox G200eR2)
- DDR3-528MHz SDRAM video memory controller.
- Video memory is not expandable in this system

Supported video mode capabilities for the SVGA PCI controller

```
Resolution Vertical Refresh Rate        Color Depth

 1600 x 1200      60, 75,                8, 16, 24
 1680 x 1050      60,                    8, 16, 24
 1440 x 900       60                     8, 16, 24
 1280 x 1024      60, 75                 8, 16, 24
 1024 x 768       60, 75, 85             8, 16, 24
 800  x 600       60, 72, 75, 85         8, 16, 24
 640  x 400       60, 72, 75, 85         8, 16, 24
```

Notes :

- The grayed ones are supported only if the monitor contains this resolution in his EDID.
- The connector is a 15-pin D-shell; a video cable of 1.8 meters is the maximum supported length.

Dimensions

- Tower:
  - Width: 175.8 mm (6.92 in); 235 mm (9.25 in) with tower
  - Depth: 678.4 mm (26.71 in)
  - Height: 437.7 mm (17.23 in)
  - Weight: 22.0 kg (48.46 lb) (minimum configuration)
  - Weight: 29.7 kg (65.42 lb) (maximum configuration)
- Rack
  - Width: 422.9 mm (16.65 in)

- Depth: 625.0 mm (24.61 in)
- Height: 175.8 mm (6.92 in)
- Weight: 20.5 kg (45.15 lb) (minimum configuration)
- Weight: 28.2 kg (62.11 lb) (maximum configuration)

Electrical

Models with 460 W power supplies:

- 100 to 127 nominal V ac; 50 - 60 Hz; 6.4 A
- 200 to 240 nominal V ac; 50 - 60 Hz; 3.2 A
- Input kilovolt-amperes (kVA) (approximately):
  - Minimum configuration: 0.10 kVA
  - Maximum configuration: 0.64 kVA

Models with 550 W power supplies:

- 100 to 127 nominal V ac; 50 - 60 Hz; 6.5 A
- 200 to 240 nominal V ac; 50 - 60 Hz; 3.3 A
- Input kilovolt-amperes (kVA) (approximately):
  - Minimum configuration: 0.11 kVA
  - Maximum configuration: 0.66 kVA

Models with 750 W power supplies:

- 100 to 127 nominal V ac; 50 - 60 Hz; 8.9 A
- 200 to 240 nominal V ac; 50 - 60 Hz; 4.5 A
- Input kilovolt-amperes (kVA) (approximately):
  - Minimum configuration: 0.12 kVA
  - Maximum configuration: 0.90 kVA
- Btu output: ship configuration - 392.3 Btu/hr (115 watts ac)
- Btu output: full configuration - 2900.2 Btu/hr (850 watts ac)
- Acoustical noise emission levels:
  - 5.5 bels (idling)
  - 6.0 bels (operating)

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.

Japan

JApan energy saving standard energy value tables - X3300 M4

Single-Processor System

- Category 2005/2007/2011 = F/c/I
- Input voltage = 100 V ac
- Frequency = 60 Hz

Machine Type/Model	CPU Model	System Idle Power Consumption (Watts)	Energy Consumption Efficiency (W/MTOPS)
7382A2J	E5-2403, 1.8GHz	106.5	0.00150
7382B2J	E5-2407, 2.2GHz	111.3	0.00129

```
7382C2J     E5-2420, 1.9GHz   111.3        0.00091
7382D2J     E5-2430, 2.2GHz   118.6        0.00091
7382D4J     E5-2430, 2.2GHz   118.2        0.00091
7382F2J     E5-2440, 2.4GHz   128.7        0.00091
```

Dual-Processor System

- Category 2005/2007/2011 = F/c/J

- Input voltage = 100 V ac

- Frequency = 60 Hz

```
                                   System Idle   Energy
                                   Power         Consumption
          Machine       CPU        Consumption   Efficiency
          Type/Model    Model      (Watts)       (W/MTOPS)

           7382A2J     E5-2403, 1.8GHz   151.4        0.00107
           7382B2J     E5-2407, 2.2GHz   151.6        0.00088
           7382C2J     E5-2420, 1.9GHz   170.7        0.00070
           7382D2J     E5-2430, 2.2GHz   171.1        0.00066
           7382D4J     E5-2430, 2.2GHz   165.0        0.00064
           7382F2J     E5-2440, 2.4GHz   164.7        0.00058
```

x3300 M4 configuration idling with Windows 2008

```
    CPU        1 (standard)
    PSU        1 (460-watt)
    HDD        1 x 500 GB 15 K RPM
    FDD        0
    CD-ROM     1 (standard)
    RAM        1 x 4 GB DIMMs
```

These servers are intended for use as floor-standing servers and are tested and designed to operate in a horizontal position. These servers can also be used as a rack model with the optional rack install kit.

Standards

These systems support or comply with the following standards:

- Multiprocessor Specification (MPS) 1.4

- Peripheral Component Interconnect (PCI) specification 2.2

- Peripheral Component Interconnect (PCI-X) specification v2.1

- PCI-Express specification 1.0

- Hardware-enabled to meet the International Organization for Standardization (ISO) 9241, Part 3

Equipment approvals and safety

- Japan VCCI, Class A

- IEC-60950-1 (CB Certificate and CB Test Report)

- Australia/New Zealand AS/NZS CISPR 22:2006, Class A

- Taiwan BSMI CNS13438, Class A ; CNS14336-1

- China CCC GB4943, GB9254 Class A, GB17625.1

- China CCC GB4943.1 (will comply with standard as of December 1, 2012)

- Korea KN22, Class A; KN24

Standards

Reference information:

```
PCI Table slots


   Slot      Configuration 1           Configuration 2
   Number    (One CPU Installed)       (Two CPU Installed)

     1       N/A                       Gen 3 PCIe x8 (x8 link)

     2       Gen 3 PCIe x8 (x8 link)   Gen 3 PCIe x8 (x8 link)

     3       Gen 3 PCIe x4 (x4 link)   Gen 3 PCIe x4 (x4 link)

     4       Gen 3 PCIe x16 (x8 link)  Gen 3 PCIe x16 (x8 link)

     5       Gen 2 PCIe x4 (x1 link)   Gen 2 PCIe x4 (x1 link)

     6       Gen 2 PCIe x8 (x4 link)   Gen 2 PCIe x8 (x4 link)
```

Operating environment

- Environment temperature:
  - Server on: 5°C to 40°C (41°F to 104°F); altitude: 0 to 915 m (3,117 ft)
  - Server on: 10°C to 32°C (50°F to 90°F); altitude: 915 m (3,000 ft) to 2,134 m (7,000 ft)
  - Server on: 10°C to 28°C (50°F to 83°F); altitude: 2,134 m (7,000 ft) to 3,050 m (10,000 ft)
  - Server off: 5°C to 45°C (412°F to 113°F)
  - Shipping: -40°C to 60°C (-40°F to 140°F) Altitude: 10,700 m (35,105 ft)
  - Relative humidity: 5% - 100%
  - Maximum dew point: 29°C (84.2°F)
- Humidity:
  - Server on: 20% to 80% , Max. Dew Point 21°C, Max. rate of change 5°C/hr
  - Server off: 8% to 80%,, Max. Dew Point 27°C
- Maximum altitude: 2,134 m (7,000 ft)

Japan Energy Saving Standard - E5-2403, 1.8 GHz

- Product Category (2005): F 0.00151
- Product Category (2007): C 0.00151
- Product Category (2011): L 0.00151

E5-2420, 1.9 GHz

- Product Category (2005): F 0.00151
- Product Category (2007): C 0.00151
- Product Category (2011): L 0.00151

E5-2407, 2.2 GHz 6.4 GTS

- Product Category (2005): F 0.00116
- Product Category (2007): C 0.00116
- Product Category (2011): L 0.00116

E5-2430, 2.2 GHz 7.2 GTS

- Product Category (2005): F 0.00116
- Product Category (2007): C 0.00116
- Product Category (2011): L 0.00116

E5-2440, 2.4 GHz

- Product Category (2005): F 0.00127
- Product Category (2007): C 0.00127
- Product Category (2011): L 0.00127

Software requirements

Programming requirements

The following network operating systems are supported in the x3300 M4 servers:

- Microsoft
  - Windows Server 2008, (32 bit and EM64T)
  - Windows Server 2008, R2
  - Windows Small Business Server 2008 (Premium and Standard
- VMware
  - VMware ESX Server 4.1
  - VMware ESXi Server 4.1
  - VMware vSphere 5
  - VMware ESXi 5.0
- Linux
  - SUSE Linux™ Enterprise Server 10 for AMD64/EM64T
  - SUSE Linux Enterprise Server 10 with Xen for AMD64/EM64T
  - SUSE Linux Enterprise Server 10 for x86 SP4
  - SUSE Linux Enterprise Server 11 SP1 for x86-64
  - SUSE Linux Enterprise Server 11 for AMD64/EM64T
  - SUSE Linux Enterprise Server 11 64-bit (includes KVM)
  - Red Hat Enterprise Linux 5 Server Edition
  - Red Hat Enterprise Linux 5 x64 Edition includes KVM
  - Red Hat Enterprise Linux 5.7 SE x64
  - Red Hat Enterprise Linux 5 Server with Xen x64 Edition
  - Red Hat Enterprise Linux 6 Server Edition
  - Red Hat Enterprise Linux 6 Server x64 Edition includes KVM
  - Red Hat Enterprise Linux 6.1 SE x64

Note: Certification is planned for these operating systems. For additional information on support, certification, and versions on network operating systems, visit

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

Compatibility

The System x3300 M4 server systems contain licensed system programs that include set configuration, set features, and test programs. 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 x3300 M4 server and to maintain compatibility with many current software programs.

To view detailed information on the Internet about IBM and non-IBM devices, adapters, software, and network operating systems supported with x3300 servers, visit

Contact your IBM representative, IBM Business Partner, or refer to the *IBM Sales Manual* for information on the compatibility of hardware and software for x3300 servers. The *Sales Manual* is updated periodically as new features and options are announced that support these servers.

Limitations

- The System x3300 M4 servers support 384 GB[6] of system memory when you add a 32 GB memory RDIMMs in each of 12 DIMM slots. All supported system memory is addressable through direct memory access (DMA). The x3300 M4 server supports 2 GB, 4 GB, 8 GB, 16 GB, and 32 GB memory synchronized with processor FSB bandwidth. DIMMs must be installed in matched pairs. Refer to the Planning information section for supported memory options.
- Mixing microprocessors of different speeds or cache size is not supported.
- Use the version of ServerGuide shipped with the system, or a later version, to load software and drivers. Earlier versions of ServerGuide may not be compatible with the server.

x3300 M4 is shipped standard with one processor which only has 6 DIMM sockets attached.

Refer to the Software requirements section for operating system limitations.

Solid-state memory cells have an intrinsic, finite number of write cycles that each cell can incur. As a result, each solid-state device has a maximum amount of write cycles to which it can be subjected, documented as TBW (Total Bytes Written). IBM is not responsible for replacement of hardware that has reached the maximum guaranteed number of write cycles. This limit may be revealed as the device failing to communicate to system generated commands or become incapable of being written to.

[6]Twelve DIMM slots that enable you to deploy up to 384 GB of DDR3 SDRAM Registered DIMM memory, with 12 slots populated with 32 GB DIMMs optional, 2 GB or 4 GB memory standard.

User group requirements

This announcement satisfies or partially satisfies requirements from one or more of the worldwide user group communities. Groups include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.

Planning information

Customer responsibilities

Customer setup

The x3300 M4 servers are designated as customer setup. Customer setup instructions are shipped with systems and options.

Bay configuration

The server contains 10 drive bays. The eight 3.5-inch hot-swap or simple-swap bays or the sixteen 2.5-inch hot-swap bays are located on the lower half of System x3300 tower models. These bays are ready for various supported hot-swap HDD drive option installation. The two bays on the top portion of tower models are designed primarily for removable media devices. One bay contains the DVD-ROM drive,

while the remaining one 5.25-inch half-high bays can support tape backup or other devices.

SAS cabling considerations

The x3300 M4 system can contain two backplanes maximum. Each 3.5-inch backplane supports four drives, and each 2.5-inch backplane support eight drives. The second 2.5-inch backplane is enabled with expander.

The DVD is SATA attached.

External SAS attachment

In the configurations where an external SAS device attachment is required, a support SAS adapter is required.

External serial attachment

To attach an external serial cable RS-232, use the serial connector at the rear of the system.

Processor upgrades

The following processor upgrades are supported:

Supported memory options

The following memory options are supported:

- 2GB (2Gb, 1Rx8, 1.35V) PC3L-10600R ECC LP RDIMM (49Y1405)
- 4GB (2Gb, 1Rx4, 1.35V) PC3L-10600R ECC LP RDIMM (49Y1406)
- 4GB (2Gb, 2Rx8, 1.35V) PC3L-10600R ECC LP RDIMM (49Y1407)
- 8GB 2Rx4 2Gbit PC3L-10600R LP RDIMM 1.35V Capable (49Y1397)
- 16GB (4Gb,2Rx4,1.35V) PC3-10600 DDR3-1333 LP RDIMM (49Y1563)
- 2GB (2Gb,1Rx8,1.35V) DDR3-1333 LP UDIMM (49Y1403)
- 32 GB (1x32Gb, 4Rx4, 1.35V) PC 3L-10600 CL9 ECC DDR3 (90Y3105) DDR3 1333 MHz LP LR-DIMM (when available)
- 16GB (2Gb, 4Rx4, 1.35V) PC3L-8500R LP RDIMM (49Y1400)
- 4GB (1x4GB, 2Rx8, 1.5V) PC3-12800 CL11 ECC DDR3 1600MHz (90Y3178) LP RDIMM
- 16GB (1x16GB, 2Rx4, 1.5V) PC3-12800 CL11 ECC DDR3 1600MHz (00D4968) LP RDIMM

Power supply requirements

These models contain either one 460-watt or one 550-watt power supply, model dependent, which is a hot-swap capable supply. When not using redundancy, one hot-swap supply has enough power to supply a fully loaded box. If redundancy is required, you should install additional power supplies to ensure sufficient power will be available. A fault light illuminates when a power supplies fails.

Optional rack installations

These models are optionally installable as rack units and are designed so they can be installed in an industry-standard 19-inch rack cabinet such as the NetBAY42 or NetBAY25. The x3300 M4 server system requires a rack mount kit for rack installation. In addition, it can also be installed in the deeper NetBAY42 ER.

If you choose not to use an IBM rack, the cabinet must meet EIA-310-D standards for mounting flanges and hole clearances with front to rear mounting of 70 - 73 cm (27.5 - 28.5 in). The rack must provide sufficient room in front of the forward EIA flange to allow for bezel attachment. The standard for 310-D suggests 49 mm (1.9 in) clearance. It must also provide adequate room at the rear of the rack,

behind the rear flange for cable management; the System x3300 M4 server requires approximately 16.6 cm (6.5 in) in this space.

The rack should include perforated front and rear doors and must not prevent the flow of cool air into or out of the rack. The weight handling capacity of the rack is 22.7 kg (50 lb). Finally, the rack must provide proper stabilization so that the rack does not become unstable when servers are pulled out of service.

Cable orders

Dual 10/100/1000 Mbps, full-duplex Ethernet PCI controllers, standard with the x3300 M4 server, are connected directly to independent RJ-45 connectors. The RJ-45 connectors provide a 10BaseT, 100Base-TX, or 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 System x3300 M4 server requires about 30 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                 Package Description                  Boxes

System x3300 M4         System Ship Group                      1

                           Contents:

                           System Unit

System x3300 M4         Country Kit Ship Group

                           Contents:

                          M/T 7382  x3300 M4 Ship Group

                          - Important Notices Flyer
                          - Warranty Flyer
                          - CD Documentation (Installation and Service Guide)
```

The system is shipped as a single package. The country kit carton is contained inside the top portion of the system unit carton.

Supplies

For users: IBM System x3300 M4 servers can be purchased through the dealers around the world.

Security, auditability, and control

Security and auditability features include:

• Power-on and remote-control password functions provide controls of who has access to the data and server setup program on the server.

It is a customer's responsibility to ensure that the server is secure to prevent sensitive data from being removed.

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

IBM Electronic Services

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM . Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

http://www.ibm.com/support/electronic

Terms and conditions

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

Warranty period

- System x3300 7382 - Three years
- Optional features - One year

Note: For configurations that support the RAID battery, the RAID battery will be warranted for one year effective on its "date of installation." All other product warranty terms for the machine remain unchanged.

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 which 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 is the same as the machine it is installed in.

Note: Solid-state memory cells have an intrinsic, finite number of write cycles that each cell can incur. As a result, each solid-state device has a maximum amount of write cycles to which it can be subjected, documented as TBW (Total Bytes Written).

IBM is not responsible for replacement of hardware that has reached the maximum guaranteed number of write cycles. This limit may be revealed as the device failing to communicate to system generated commands or become incapable of being written to.

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 specified below, On-site Service.

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:

- DDR3-1333 memory
- Hard disk drive
- Hot-swap power supply
- Optical drive
- CMOS battery
- Misc kit
- SAS cable
- Backplane signal Y cable
- Front IO module
- Simple-swap back plate
- Hot-swap SAS/SATA cage 8x2.5"
- Redundant power cage
- Power SMBUS Cable
- NVIDIA Quadro 600
- NVIDIA Quadro 2000

- Half-high SATA DVD-ROM
- Half-high SATA multi-burner
- 550 W redundant PSU
- 750 W high efficiency platinum AC power supply
- Backplane
- ServeRAID M1115 SAS/SATA Controller
- ServeRAID M5120
- ServeRAID H1110 SAS/SATA Controller
- Power converter from raptor to norton cable
- Dual port adapter
- ServeRAID M5110
- Backplane asm
- PCI-X interposer conversion riser card
- SSD
- Broadcom NetXtreme I Quad Port GbE Adapter
- Broadcom NetXtreme I Dual Port GbE Adapter
- Raptor CR2 backplane
- 460 W fixed PSU
- Emulex 10GbE Virtual Fabric Adapter III
- Fan asm
- Rear fan asm

The following parts have been designated as Tier 2 CRUs:

- Heatsink
- Planar
- CPU board
- Additional CPU Mech kit
- Intel Xeon Processor
- Redundant power kit

The following parts are designated as structural:

- Tower bezel kit
- Tower to rack kit
- Label GBM
- Chassis base
- Chassis top
- Chassis left
- Air duct
- Bezel blanks
- EMC shield kit
- SS EMC plate kit
- Filler
- Remote RAID battery holder
- Opt wheel USB
- Power cord
- Keyboards

Structural parts: Purchase and replacement of structural parts (components, such as chassis assembly, top cover, and bezel) is customer responsibility. If IBM acquires or installs a structural component at your request, you will be charged for the service.

On-site Service

This provides On-site Repair, 9 hours per day, Monday through Friday excluding holidays, NBD response. IBM or your reseller 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. 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.

International Warranty Service (IWS)

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?lndocid=GCOR-3FBJK2

For more information on IWS, refer to Services Announcement AA01-3100, dated September 28, 2001 .

Licensing

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

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.ibm.com/servers/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.

Educational allowance

None

Prices

For all local charges, contact your IBM representative.

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Financing solutions from IBM Global Financing can help you stretch your budget and affordably acquire the new product. But beyond the initial acquisition, our end-to-end approach to IT management can also help keep your technologies current, reduce costs, minimize risk, and preserve your ability to make flexible equipment decisions throughout the entire technology lifecycle.

AP distribution

Country/Region	Announce	Announce date
AP IOT		
ASEAN*	Yes	July 31, 2012

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India/South Asia**          Yes          July 31, 2012
Australia                   Yes          July 31, 2012
People's Republic of China  Yes          July 31, 2012
Hong Kong S.A.R of the PRC  Yes          July 31, 2012
Macao S.A.R of the PRC      Yes          July 31, 2012
Taiwan                      Yes          July 31, 2012
Korea                       Yes          July 31, 2012
New Zealand                 Yes          July 31, 2012
Japan IOT
Japan                       Yes          July 31, 2012

 *  Brunei Darussalam, Indonesia, Cambodia, Lao People's Democratic
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 ** Bangladesh, Bhutan, India, Sri Lanka, Maldives, Nepal, and
    Afghanistan
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