IBM System x3250 M5 server delivers advanced performance and energy efficiency for small businesses in a single-socket 1U rack form factor

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At a glance

Features of the new System x3250 M5 server include:

- 1U rack
- Choice of Intel™ processors:
  - Xeon E3-1280 v3
  - Xeon E3-1270 v3
  - Xeon E3-1240 v3
  - Xeon E3-1230 v3
  - Xeon E3-1220 v3
  - Xeon E3-1265L v3
  - Xeon E3-1230L v3
  - Xeon E3-1220L v3
  - Xeon E3-1285 v3
  - Xeon E3-1285L v3
  - Core-i3 4340
  - Core-i3 4330
  - Core-i3 4130
  - Core-i3 4330T
  - Core-i3 4130T
  - Pentium™ G3430
  - Pentium G3420
  - Pentium G3220
  - Pentium G3420T

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- Pentium G3220T
- Integrated Serial-ATA (SATA) controller
- Two PCI Express® I/O expansion slots
- Four 3.5-inch simple-swap SATA, four 3.5-inch hot-swap SAS/SATA or up to eight 2.5-inch hot-swap /simple-swap SAS/SATA (model dependent; 2.5-inch SS is CTO only)
- 300-watt fixed auto-sensing or 460-watt redundant hot-swap power supply
- System-management support
- I/O ports
  - Seven USB ports; two USB 3.0 in front, four USB 2.0 in rear, and one USB 2.0 internal
  - Integrated dual Gigabit Ethernet with RJ-45
  - One software-compatible serial port
  - One VGA port

Overview

The System x3250 M5 single-socket 1U rack server is designed for small businesses and first-time server buyers looking for a solution to improve business efficiency. The x3250 M5 delivers several innovative features in a compact 1U form factor with a competitive price. The IBM® System x3250 M5 provides next-generation performance in an innovative and compact design with flexible configuration options and built-in security and systems management capabilities.

Server-class features

- Latest Intel dual-core and quad-core Intel processors:
  - Xeon E3-1200 v3 series
  - Core i3 series
  - Pentium series
  - Optimized for EM64T to support 32-bit or 64-bit applications
- 4 GB, and 8 GB UDIMMPC3L-12800 CL11 ECC DDR3 1600 MHz LP UDIMM memory; 32 GB maximum
- Two PCI Express expansion slots:
  - One x8
  - One x8 (electrical x4) dedicated for IBM ServerRAID H1110 adapter
- Open bay models supporting 3.5-inch simple-swap SATA, 3.5-inch hot-swap SAS/SATA or 2.5-inch hot-swap SAS/SATA HDD
- Support for 80-PLUS certified 300 W fixed or 460 W redundant hot-swap power supply
- Integrated dual Gigabit Ethernet ports as standard, and two additional Gigabit Ethernet ports activated via IBM Feature on Demand (FoD)
- Integrated ServeRAID C100 for System x® that supports:
  - Integrated RAID 0 and RAID 1 standard
  - ServeRAID C100 RAID 5 upgrade via FoD

At your control

Manageability and serviceability features help diagnose problems quickly.

- Integrated Management Module II (IMM2) standard subsystems with IPMI 2.0 support, optional upgrade to web-based management and remote presence via Feature on Demand (FoD)
- IBM tools support
- Trusted Platform Module (TPM) 1.2 support

- Intelligent Platform Management Interface (IPMI) 2.0 integrated systems management processor
- Monitoring of memory, thermal, and voltage faults
- Preboot eXecution Environment (PXE) and support for Wake on LAN
- Automatic server restart (ASR) to restart server after operating system failure

At your service

Worldwide support and services with IBM systems management tools, which help improve productivity and get your server up and running quickly.

- ServerGuide[1] utilities to assist loading of many popular network operating systems
- IBM Director
- Warranty: Three-year customer replaceable unit (CRU) and on-site labor[2], limited warranty[3]; optional warranty service upgrades available

1 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. 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.

2 You may be asked certain diagnostic questions before a technician is sent.

3 For information on IBM's Statement of Limited Warranty, contact your IBM representative or reseller. Copies are available upon request.

Key prerequisites

Monitor, keyboard, and mouse.

Planned availability date

November 20, 2013:

Description

Solid-performing server subsystems

This uniprocessor entry-level 1U server delivers solid, economical performance by coupling Intel Xeon™, Core i3, or Pentium processors, high-speed PC3L-12800 CL11 ECC DDR3 1600 MHz LP UDIMM memory, and SATA storage subsystems.

The System x3250 M5 server uses high-performance chipsets to optimize throughput from the processors to memory and I/O.

Standard System x3250 M5 configurations

```
SEO/Part
Number     Processor            Cache  Memory  HDD/INT            Power

5458A2x   Pentium G3420 3.2GHz 3MB     4 GB    O/B S/S LFF SATA    300W
          1600MHz 2C (65W)
          Dual GigE,  IMM2, Integrated RAID 0,1,10
5458B2x   Xeon E3-1220 v3 3.1GHz 8MB   4 GB    O/B S/S LFF SATA    300W
          1600MHz 4C (80W)
          Dual GigE,  IMM2, Integrated RAID 0,1,10
5458C2x   Xeon E3-1230 v3 3.3GHz 8MB   4 GB  O/B H/S LFF SAS/SATA 300W
          1600MHz 4C (80W)
          Dual GigE,  IMM2, H/W RAID 0,1,10, 1E (H1110)
5458C4x   Xeon E3-1230 v3 3.3GHz 8MB   8 GB  O/B H/S SFF SAS/SATA 300W
          1600MHz 4C (80W)
          Dual GigE,  IMM2, H/W RAID 0,1,10, 1E (H1110)
5458F2x   Xeon E3-1240 v3 3.4GHz 8MB   8 GB  O/B H/S SFF SAS/SATA 460W
          1600MHz 4C (80W)
          Dual GigE,  IMM2, H/W RAID 0,1,10, 1E (H1110)
5458G2x   Xeon E3-1270 v3 3.5GHz 8MB   8 GB  O/B H/S SFF SAS/SATA 460W
          1600MHz 4C (80W)
          Dual GigE,  IMM2, H/W RAID 0,1,10 (M1115)
```

Note: Models A2x, B2x, C2x, C4x, F2x and G2x can include optional two additional NIC ports via FoD

Expansion capacity and standard features

The System x3250 M5 1U server can economically handle expansion. This model features:

- System board with four sockets that supports high-speed 4 GB, and 8 GB PC3L-12800 CL11 ECC DDR3 1600 MHz LP UDIMM
  - 4 GB memory standard
  - Up to 32 GB addressable
- Two expansion slots that support:
  - One x8 Gen3
  - One x8 (electrical x4) Gen3 dedicated for IBM ServerRAID H1110 adapter
- Four bays (3.5-inch models), five bays (2.5-inch models), or nine bays (2.5-inch models) standard
  - One accessible bay for optional 5.25-inch, ultraslim optical drive (2.5-inch models only)
  - Four internal 3.5-inch, four 2.5-inch, or eight 2.5-inch standard
- Dual full-duplex, Gigabit Ethernet PCIe controller that speeds network communications to LAN clients
- A worldwide, auto-sensing 300-watt fixed or 460-watt redundant hot-swap power supply with automatic restart that supports maximum configurations and minimizes operator intervention after a temporary power outage
- Five speed-controlled fans that cool microprocessor and I/O, plus one variable-speed power supply fan
- Integrated video controller

Function and expansion capacity

The System x3250 M5 server with a 1U, 22-inch rack-optimized package supports installation of adapters, memory, and HDD options. Functions such as SVGA video, SATA controller, and two Gigabit (10/100/1000 Mbps) Ethernet controllers are integrated on the system board as standard.

Features include:

- One PCI-e x8 Gen3, one PCI-e x8 (electrical x4) dedicated for IBM ServerRAID H1110 adapter
- 300-watt or 460-watt worldwide, voltage-sensing power supply with auto-restart that supports maximum configurations and minimizes operator intervention after a temporary power outage
- Up to five speed-controlled fans plus another one in the power supply that cool:
  - Power supply
  - Drive bays
  - Microprocessor and memory
  - I/O
- Four DIMM sockets that are capable of addressing up to 32 GB 1600 MHz system memory
- One accessible 5.25-inch, ultra slim enhanced optical drive (2.5-inch models only)
- Four internal 3.5-inch bays or up to eight 2.5-inch for HDDs
- Simple-swap 3.5-inch SATA model with controller that supports standard simple-swap 500 GB, 1 TB, 2 TB, and 3 TB HDDs
- Support for up to eight HDDs (2.5-inch models)
- Hot-swap 2.5-inch SAS/SATA model with controller that supports hot-swap 146 GB, 300 GB, 500 GB, 600 GB, 900 GB, and 1 TB HDDs
- Integrated Matrox G200 video built-in IMM with 16 MB of video memory

ServeRAID C100 RAID

ServeRAID C100:

- Provides low-cost, value RAID solutions for internal storage media in addition to SATA connectivity to an organization's storage infrastructure
- Supports SATA storage redundant configurations for server storage, thereby providing investment protection to our clients

Features and functions

ServeRAID C100 for IBM System x

- RAID levels 0, 1, and 10
- SATA support
- Up to four physical disk drives
- Up to eight virtual disks
- Support for:
  - Consistency check
  - Initialization and background initialization
  - Rebuild
  - Patrol reads
  - Hot-spare
  - S.M.A.R.T.
  - RAID volumes portability
  - Online HDD FW download

Systems management and control

System x3250 M5 servers comply with the 2000 ATX Implementation Guidelines for optimal control and manageability of your network.

Supported features include:

- Integrated Management Module with IPMI 2.0, optional upgrade to Remote Presence through FoD
- Wake on LAN supported on integrated Ethernet controllers
- Automatic server restart to help reduce downtime by restarting the server in the event of system hang
- Flash EEPROM write protection
- SMBus isolation that isolates one bus section and required system components during system power-down from other buses and components to prevent current leakage into devices without power

The System x3250 M5 server also features IBM Director -- a powerful, highly integrated systems management software solution built on industry standards and designed for ease of use. Now you can take control of your IT environment and manage physically dispersed IT assets more efficiently. It can help reduce costs through potentially:

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

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 a portfolio of server tools that integrates into the IBM Director interface and works with systems management monitoring functions contained in System x servers, such as PFA enablement for HDDs.

The IT administrator can achieve comprehensive, virtual on-site control of System x servers through the ability to remotely:

- Inventory and display detailed system and component information
- Reset or power cycle the server
- Monitor and set thresholds on server health, including:
  - Voltage
  - Temperature
- Set proactive alerts for critical server events, including:
  - Fans
  - Power supplies
- Define automated actions, such as:
  - Send email to an administrator
  - Execute a command or program
  - Send an error message to the IBM Director console
- Monitor and graph the usage of server resources, such as:
  - Memory
  - Processor
  - HDDs
- Identify potential performance bottlenecks and react to prevent downtime
- Monitor, manage, and configure RAID subsystems, often without taking them offline

IBM Director integrates 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 Unicenter TNG Framework

- Microsoft SMS
- Intel LANDesk Management Suite

World-class support tools and programs

The System x3250 M5 server includes tools and programs that help you get your server running, and keep it running smoothly. IBM can help your company maintain ownership of technology leadership servers.

- The ServerProven® [4] 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 System x3250 M5 server with various adapters and devices.

[4] 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 under warranty solely by third parties, including those designated as ServerProven or ClusterProven.

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Product positioning

The System x3250 M5 server is positioned as a System x entry-level 1U rack server and is a confident choice for small businesses because it is built to last, easy to implement, and affordable.

The System x3250 M5 server combines server-class security and reliability, new technologies, and proven compatibility into an attractively priced, easy-to-implement entry server, supported by IBM sales and service. This server delivers solid performance to support typical general-purpose network, email, or web-serving applications in small businesses. Software-ready and with intuitive industry-standard management capabilities, the x3250 M5 server is ideal for transitioning business applications off your PC.

Product number

The following is a newly announced feature on the specified models of the IBM xSeries 2583 machine type:

```
Description                                  MT    Model   Feature

Intel Xeon E3-1220L v2, 2.3GHz 3M cache/     2583  AC1     A2V2
 1600 DDR3 2C (17W)                                MC1
```

The following are newly announced features on the specified models of the IBM xSeries 5458 machine type:

```
Description                                  MT    Model   Feature

5458-AC1                                     5458  AC1
5458-MC1                                     5458  MC1


Enhanced Package                             5458  AC1     A51D
                                                   MC1
Elite Package                                5458  AC1     A51E
                                                   MC1
Enhanced Package                             5458  AC1     A51G
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				MC1
Essential Package	5458	AC1	A51C	
				MC1
Essential Package	5458	AC1	A51F	
				MC1
Elite Package	5458	AC1	A51H	
				MC1
QLogic 10Gb SFP+ SR Optical Transceiver	5458	AC1	0064	
				MC1
Brocade 10Gb SFP+ SR Optical Transceiver	5458	AC1	0069	
				MC1
1m LC-LC Fiber Cable	5458	AC1	3703	
				MC1
5m LC-LC Fiber Cable	5458	AC1	3704	
				MC1
25m LC-LC Fiber Cable	5458	AC1	3705	
				MC1
EMEA Long Leadtime Configurations	5458	AC1	1763	
				MC1
Hungary CHW plant 9SH	5458	AC1	1764	
				MC1
Guad CHW plant 9KQ	5458	AC1	1765	
				MC1
ISTC CHW 9K2	5458	AC1	1766	
				MC1
RTP CHW 9NR	5458	AC1	1767	
				MC1
Offload Manufacturing to Guadalajara HVEC	5458	AC1	1768	
				MC1
Offload Manufacturing to RTP HVEC	5458	AC1	1769	
				MC1
Offload Manufacturing to ISTC	5458	AC1	1770	
				MC1
Routing for AP Foxconn	5458	AC1	1771	
				MC1
Capacity Scheduling Service	5458	AC1	1772	
				MC1
Custom SLA Scheduling Service	5458	AC1	1796	
				MC1
Custom Asset Tagging - Standard	5458	AC1	2200	
				MC1
Custom Asset Tagging - Enhanced	5458	AC1	2201	
				MC1
Custom Image Load - Server	5458	AC1	2204	
				MC1
Custom Media Shipgroup	5458	AC1	2206	
				MC1
Request for Global Trade Number (UPC or EAN)	5458	AC1	2207	
				MC1
Custom Software/Firmware Setting - Standard	5458	AC1	2208	
				MC1
Custom Software/Firmware Setting - Enhanced	5458	AC1	2209	
				MC1
Custom RAID Configuration	5458	AC1	2212	
				MC1
Custom Unit Carton Label	5458	AC1	2220	
				MC1
Custom Palletization	5458	AC1	2221	
				MC1
Request for a new Vendor Logo Hardware	5458	AC1	2247	
				MC1
Request for a Classic RPQ	5458	AC1	2248	
				MC1
Request for an existing Public RPQ	5458	AC1	2249	
				MC1
RAID Configuration	5458	AC1	2302	
				MC1
Rack Installation of 1U Component	5458	AC1	2305	
				MC1
Optical Blank Filler	5458	AC1	2496	
				MC1
Enable selection of Solid State Drives for Secondary Array	5458	AC1	2498	
				MC1

Enable selection of Solid State Drives for Primary Array	5458	AC1 MC1	2499
PRO/1000 PF Server Adapter	5458	AC1 MC1	2975
Rack 01	5458	AC1 MC1	3101
Rack 02	5458	AC1 MC1	3102
Rack 03	5458	AC1 MC1	3103
Rack 04	5458	AC1 MC1	3104
Rack 05	5458	AC1 MC1	3105
Rack 06	5458	AC1 MC1	3106
Rack 07	5458	AC1 MC1	3107
Rack 08	5458	AC1 MC1	3108
Rack 09	5458	AC1 MC1	3109
Rack 10	5458	AC1 MC1	3110
Rack 11	5458	AC1 MC1	3111
Rack 12	5458	AC1 MC1	3112
Rack 13	5458	AC1 MC1	3113
Rack 14	5458	AC1 MC1	3114
Rack 15	5458	AC1 MC1	3115
Rack 16	5458	AC1 MC1	3116
Rack 17	5458	AC1 MC1	3117
Rack 18	5458	AC1 MC1	3118
Rack 19	5458	AC1 MC1	3119
Rack 20	5458	AC1 MC1	3120
Rack 21	5458	AC1 MC1	3121
Rack 22	5458	AC1 MC1	3122
Rack 23	5458	AC1 MC1	3123
Rack 24	5458	AC1 MC1	3124
Rack 25	5458	AC1 MC1	3125
Rack 26	5458	AC1 MC1	3126
Rack 27	5458	AC1 MC1	3127
Rack 28	5458	AC1 MC1	3128
Rack 29	5458	AC1 MC1	3129
Rack 30	5458	AC1 MC1	3130
Rack 31	5458	AC1 MC1	3131
Rack 32	5458	AC1 MC1	3132
Rack 33	5458	AC1 MC1	3133
Rack 34	5458	AC1 MC1	3134
Rack 35	5458	AC1	3135

		MC1	
Rack 36	5458	AC1	3136
		MC1	
Rack 37	5458	AC1	3137
		MC1	
Rack 38	5458	AC1	3138
		MC1	
Rack 39	5458	AC1	3139
		MC1	
Rack 40	5458	AC1	3140
		MC1	
Rack 41	5458	AC1	3141
		MC1	
Rack 42	5458	AC1	3142
		MC1	
Rack 43	5458	AC1	3143
		MC1	
Rack 44	5458	AC1	3144
		MC1	
Rack 45	5458	AC1	3145
		MC1	
Rack 46	5458	AC1	3146
		MC1	
Rack 47	5458	AC1	3147
		MC1	
Rack 48	5458	AC1	3148
		MC1	
Rack 49	5458	AC1	3149
		MC1	
Rack 50	5458	AC1	3150
		MC1	
Rack 51	5458	AC1	3151
		MC1	
Rack 52	5458	AC1	3152
		MC1	
Rack 53	5458	AC1	3153
		MC1	
Rack 54	5458	AC1	3154
		MC1	
Rack 55	5458	AC1	3155
		MC1	
Rack 56	5458	AC1	3156
		MC1	
Rack 57	5458	AC1	3157
		MC1	
Rack 58	5458	AC1	3158
		MC1	
Rack 59	5458	AC1	3159
		MC1	
Rack 60	5458	AC1	3160
		MC1	
Rack 61	5458	AC1	3161
		MC1	
Rack 62	5458	AC1	3162
		MC1	
Rack 63	5458	AC1	3163
		MC1	
Rack 64	5458	AC1	3164
		MC1	
Rack location U01	5458	AC1	3201
		MC1	
Rack location U02	5458	AC1	3202
		MC1	
Rack location U03	5458	AC1	3203
		MC1	
Rack location U04	5458	AC1	3204
		MC1	
Rack location U05	5458	AC1	3205
		MC1	
Rack location U06	5458	AC1	3206
		MC1	
Rack location U07	5458	AC1	3207
		MC1	
Rack location U08	5458	AC1	3208

		MC1	
Rack location U09	5458	AC1	3209
		MC1	
Rack location U10	5458	AC1	3210
		MC1	
Rack location U11	5458	AC1	3211
		MC1	
Rack location U12	5458	AC1	3212
		MC1	
Rack location U13	5458	AC1	3213
		MC1	
Rack location U14	5458	AC1	3214
		MC1	
Rack location U15	5458	AC1	3215
		MC1	
Rack location U16	5458	AC1	3216
		MC1	
Rack location U17	5458	AC1	3217
		MC1	
Rack location U18	5458	AC1	3218
		MC1	
Rack location U19	5458	AC1	3219
		MC1	
Rack location U20	5458	AC1	3220
		MC1	
Rack location U21	5458	AC1	3221
		MC1	
Rack location U22	5458	AC1	3222
		MC1	
Rack location U23	5458	AC1	3223
		MC1	
Rack location U24	5458	AC1	3224
		MC1	
Rack location U25	5458	AC1	3225
		MC1	
Rack location U26	5458	AC1	3226
		MC1	
Rack location U27	5458	AC1	3227
		MC1	
Rack location U28	5458	AC1	3228
		MC1	
Rack location U29	5458	AC1	3229
		MC1	
Rack location U30	5458	AC1	3230
		MC1	
Rack location U31	5458	AC1	3231
		MC1	
Rack location U32	5458	AC1	3232
		MC1	
Rack location U33	5458	AC1	3233
		MC1	
Rack location U34	5458	AC1	3234
		MC1	
Rack location U35	5458	AC1	3235
		MC1	
Rack location U36	5458	AC1	3236
		MC1	
Rack location U37	5458	AC1	3237
		MC1	
Rack location U38	5458	AC1	3238
		MC1	
Rack location U39	5458	AC1	3239
		MC1	
Rack location U40	5458	AC1	3240
		MC1	
Rack location U41	5458	AC1	3241
		MC1	
Rack location U42	5458	AC1	3242
		MC1	
Rack location U43	5458	AC1	3243
		MC1	
Rack location U44	5458	AC1	3244
		MC1	
Rack location U45	5458	AC1	3245

Description			
		MC1	
Rack location U46	5458	AC1	3246
		MC1	
Rack location U47	5458	AC1	3247
		MC1	
QLogic 8Gb FC Single-port HBA for IBM System x	5458	AC1	3578
		MC1	
QLogic 8Gb FC Dual-port HBA for IBM System x	5458	AC1	3579
		MC1	
Emulex 8Gb FC Single-port HBA for IBM System x	5458	AC1	3580
		MC1	
Emulex 8Gb FC Dual-port HBA for IBM System x	5458	AC1	3581
		MC1	
Brocade 8Gb FC Single-port HBA for IBM System x	5458	AC1	3589
		MC1	
Brocade 8Gb FC Dual-port HBA for IBM System x	5458	AC1	3591
		MC1	
1m LC-LC Fiber Cable (networking)	5458	AC1	3700
		MC1	
5m LC-LC Fiber Cable (networking)	5458	AC1	3701
		MC1	
25m LC-LC Fiber Cable (networking)	5458	AC1	3702
		MC1	
IBM 3M SAS Cable	5458	AC1	3707
		MC1	
IBM 1M SAS Cable	5458	AC1	3708
		MC1	
IBM USB Conversion Option Pack	5458	AC1	3756
		MC1	
IBM Single Cable USB Conversion Option (UCO)	5458	AC1	3757
		MC1	
0.6m Yellow Cat5e Cable	5458	AC1	3791
		MC1	
1.5m Yellow Cat5e Cable	5458	AC1	3792
		MC1	
3m Yellow Cat5e Cable	5458	AC1	3793
		MC1	
10m Yellow Cat5e Cable	5458	AC1	3794
		MC1	
25m Yellow Cat5e Cable	5458	AC1	3795
		MC1	
0.6m Green Cat5e Cable	5458	AC1	3796
		MC1	
1.5m Green Cat5e Cable	5458	AC1	3797
		MC1	
3m Green Cat5e Cable	5458	AC1	3798
		MC1	
10m Green Cat5e Cable	5458	AC1	3799
		MC1	
25m Green Cat5e Cable	5458	AC1	3800
		MC1	
0.6m Blue Cat5e Cable	5458	AC1	3801
		MC1	
1.5m Blue Cat5e Cable	5458	AC1	3802
		MC1	
3m Blue Cat5e Cable	5458	AC1	3803
		MC1	
10m Blue Cat5e Cable	5458	AC1	3804
		MC1	
25m Blue Cat5e Cable	5458	AC1	3805
		MC1	
Power Supply Blank Filler	5458	AC1	4042
		MC1	
2.5" HDD Filler Bezel	5458	AC1	4069
		MC1	
IBM UltraSlim Enhanced SATA DVD-ROM	5458	AC1	4161
		MC1	
IBM UltraSlim Enhanced SATA Multi-Burner	5458	AC1	4163
		MC1	
IBM Serial Conversion Option (SCO)	5458	AC1	5340
		MC1	
IBM Virtual Media Conversion Option Gen2 (VCO2)	5458	AC1	5341
		MC1	
IBM 500GB 7200 6Gbps NL SAS 2.5" SFF Slim-HS HDD	5458	AC1	5409

		MC1	
Intel Ethernet Dual Port Server Adapter I340-T2 for IBM System x	5458	AC1 MC1	5767
Intel Ethernet Quad Port Server Adapter I340-T4 for IBM System x	5458	AC1 MC1	5768
Select Storage devices - no IBM-configured RAID required	5458	AC1 MC1	5977
Select Storage devices - IBM-configured RAID	5458	AC1 MC1	5978
SOFS Solution Code MFG Instruction	5458	AC1 MC1	6124
SAP-BWA Solution Code MFG Instruction	5458	AC1 MC1	6125
InfoSphere-BWA Solution Code MFG Instruction	5458	AC1 MC1	6126
GMAS Solution Code MFG Instruction	5458	AC1 MC1	6127
IBW-SSD Solution Code MFG Instruction	5458	AC1 MC1	6128
Cloudburst Solution Code MFG Instruction	5458	AC1 MC1	6129
SoNAS Solution Code MFG Instruction	5458	AC1 MC1	6130
1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	5458	AC1 MC1	6201
2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable	5458	AC1 MC1	6204
2.8m, 10A/230V, C13 to CEE7-VII (Europe)	5458	AC1 MC1	6212
Line cord - 2.8m, 10A/250V, C13 to DK2-5a (Denmark)	5458	AC1 MC1	6213
Line cord - 2.8m, 10A/250V, C13 to SABS 164 (S Africa)	5458	AC1 MC1	6214
Line cord - 2.8m, 10A/250V, C13 to BS 1363/A (UK)	5458	AC1 MC1	6215
Line cord - 2.8m, 10A/250V, C13 to SEV 1011-S24507 (Swiss)	5458	AC1 MC1	6216
Line cord - 2.8m, 220-240V, C13 to CEI 23-16 (Italy/Chile)	5458	AC1 MC1	6217
Line cord - 2.8m, 10A/250V, C13 to SI 32 (Israel)	5458	AC1 MC1	6218
4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	5458	AC1 MC1	6263
2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	5458	AC1 MC1	6311
Rack power cable - 2.0m, 125-250V, C13 to IEC 320-C14 (WW)	5458	AC1 MC1	6316
Line cord - 4.3M Europe 10A/250V C13 - (2P+Gnd)	5458	AC1 MC1	6374

2.8m, 10A/230V, C13 to IEC 309 P+N+G (Den/Sws)	5458	AC1 MC1	6377
Primary Array 2 HDDs	5458	AC1 MC1	7008
Primary Array 3 HDDs	5458	AC1 MC1	7009
Primary Array 4 HDDs	5458	AC1 MC1	7010
Primary Array 5 HDDs	5458	AC1 MC1	7011
Primary Array 6 HDDs	5458	AC1 MC1	7012
Primary Array 7 HDDs	5458	AC1 MC1	7013
Primary Array 8 HDDs	5458	AC1 MC1	7014
Secondary Array 2 HDDs	5458	AC1 MC1	7015
Secondary Array 3 HDDs	5458	AC1 MC1	7016
Secondary Array 4 HDDs	5458	AC1 MC1	7017
Secondary Array 5 HDDs	5458	AC1 MC1	7057
Secondary Array 6 HDDs	5458	AC1 MC1	7058
2.5" GEN II DASD SS Blank Filler	5458	AC1 MC1	7569
China Warranty	5458	AC1 MC1	7599
Grouped Product	5458	AC1 MC1	7830
Customer Solution Center Services	5458	AC1 MC1	7831
e1350 Special Bid Solution Component	5458	AC1 MC1	7929
No HDD Selected	5458	AC1 MC1	8026
Consolidate Shipment	5458	AC1 MC1	8031
e1350 Solution Component	5458	AC1 MC1	8034
Compute Node	5458	AC1 MC1	8036
Management Node	5458	AC1 MC1	8037
Storage Node	5458	AC1 MC1	8038
TAA Compliant Order	5458	AC1 MC1	8067
General Racking Solution	5458	AC1 MC1	8072
No SATA HDD Selected	5458	AC1 MC1	8080
No 2.5" SAS HDD Selected	5458	AC1 MC1	8081
No 3.5" SAS HDD Selected	5458	AC1 MC1	8082
No Publications Selected	5458	AC1 MC1	8086
Integrated SATA Single Mirroring - 2 identical SS HDDs required	5458	AC1 MC1	8947
Integrated SATA Double Mirroring - 2 pairs identical SS HDD required	5458	AC1 MC1	8948
Integrate in manufacturing	5458	AC1 MC1	8971
Ship Uninstalled (Safety)	5458	AC1 MC1	8972
Storage Subsystem ID 01	5458	AC1 MC1	9170
Storage Subsystem ID 02	5458	AC1	9171

Description			
		MC1	
Storage Subsystem ID 03	5458	AC1	9172
		MC1	
Storage Subsystem ID 04	5458	AC1	9173
		MC1	
Storage Subsystem ID 05	5458	AC1	9174
		MC1	
Storage Subsystem ID 06	5458	AC1	9175
		MC1	
Storage Subsystem ID 07	5458	AC1	9176
		MC1	
Storage Subsystem ID 08	5458	AC1	9177
		MC1	
Storage Subsystem ID 09	5458	AC1	9178
		MC1	
Storage Subsystem ID 10	5458	AC1	9179
		MC1	
Storage Subsystem ID 11	5458	AC1	9180
		MC1	
Storage Subsystem ID 12	5458	AC1	9181
		MC1	
Storage Subsystem ID 13	5458	AC1	9182
		MC1	
Storage Subsystem ID 14	5458	AC1	9183
		MC1	
Storage Subsystem ID 15	5458	AC1	9184
		MC1	
Storage Subsystem ID 16	5458	AC1	9185
		MC1	
Storage Subsystem ID 17	5458	AC1	9186
		MC1	
Storage Subsystem ID 18	5458	AC1	9187
		MC1	
Storage Subsystem ID 19	5458	AC1	9188
		MC1	
Storage Subsystem ID 20	5458	AC1	9189
		MC1	
Preload Specify	5458	AC1	9200
		MC1	
Windows Specify	5458	MC1	9201
Red Hat Specify	5458	AC1	9202
SuSE Specify	5458	AC1	9203
Drop-in-the-Box Specify	5458	AC1	9205
		MC1	
No Preload Specify	5458	AC1	9206
		MC1	
Preload by Hardware Feature Specify	5458	AC1	9220
		MC1	
Software Application (Not Preinstalled) Specify	5458	AC1	A0UF
		MC1	
Riser Asm PCI-E FH	5458	AC1	A0W0
		MC1	
Advanced Grouping	5458	AC1	A102
		MC1	
System x Cluster Upgrade	5458	AC1	A103
		MC1	
Integrated SATA Striping - 1-8 identical SS HDDs required	5458	AC1	A15A
		MC1	
Integrated SATA Double Striping - 2 pairs identical SS HDD required	5458	AC1	A15B
		MC1	
Integrated SATA Mirroring & Striping-2 pair identical SS HD required	5458	AC1	A15C
		MC1	
Integrated SATA Striping with parity - 3-8 identical SS HDD required	5458	AC1	A15D
		MC1	
ServeRAID C100 for System x	5458	AC1	A17T
		MC1	
Broadcom NetXtreme II Dual Port 10GBaseT Adapter for IBM System x	5458	AC1	A18Y
		MC1	
IBM 1TB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	5458	AC1	A1AV

		MC1	
IBM 3.5" Hot Swap Filler	5458	AC1	A1FD
		MC1	
IBM 3.5" Simple Swap Filler	5458	AC1	A1FE
		MC1	
ServeRAID M5100 Series 512MB Cache/RAID 5 Upgrade for IBM System x	5458	AC1	A1J3
		MC1	
ServeRAID M5100 Series 512MB Flash/RAID 5 Upgrade for IBM System x	5458	AC1	A1J4
		MC1	
Mellanox ConnectX-2 Dual Port 10GbE Adapter for IBM System x	5458	AC1	A1M4
		MC1	
IBM Integrated Management Module Advanced Upgrade	5458	AC1	A1ML
		MC1	
ServeRAID M1115 SAS/SATA Controller for IBM System x	5458	AC1	A1MZ
		MC1	
IBM 250GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	5458	AC1	A1NX
		MC1	
IBM 250GB 7.2K 6Gbps NL SATA 2.5" SFF SS HDD	5458	AC1	A1NY
		MC1	
IBM 500GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	5458	AC1	A1NZ
		MC1	
IBM 500GB 7.2K 6Gbps NL SATA 2.5" SFF SS HDD	5458	AC1	A1P0
		MC1	
IBM 1TB 7.2K 6Gbps NL SATA 2.5" SFF SS HDD	5458	AC1	A1P2
		MC1	
IBM 1TB 7.2K 6Gbps NL SAS 2.5" SFF HS HDD	5458	AC1	A1P3
		MC1	
ServeRAID M5120 SAS/SATA Controller for IBM System x	5458	AC1	A1WX
		MC1	
ServeRAID M5100 Series 1GB Flash/RAID 5 Upgrade for IBM System x	5458	AC1	A1WY
		MC1	
ServeRAID M1100 Series Zero Cache/RAID 5 Upgrade for IBM System x	5458	AC1	A1X1
		MC1	
ServeRAID M5100 Series Zero Cache/RAID 5 Upgrade for IBM System x	5458	AC1	A1X2
		MC1	
ServeRAID M5100 Series RAID 6 Upgrade for IBM System x	5458	AC1	A1X3
		MC1	
3U bracket for low profile-internal-storage adapters	5458	AC1	A1X6
		MC1	
ServeRAID M5100 Series 425mm Flash Power Module Cable	5458	AC1	A1X9
		MC1	
ServeRAID H1110 SAS/SATA Controller for IBM System x	5458	AC1	A1XL
		MC1	
2U bracket for low profile-internal-storage adapters	5458	AC1	A1XM
		MC1	
ServeRAID M5100 Series Battery Kit for IBM System x	5458	AC1	A22E
		MC1	
500MM Cable for ServRAID M5100 Series Battery Kit	5458	AC1	A22F
		MC1	
IBM 1TB 7.2K 6Gbps NL SATA 3.5" G2HS HDD	5458	AC1	A22P
		MC1	
IBM 3TB 7.2K 6Gbps NL SATA 3.5" G2HS HDD	5458	AC1	A22S
		MC1	
IBM 2TB 7.2K 6Gbps NL SATA 3.5" G2HS HDD	5458	AC1	A22T
		MC1	
IBM 500GB 7.2K 6Gbps NL SATA 3.5" G2SS HDD	5458	AC1	A22U
		MC1	
IBM 3TB 7.2K 6Gbps NL SATA 3.5" G2SS HDD	5458	AC1	A22V
		MC1	
IBM 2TB 7.2K 6Gbps NL SATA 3.5" G2SS HDD	5458	AC1	A22W

		MC1	
IBM 1TB 7.2K 6Gbps NL SATA 3.5" G2SS HDD	5458	AC1	A22X
		MC1	
IBM 500GB 7.2K 6Gbps NL SATA 3.5" G2HS HDD	5458	AC1	A22Y
		MC1	
IBM 900GB 10K 6Gbps SAS 2.5" SFF SS HDD	5458	AC1	A24H
		MC1	
IBM 300GB 15K 6Gbps SAS 2.5" G2SS HDD	5458	AC1	A24J
		MC1	
IBM 900GB 10K 6Gbps SAS 2.5" SFF HS HDD	5458	AC1	A282
		MC1	
IBM 300GB 15K 6Gbps SAS 2.5" G2HS HDD	5458	AC1	A283
		MC1	
Label KC	5458	AC1	A2CM
		MC1	
IBM 460W Redundant Power Supply Unit with 80+ certified	5458	AC1	A2E8
		MC1	
Intel x520 Dual Port 10GbE SFP+ Adapter for IBM System x	5458	AC1	A2EC
		MC1	
Intel X540-T2 Dual Port 10GBaseT Adapter for IBM System x	5458	AC1	A2ED
		MC1	
Primary Array - RAID 0	5458	AC1	A2K6
		MC1	
Primary Array - RAID 1	5458	AC1	A2K7
		MC1	
Primary Array - RAID 1E	5458	AC1	A2K8
		MC1	
Primary Array - RAID 5	5458	AC1	A2K9
		MC1	
Primary Array - RAID 6	5458	AC1	A2KA
		MC1	
Primary Array - RAID 10	5458	AC1	A2KB
		MC1	
Secondary Array - RAID 0	5458	AC1	A2KF
		MC1	
Secondary Array - RAID 1	5458	AC1	A2KG
		MC1	
Secondary Array - RAID 1E	5458	AC1	A2KH
		MC1	
Secondary Array - RAID 5	5458	AC1	A2KJ
		MC1	
Secondary Array - RAID 6	5458	AC1	A2KK
		MC1	
Secondary Array - RAID 10	5458	AC1	A2KL
		MC1	
ServeRAID M5100 Series SSD Performance Key for IBM System x	5458	AC1	A2MC
		MC1	
ServeRAID M5100 Series SSD Caching Enabler for IBM System x	5458	AC1	A2MD
		MC1	
IBM 256GB SATA 2.5" MLC HS Enterprise Value SSD	5458	AC1	A2U3
		MC1	
IBM 128GB SATA 2.5" MLC HS Enterprise Value SSD	5458	AC1	A2U4
		MC1	
IBM 128GB SATA 2.5" MLC SS Enterprise Value SSD	5458	AC1	A2UB
		MC1	
IBM 256GB SATA 2.5" MLC SS Enterprise Value SSD	5458	AC1	A2UC
		MC1	
Broadcom NetXtreme I Dual Port GbE Adapter for IBM System x	5458	AC1	A2V4
		MC1	
Emulex 16Gb FC Single-port HBA for IBM System x	5458	AC1	A2W5
		MC1	
Emulex 16Gb FC Dual-port HBA for IBM System x	5458	AC1	A2W6
		MC1	
No Power Cord Validation	5458	AC1	A2X0
		MC1	
IBM 146GB 15K 6Gbps SAS 2.5" SFF G2HS HDD	5458	AC1	A2XB
		MC1	
IBM 300GB 10K 6Gbps SAS 2.5" SFF G2HS HDD	5458	AC1	A2XC

		MC1	
IBM 600GB 10K 6Gbps SAS 2.5" SFF G2HS HDD	5458	AC1	A2XD
		MC1	
IBM 500GB 7.2K 6Gbps NL SAS 2.5" SFF G2HS HDD	5458	AC1	A2XE
		MC1	
Brocade 16Gb FC Single-port HBA for IBM System x	5458	AC1	A2XU
		MC1	
Brocade 16Gb FC Dual-port HBA for IBM System x	5458	AC1	A2XV
		MC1	
IBM 146GB 15K 6Gbps SAS 2.5" SFF G2SS HDD	5458	AC1	A2ZG
		MC1	
IBM 300GB 10K 6Gbps SAS 2.5" SFF G2SS HDD	5458	AC1	A2ZH
		MC1	
IBM 600GB 10K 6Gbps SAS 2.5" SFF G2SS HDD	5458	AC1	A2ZJ
		MC1	
ServeRAID M5110 SAS/SATA Controller for IBM System x	5458	AC1	A347
		MC1	
IBM 64GB SATA 2.5" MLC HS Enterprise Value SSD	5458	AC1	A3AS
		MC1	
IBM 64GB SATA 2.5" MLC SS Enterprise Value SSD	5458	AC1	A3AT
		MC1	
IBM 300GB 15K 6Gbps SAS 3.5" G2HS HDD	5458	AC1	A3DV
		MC1	
IBM 450GB 15K 6Gbps SAS 3.5" G2HS HDD	5458	AC1	A3DW
		MC1	
IBM 600GB 15K 6Gbps SAS 3.5" G2HS HDD	5458	AC1	A3DX
		MC1	
IBM 600GB 10K 6Gbps SAS 2.5" SFF G2HS SED	5458	AC1	A3EF
		MC1	
IBM 900GB 10K 6Gbps SAS 2.5" SFF G2HS SED	5458	AC1	A3EG
		MC1	
QLogic 16Gb FC Single-port HBA for IBM System x	5458	AC1	A3KW
		MC1	
QLogic 16Gb FC Dual-port HBA for IBM System x	5458	AC1	A3KX
		MC1	
Qlogic 8200 Dual Port 10GbE SFP+ VFA for IBM System x	5458	AC1	A3MR
		MC1	
Qlogic 8200 VFA FCoE/iSCSI License for IBM System x (FoD)	5458	AC1	A3MT
		MC1	
N2125 SAS/SATA HBA for IBM System x	5458	AC1	A3MV
		MC1	
N2115 SAS/SATA HBA for IBM System x	5458	AC1	A3MW
		MC1	
System Documentation and Software-US English	5458	AC1	A3P8
		MC1	
System Documentation and Software-UK English	5458	AC1	A3P9
		MC1	
System Documentation and Software-French	5458	AC1	A3PA
		MC1	
System Documentation and Software-German	5458	AC1	A3PB
		MC1	
System Documentation and Software-Spanish	5458	AC1	A3PC
		MC1	
System Documentation and Software-Italian	5458	AC1	A3PD
		MC1	
Mellanox ConnectX-3 10 GbE Adapter for IBM System x	5458	AC1	A3PM
		MC1	
4GB (1x4GB, 2Rx8, 1.35V) PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM	5458	AC1	A3QB
		MC1	
8GB (1x8GB, 2Rx8, 1.35V) PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM	5458	AC1	A3QC
		MC1	
Base SFF Hardware with 80Plus certified RDN® Power			

Supply (460W)	5458	AC1 MC1	A3U4
Base SFF Hardware with 80 Plus cetified Fixed PSU (300W)	5458	AC1 MC1	A3U5
Base LFF Hardware with 80 Plus certified Fixed PSU (300W)	5458	AC1 MC1	A3U6
Intel Xeon E3-1280 v3 3.6GHz 8MB cache 1600MHz 4C (82W)	5458	AC1 MC1	A3U7
Intel Xeon E3-1270 v3 3.5GHz 8MB cache 1600MHz 4C (80W)	5458	AC1 MC1	A3U8
Intel Xeon E3-1240 v3 3.4GHz 8MB cache 1600MHz 4C (80W)	5458	AC1 MC1	A3U9
Intel Xeon E3-1230 v3 3.3 GHz 8MB cache 1600MHz 4C (80W)	5458	AC1 MC1	A3UA
Intel Xeon E3-1220 v3 3.1GHz 8MB cache 1600MHz 4C (80W)	5458	AC1 MC1	A3UB
Intel Xeon E3-1285 v3 3.6GHz 8MB cache 1600MHz 4C (84W)	5458	AC1 MC1	A3UC
Intel Xeon E3-1285L v3 3.1GHz 8MB cache 1600MHz 4C (65W)	5458	AC1 MC1	A3UD
x3250 M5 SS LFF SATA DRIVE KIT	5458	AC1 MC1	A3UE
x3250 M5 SS LFF SAS/SATA RAID KIT	5458	AC1 MC1	A3UF
x3250 M5 HS LFF SAS/SATA RAID KIT	5458	AC1 MC1	A3UG
x3250 M5 SS SFF SATA DROVE KIT	5458	AC1 MC1	A3UH
x3250 M5 SS SFF SAS/SATA RAID KIT L-type	5458	AC1 MC1	A3UJ
x3250 M5 SS SFF SAS/SATA RAID KIT Vertical for 0-3 HDD	5458	AC1 MC1	A3UK
x3250 M5 SS SFF SAS/SATA RAID KIT Vertical for 4-7 HDD	5458	AC1 MC1	A3UL
x3250 M5 SS LFF SAS/SATA RAID KIT Vertical type for 4 HDD	5458	AC1 MC1	A3UM
x3250 M5 HS LFF SAS/SATA RAID KIT Vertical type for 4 HDD	5458	AC1 MC1	A3UN
x3250 M5 HS SFF SAS/SATA RAID KIT for 4-7HDD except for H1110 series	5458	AC1 MC1	A3UP
x3250 M5 HS SFF SAS/SATA RAID KIT for H1110	5458	AC1 MC1	A3UQ
RACK MOUNT KIT	5458	AC1 MC1	A3UR
x3250 M5 System Labels GBM	5458	AC1 MC1	A3US
x3250 M5 LFF HS Bezel	5458	AC1 MC1	A3UU
x3250 M5 LFF SS Bezel	5458	AC1 MC1	A3UV
x3250 M5 SFF HS Bezel with 8HDD	5458	AC1 MC1	A3UW
x3250 M5 SFF SS Bezel with 8 HDD	5458	AC1 MC1	A3UX
x3250 M5 SFF HS Bezel with 4 HDD	5458	AC1 MC1	A3UY
x3250 M5 SFF SS Bezel with 4 HDD	5458	AC1 MC1	A3UZ
x3250 M5 BKpn conf cable - 4 HDD SKU	5458	AC1 MC1	A3V0

Description	MT	Model	Feature
x3250 M5 Bkpn conf cable - 8 HDD	5458	AC1 MC1	A3V1
Power cable -fixed PSU or HS RDN PSU for 4xHot Swap HDD	5458	AC1 MC1	A3V2
x3250 M5 PKG	5458	AC1 MC1	A3V3
x3250 M5 Planar	5458	AC1 MC1	A3V4
3U Bracket for Mellanox ConnectX-3 10 GbE Adapter	5458	AC1 MC1	A3WG
x3250M5 HS SFF SAS/SATA RAID KIT for 0-3 HDD except for H1110 series	5458	AC1 MC1	A46M
Intel Xeon E3-1265L v3 2.5GHz 8MB cache 1600MHz 4C (45W)	5458	AC1 MC1	A4GK
Intel Xeon E3-1230L v3 1.8GHz 8MB cache 1600MHz 4C (25W)	5458	AC1 MC1	A4GL
Intel Xeon E3-1220L v3 1.1GHz 4MB cache 1600MHz 2C (13W)	5458	AC1 MC1	A4K6
Intel Pentium G3420 3.2GHz 3MB 1600MHz 2C (54W)	5458	AC1 MC1	A4K7
IMM2 Standard	5458	AC1 MC1	A4K8
Intel Pentium G3430 3.3 GHz 3MB 1600MHz 2C (54W)	5458	AC1 MC1	A4QN
Intel Pentium G3220 3.0 GHz 3MB 1333MHz 2C (54W)	5458	AC1 MC1	A4QP
Intel Pentium G3420T 2.7GHz 3MB 1600MHz 2C (35W)	5458	AC1 MC1	A4QQ
Intel Pentium G3220T 2.6GHz 3MB 1333MHz 2C (35W)	5458	AC1 MC1	A4QR
Intel Core-i3 4340 3.6GHz 4MB 1600MHz 2C (54W)	5458	AC1 MC1	A4QS
Intel Core-i3 4330 3.5GHz 4MB 1600MHz 2C (54W)	5458	AC1 MC1	A4QT
Intel Core-i3 4130 3.4GHz 3MB 1600MHz 2C (54W)	5458	AC1 MC1	A4QU
Intel Core-i3 4330T 3.0GHz 4MB 1600MHz 2C (35W)	5458	AC1 MC1	A4QV
Intel Core-i3 4130T 2.9GHz 3MB 1600MH 2C (35W)	5458	AC1 MC1	A4QW

The following are features already announced for the 5458 machine type:

Description	MT	Model	Feature
5458-AC1	5458	AC1	
5458-MC1	5458	MC1	
ServeRAID C100 Series RAID 5 Upgrade for IBM System x-FoD	5458	AC1 MC1	A17U
Operating Temperature Enhancement Kit	5458	AC1 MC1	A3SD
Broadcom Ethernet Adapter 5719 - 4 port upgrade	5458	AC1 MC1	A4K5

The following are features already announced for the 3331 machine type:

Description	MT	Model	Feature
ServeRAID C100 Series RAID 5 Upgrade for IBM System x-FoD	3331	HC1	A17U
Operating Temperature Enhancement Kit	3331	HC1	A3SD
2.5" Simple Swap HDD Hardware RAID upgrade kit	3331	HC1	A4GV

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3.5" Simple Swap HDD Hardware RAID upgrade kit       3331  HC1       A4GW
Broadcom Ethernet Adapter 5719 - 4 port upgrade      3331  HC1       A4K5
x3250 M5 HS 2.5" HDD 4 to 8 Upgrade Kit              3331  HC1       A4VN
```

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

```
HIPO
feature
number    Description

A859      5458-AC1 Routing Code
A860      5458-MC1 Routing Code
```

```
                                                    Part
Description                                         Number

IBM System x3250 M5                                 5458A2G
                                                    5458B2G
                                                    5458C2G
                                                    5458C4G
                                                    5458F2G
                                                    5458G2G
```

Starting Point models

```
                                                    Part
Description                                         number

System x3250 M5 Starting Point                      5458-FT1
                                                    5458-FT2
                                                    5458-FT3
```

Options

```
                                             Feature           Part
Description                      Type  Model  Code    SEO       Number

Broadcom Ethernet Adapter 5719   3331  HC1    A4K5    00AM013  00AM013
 - 4 port upgrade
ServeRAID C100 Series RAID 5     3331  HC1    A17U    81Y4406  81Y4406
 Upgrade for IBM System x-FoD


2.5" Simple Swap HDD Hardware RAID  3331  HC1  A4GV   46W6577  46W6577
 upgrade kit
3.5" Simple Swap HDD Hardware RAID  3331  HC1  A4GW   46W6576  46W6576
 upgrade kit
x3250 M5 HS 2.5" HDD 4 to 8      3331  HC1    A4VN    00AL348  00AL348
 Upgrade Kit
Operating Temperature Enhancement  3331  HC1  A3SD    00J6351  00J6351
 Kit
```

Pseudo parts

Note: The following Pseudo part numbers cannot be ordered as stand-alone parts and can only be ordered as part of a configuration created in x-config.

```
Pseudo
part
numbers Description

00AK839 Intel Pentium G3430 3.3 GHz 3MB 1600MHz 2C (54W)
00AK840 Intel Pentium G3220 3.0 GHz 3MB 1333MHz 2C (54W)
00AK841 Intel Pentium G3420T 2.7GHz 3MB 1600MHz 2C (35W)
00AK842 Intel Pentium G3220T 2.6GHz 3MB 1333MHz 2C (35W)
00AK843 Intel Core-i3 4340 3.6GHz 4MB 1600MHz 2C (54W)
```

```
00AK844 Intel Core-i3 4330 3.5GHz 4MB 1600MHz 2C (54W)
00AK845 Intel Core-i3 4130 3.4GHz 3MB 1600MHz 2C (54W)
00AK846 Intel Core-i3 4330T 3.0GHz 4MB 1600MHz 2C (35W)
00AK847 Intel Core-i3 4130T 2.9GHz 3MB 1600MH 2C (35W)
00AM059 Intel Xeon E3-1220L v3 1.1GHz 4MB cache 1600MHz 2C (13W)
00AM060 Intel Pentium G3420 3.2GHz 3MB 1600MHz 2C (54W)
00AL208 x3250 M5 System Labels GBM
00AL235 x3250 M5 SS LFF SATA DRIVE KIT
00AL236 x3250 M5 SS LFF SAS/SATA RAID KIT
00AL237 x3250 M5 HS LFF SAS/SATA RAID KIT
00AL238 x3250 M5 SS SFF SATA DRIVE KIT
00AL239 x3250 M5 SS SFF SAS/SATA RAID KIT L-type
00AL240 x3250 M5 HS SFF SAS/SATA RAID KIT for 4-7HDD
        except for H1110 series
00AL241 RACK MOUNT KIT
00AL234 x3250 M5 Planar
00AL221 System Documentation and Software-US English



00AL222 System Documentation and Software-UK English
00AL223 System Documentation and Software-French
00AL224 System Documentation and Software-German
00AL225 System Documentation and Software-Spanish
00AL226 System Documentation and Software-Italian

00AL210 x3250 M5 LFF HS Bezel
00AL211 x3250 M5 LFF SS Bezel
00AL212 x3250 M5 SFF HS Bezel with 8HDD
00AL213 x3250 M5 SFF SS Bezel with 8 HDD
00AL214 x3250 M5 SFF HS Bezel with 4 HDD
00AL215 x3250 M5 SFF SS Bezel with 4 HDD
00AL242 x3250 M5 SS SFF SAS/SATA RAID KIT Vertical for 0-3 HDD
00AL243 x3250 M5 HS SFF SAS/SATA RAID KIT for H1110
00AL244 x3250 M5 SS SFF SAS/SATA RAID KIT Vertical for 4-7 HDD
00AL216 x3250 M5 BKpn conf cable - 4 HDD SKU
00AL217 x3250 M5 BKpn conf cable - 8 HDD SKU
00AL218 Power cable -fixed PSU or HS RDN PSU for 4xHot Swap HDD
00AL245 x3250M5 HS SFF SAS/SATA RAID KIT for 0-3 HDD
        except for H1110 series
00Y7583 Intel Xeon E3-1265L v3 2.5GHz 8MB cache 1600MHz 4C (45W)
00Y7584 Intel Xeon E3-1230L v3 1.8GHz 8MB cache 1600MHz 4C (25W)
00AL219  IMM2 Standard
00AL246 x3250 M5 SS LFF SAS/SATA RAID KIT Vertical type for 4 HDD
00AL247 x3250 M5 HS LFF SAS/SATA RAID KIT Vertical type for 4 HDD
46W6615 Intel Xeon E3-1280 v3 3.6GHz 8MB cache 1600MHz 4C (82W)
46W6616 Intel Xeon E3-1270 v3 3.5GHz 8MB cache 1600MHz 4C (80W)
46W6617 Intel Xeon E3-1240 v3 3.4GHz 8MB cache 1600MHz 4C (80W)
46W6618 Intel Xeon E3-1230 v3 3.3 GHz 8MB cache 1600MHz 4C (80W)
46W6619 Intel Xeon E3-1220 v3 3.1GHz 8MB cache 1600MHz 4C (80W)
46W6620 Intel Xeon E3-1285 v3 3.6GHz 8MB cache 1600MHz 4C (84W)
46W6621 Intel Xeon E3-1285L v3 3.1GHz 8MB cache 1600MHz 4C (65W)
00AM689 x3250 M5 PKG
```

Publications

The following CD-ROM is shipped with the x3250 M5 server:

- The *Installation and Service Guide* contains an introduction to the computer, installation and setup, installing options, reference information, and problem determination. The installation guide has easy-to-use text and pictorials to enable you to quickly set up the System x3250 M5 servers.

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

The publication *Installation and Service Guide* in US English and translation versions is available from

Services

Global Technology Services®

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an on-demand business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

http://www.ibm.com/services/

For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or visit

http://www.ibm.com/services/continuity

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
5458-A2G

```
Processor               Pentium G3420 2C 65W
 Internal speed          3.2 GHz
 External speed          1600 MHz
 Number standard         1
 Maximum                 1
 Cache                   3 MB
Memory                   4 GB (1600 MHz)
 DIMMs                   1 x 4 GB
                         (PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM)
 Sockets UDIMM           4
 Capacity UDIMM⁵         32 GB
Video controller         Integrated in BMC
 Memory                  16 MB (shared)
HDD                      Simple swap
HDD controllers          O/B S/S LFF SATA
 Channels                1
 Connector int.          4
 Connector ext.          0
 RAID                    On-board
Fixed disk standard      0
Tape backup              0
Total bays               4
 5.25 ultraslim          0
 3.5-in slim             4
 2.5-in slim             0
 Simple-swap             4
 Internal capacity⁶      12 TB
 Standard                0
Bays available           4
 5.25/3.5-in ultraslim   0
```

```
  3.5-in slim               4
  2.5-in slim               0
  Simple-swap               0
Total slots                 2
 PCI 2.2 (32/33 MHz)        0
 PCI-E (x8/x4)              2
Slots available             2
Management proc.            IMM2
Ethernet controller         Dual Gb
Optical drive (SATA)        No
Diskette drive              0
Power supply                300 W
 Number standard            1
 Hot-swap                   No
 Redundant power            No
 Auto restart               Yes


 5458-B2G


 Processor                  Xeon E3-1220 v3 4C 80W
  Internal speed            3.1 GHz
  External speed            1600 MHz
  Number standard           1
  Maximum                   1
  Cache                     8 MB
 Memory                     4 GB (1600 MHz)
  DIMMs                     1 x 4 GB
                            (PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM)
  Sockets UDIMM             4
 Capacity UDIMM⁵            32 GB
 Video controller           Integrated in BMC
  Memory                    16 MB (shared)
 HDD                        Simple swap
 HDD controllers            O/B S/S LFF SATA
  Channels                  1
  Connector int.            4
  Connector ext.            0
  RAID                      On-board
 Fixed disk standard        0
 Tape backup                0
 Total bays                 4
  5.25 ultraslim            0
  3.5-in slim               4
  2.5-in slim               0
  Simple-swap               0
  Internal capacity⁶        12 TB
  Standard                  0
 Bays available             4
  5.25/3.5-in ultraslim     0
  3.5-in slim               4
  2.5-in slim               0
  Simple-swap               0
 Total slots                2
  PCI 2.2 (32/33 MHz)       0
  PCI-E 3.0 (x8/x4)         2
 Slots available            2
 Management proc.           IMM2
 Ethernet controller        Dual Gb
 Optical drive (SATA)       No
 Diskette drive             0
 Power supply               300 W
  Number standard           1
  Hot-swap                  No
  Redundant power           No
  Auto restart              Yes
```

```
5458-C2G

   Processor              Xeon E3-1230 v3 4C 80W
    Internal speed        3.3 GHz
    External speed        1600 MHz
    Number standard       1
    Maximum               1
    Cache                 8 MB
   Memory                 4 GB (1600 MHz)
    DIMMs                 1 x 4 GB
                          (PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM)
    Sockets UDIMM         4
    Capacity UDIMM⁵       32 GB
   Video controller       Integrated in BMC
    Memory                16 MB (shared)
   HDD                    Hot swap
   HDD controllers        O/B H/S LFF SATA/SAS
    Channels              1
    Connector int.        4
    Connector ext.        0
    RAID                  Server RAID H1110
                          SAS/SATA Controller
   Fixed disk standard    0
   Tape backup            0
   Total bays             4
    5.25 ultraslim        0
    3.5-in slim           4
    2.5-in slim           0
    Simple-swap           0
    Internal capacity⁶    12 TB
    Standard              0
   Bays available         4
    5.25/3.5-in ultraslim 0
    3.5-in slim           4
    2.5-in slim           0
    Simple-swap           0
   Total slots            2
    PCI 2.2 (32/33 MHz)   0
    PCI-E 3.0 (x8/x4)     2
   Slots available        1
   Management proc.       IMM2
   Ethernet controller    Dual Gb
   Optical drive (SATA)   No
   Diskette drive         0
   Power supply           300 W
    Number standard       1
    Hot-swap              No
    Redundant power       No
    Auto restart          Yes

5458-C4G

   Processor              Xeon E3-1230 v3 4C 80W
    Internal speed        3.3 GHz
    External speed        1600 MHz
    Number standard       1
    Maximum               1
    Cache                 8 MB
   Memory                 8 GB (1600 MHz)
    DIMMs                 1 x 8 GB
                          (PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM)
    Sockets UDIMM         4
    Capacity UDIMM⁵       32 GB
   Video controller       Integrated in BMC
    Memory                16 MB (shared)
   HDD                    Hot swap
   HDD controllers        O/B H/S SFF SATA/SAS
    Channels              1
    Connector int.        4
    Connector ext.        0
    RAID                  Server RAID H1110
                          SAS/SATA Controller
   Fixed disk standard    0
```

```
Tape backup              0
Total bays               5
 5.25 ultraslim          1
 3.5-in slim             0
 2.5-in slim             4
 Simple-swap             0
 Internal capacity⁶      4 TB
 Standard                0
Bays available           5
 5.25/3.5-in ultraslim   1
 3.5-in slim             0
 2.5-in slim             4
 Simple-swap             0
Total slots              2
 PCI 2.2 (32/33 MHz)     0
 PCI-E 3.0 (x8/x4)       2
Slots available          1
Management proc.         IMM2
Ethernet controller      Dual Gb
Optical drive (SATA)     Optional
Diskette drive           0
Power supply             300 W
 Number standard         1
 Hot-swap                No
 Redundant power         No
 Auto restart            Yes


5458-F2G

Processor                Xeon E3-1240 v3 4C 80w
 Internal speed          3.4 GHz
 External speed          1600 MHz
 Number standard         1
 Maximum                 1
 Cache                   8 MB8
Memory                   8 GB (1600 MHz)
 DIMMs                   1 x 8 GB
                         (PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM)
 Sockets UDIMM           4
 Capacity UDIMM⁵         32 GB
Video controller         Integrated in BMC
 Memory                  16 MB (shared)
HDD                      Hot swap
HDD controllers          O/B H/S SFF SATA/SAS
 Channels                1
 Connector int.          4
 Connector ext.          0
 RAID                    Server RAID H1110
                         SAS/SATA Controller
Fixed disk standard      0
Tape backup              0
Total bays               5
 5.25 ultraslim          1
 3.5-in slim             0
 2.5-in slim             4
 Simple-swap             0
 Internal capacity⁶      4 TB
 Standard                0
Bays available           5
 5.25/3.5-in ultraslim   1
 3.5-in slim             0
 2.5-in slim             4
 Simple-swap             0
Total slots              2
 PCI 2.2 (32/33 MHz)     0
 PCI-E 3.0 (x8/x4)       2
Slots available          1
Management proc.         IMM2
Ethernet controller      Dual Gb
Optical drive (SATA)     Optional
Diskette drive           0
Power supply             460 W
 Number standard         1
```

```
     Hot-swap               Yes
     Redundant power        Optional
     Auto restart           Yes

   5458-G2G

    Processor               Xeon E3-1270 v3 4C 80W
     Internal speed         3.5 GHz
     External speed         1600 MHz
     Number standard        1
     Maximum                1
     Cache                  8 MB
    Memory                  8 GB (1600 MHz)
     DIMMs                  1 x 8 GB
                            (PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM)
     Sockets UDIMM          4
     Capacity UDIMM⁵        32 GB
    Video controller        Integrated in BMC
     Memory                 16 MB (shared)
    HDD                     Hot swap
    HDD controllers         O/B H/S SFF SATA/SAS
     Channels               1
     Connector int.         4
     Connector ext.         0
     RAID                   Server RAID M1115
                            SAS/SATA Controller
    Fixed disk standard     0
    Tape backup             0
    Total bays              9
     5.25 sltraslim         1
     3.5-in slim            0
     2.5-in slim            8
     Simple-swap            0
     Internal capacity⁶     8 TB
     Standard               0
    Bays available          9
     5.25/3.5-in ultraslim  1
     3.5-in slim            0
     2.5-in slim            8
     Simple-swap            0
    Total slots             2
     PCI 2.2 (32/33 MHz)    0
     PCI-E 3.0 (x8/x4)      2
    Slots available         1
    Management proc.        IMM2
    Ethernet controller     Dual Gb
    Optical drive (SATA)    Optional
    Diskette drive          0
    Power supply            460 W
     Number standard        1
     Hot-swap               Yes
     Redundant power        Optional
     Auto restart           Yes
```

5 Maximum memory is based on using four 8 GB 1600 MHz UDIMMs.

6 Capacities are based on the installation of 1 TB 7.2K hot-swap HL SATA/SAS HDDs (2.5 in.) or four 3 TB simple-swap SATA HDDs (3.5 in.). For the most up-to-date information on supported HDD options, visit

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

Video subsystem

- Matrox G200 Video Core

- Integrated on planar and connected to the PCI bus

- Support for DDR2 SDRAM external memory

- 64-bit graphics engine with 8 bpp, 16 bpp, and 24 bpp mode acceleration

- 32 bpp (4G colors/True Color) support

- Integrated 350 MHz RAMDAC

- DDC2B monitor communications support

Supported video mode capabilities for the SVGA PCI controller with a 200 MHz memory clock:

```
                  Maximum Refresh
    Resolution    Rate Supported    Bpp

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

Notes:

- 24 Bpp (16.7 million colors) aligned on a 32-bit boundary for performance.
- Each resolution supports both CRT and Flat Panel monitors. For CRT monitors, each resolution complies with CRT ISO 9241.3:
  - 1440 x 900 and 1680 x 1050 are typically wide screen flat panel (non-CRT) settings so they are only available at 60 Hz.
  - 1440 x 900 and 1680 x 1050 are available at 60 Hz with support for 60 Hz Reduced Blanking Mode.
  - For the resolutions supported by different operating systems, refer the operating system documentation.

Dimensions (1U rack drawer)

- Width: 434.6 mm (17.1 in.) (without EIA bracket)
- Width: 482 mm (18.98 in.) (with EIA bracket)
- Depth: 576 mm (22.68 in.)
- Height: 43 mm (1.69 in.)
- Maximum weight: 12.3 kg (27.12 lb.)

Electrical

300-watt power supply

- 100 - 127 (nominal) V ac; 50 - 60 Hz; 6.0 A (maximum)
- 200 - 240 (nominal) V ac; 50 - 60 Hz; 3.0 A (maximum)

Redundant hot-swap 460-watt power supply

- 100 - 127 (nominal) V ac; 50 - 60 Hz; 5.3 A (maximum)
- 200 - 240 (nominal) V ac; 50 - 60 Hz; 2.6 A (maximum)

- Input kilovolt-amperes (kVA) (approximately)
  - Minimum configuration: 0.038 kVA
  - Maximum configuration: 0.504 kVA
- Btu output
  - Ship configuration: 130 Btu/hr (38 watts)
  - Full configuration: 1720 Btu/hr (504 watts)
- Acoustical noise emission level: Sound power levels
  - 6.5 bels (idling)
  - 6.5 bels (operating)

Note: The noise emission level stated is the declared (upper limit) A-weighted sound power level, in bels, for a random sample of machines, typically configured

and operating in idle mode (powered on, but no DASD read/write or other I/O activity). All measurements have been made in accordance with ANSI S12.10 and reported in conformance with ISO 9296.

System x3250 M5 servers are intended for use as rack-drawer servers and are tested and designed to operate in a horizontal position.

Standards

These systems support or comply with the following standards:

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

Equipment approvals and safety

- Russia/GOST ME01, IEC-60950-1, GOST R 51318.22-99, GOST R 51318.24-99, GOST R 51317.3.2-2006, GOST R 51317.3.3-99,
- IEC 60950-1 (CB Certificate and CB Test Report)
- CE Mark (EN55022 Class A, EN60950-1, EN55024, EN61000-3-2, EN61000-3-3)
- CISPR 22, Class A
- TUV-GS (EN60950-1 /IEC60950-1,EK1-ITB2000)

Operating environment

- Air temperature:

  Server on

  - 10.0°C to 35.0°C (50°F to 95°F); altitude: 0 to 914.4 m (3,000 ft)
  - 10.0°C to 32.0°C (50°F to 89.6°F); altitude: 914.4 m (3,000 ft) to 2,133.6 m (7,000 ft)

  Server off

  - 10.0°C to 43.0°C (50°F to 109.4°F); maximum altitude: 2,133.6 m (7,000 ft)

  Shipping

  - -40°C to 60°C (-14°F to 140°F)
- Relative humidity: 8% to 80%
- Maximum altitude: 2,133.6 m (7,000 ft)

Homologation

This product is not certified for direct connection by any means whatsoever to interfaces of public telecommunications networks. Certification may be required by law prior to making any such connection. Contact an IBM representative or reseller for any questions.

Hardware requirements

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

- USB keyboard
- USB mouse
- HDD
- 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 server requires a compatible:

- Keyboard
- Mouse
- HDD
- Display

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

Software requirements

The following network operating systems are supported in the System x3250 M5 server:

- Microsoft :
  - Microsoft Windows Server 2008 R2, SP1
  - Microsoft Windows Server 2012 R2,
  - Microsoft Windows Server 2012, RTM
- Linux™ :
  - Red Hat Enterprise Linux 5 Server Edition, U9
  - Red Hat Enterprise Linux 5 Server x64 Edition, U9
  - Red Hat Enterprise Linux 5 Server with Xen x64 Edition, U9
  - Red Hat Enterprise Linux 6 Server x64 Edition, U4
  - Red Hat Enterprise Linux 6 Server Edition, U4
- SUSE:
  - SUSE Linux Enterprise Server 11 for x86, SP3
  - SUSE Linux Enterprise Server 11 for AMD64/EM64T, SP3
  - SUSE Linux Enterprise Server 11 with Xen for AMD64/EM64T, SP3
- VMware
  - VMware vSphere 5.5 (ESXi)
  - VMware vSphere 5.1 (ESXi), U1

For additional support, certification, and version information on network operating systems, visit

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

Compatibility

The System x3250 M5 systems contain licensed system programs that include set configuration, set features, and test programs. System BIOS (flash BIOS modified to IBM specifications) is loaded from a "flash" EEPROM into system memory. This BIOS provides instructions and interfaces designed to support the standard features of the server and to maintain compatibility with many current software programs.

To view detailed information about IBM and non-IBM devices, adapters, software, and network operating systems supported with System x servers, visit

http://www-03.ibm.com/servers/eserver/serverproven/compat/us/

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

Limitations

- The 3.5-inch HDD can only be supported with fixed PSU base since space limitation.
- The eight 2.5-inch HDD can only be supported with redundant PSU base since power rating limitation.
- The ultraslim ODD can only be supported with 2.5-inch HDD model since space limitation.
- Power supplies (Fixed 300W and RDN 460W) do not have power monitoring and capping features (AEM features).
- Only 2.5-inch HDD base supports hardware RAID card remote battery with holder.
- VMware can only support Intel Xeon Processors.

Solid-state drive warranty 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 Total Bytes Written (TBW).

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 becoming incapable of being written to.

- Wake on LAN is not supported if systems are improperly shut down.

Refer to the Software requirements section for operating system limitations.

Planning information

Customer responsibilities

Customer setup

The System x3250 M5 server is designated as customer setup. Customer setup instructions are shipped with systems.

Standard SATA configurations

The System x3250 M5 server uses the SATA interface for the optical drive.

Supported memory options

- 4GB (1x4GB, 2Rx8, 1.35V) PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM - 00D5012
- 8GB (1x8GB, 2Rx8, 1.35V) PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM -00D5016

Rack installations

The System x3250 M5 1U rack-drawer models are designed to be installed in a 19-inch rack cabinet designed for 576 mm (22.68-inch) deep devices.

- The rack must meet EIA-310-D standards for mounting flanges and hole locations.
- The front to rear distance of the mounting flanges must be 609.6 - 762 mm (24 - 30 in.)
- The thickness of the mounting flanges must be 2.0 - 4.0 mm (0.08 and 0.16 in.).
- The mounting flanges must have either 7.1 mm (0.28 in.) diameter holes or 9.6 mm (0.38 in) square holes on the standard EIA hole spacing.
- The rack must have a minimum depth of 50 mm (1.97 in.) between the front mounting flange and inside of the front door for appropriate cooling.

- The rack must have a minimum depth of 910 mm (35.83 in.) between the front mounting flange and inside of the rear door to install the server and provide cable management space.
- The minimum side-to-side clearance in the rack between the front and rear mounting flanges must be 478 mm (18.82 in.) to accommodate the width of the server and the slide mounting brackets.
- The minimum side-to-side clearance in the rack between each door and the mounting flanges must be 484 mm (19.06 in.) to accommodate the slide mounting brackets.
- The rack must 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 must be able to support the maximum rack configuration, including all servers, external cables, power distribution units, and so on.
- The rack must provide proper stabilization so that the rack does not become unstable when servers are pulled out for service.

Cable orders

The dual Gigabit full duplex, Ethernet controller, standard with the server, is connected directly to an RJ-45 connector. The RJ-45 connector provides a 10/100/1000Base-T 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, 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 x3250 M5 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

One box

- System unit carton: system unit
- System unit power cord
- Country kit:
  - Publications/CD bag:
    -- Important Notices Flyer
    -- Warranty Flyer
    -- Documentation CD

The System x3250 M5 system is shipped as a single package. The country kit is contained inside the top portion of the system unit carton.

Security, auditability, and control

Security and auditability features include:

- A power-on password (secured boot).
- A mechanical lock allows you to lock the system cover to prevent unauthorized personnel access to internal components of the server.
- Tie-down capability is available by using a common U bolt attached to the back frame.
- Operation without a keyboard and display is supported after the server is configured with the appropriate network operating system. This minimizes

the risk of unauthorized people tampering with the system software and configuration.

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

Global Technology Services

Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings, for the efficient installation, implementation, and/or integration of this product.

Terms and conditions

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

Warranty period

- Three years
- Optional features: One year

   Note: For configurations that support the RAID battery, the RAID battery will be warranted for 1 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.

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

- x3250 LabelGBM
- Chassis Label
- Misc Kit
- x3250 Chassis
- Top Cover Asm
- Airduct
- PCI Riser Cage
- 3.5-inch HDD Bezel
- 2.5-inch HDD Bezel
- Rack Mount Kit
- Blank EMC
- Blank Filler
- Battery Holder

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-specific 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 or features have been designated as Tier 1 CRUs:

- Backplane
- PCI adapter
- Front IO Module
- Optical drive
- Cable
- Hard disk drive
- Memory DIMM
- Fixed power supply
- Hot-swap power supply
- Power Cable
- Thermal Sensor kit
- CMOS battery
- System Fan
- RAID batteries
- RISER Card

The following parts or features have been designated as Tier 2 CRUs:

- System board
- Power Paddle Card
- Service processor
- Heat sink
- Safety 240 VA cover

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.

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 ZS01-0168, 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.

IBM hourly service rate classification

Two

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.

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/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.

Prices

For all local charges, contact your IBM representative.

ServicePac® for Warranty Upgrade and Maintenance

ServicePac can be purchased from your IBM Business Partner and are specific to the machines/products listed. The upgrade level of service is dependant on country.

For a full list of ServicePac offerings and prices, refer to the IBM ServicePac Product Selector Tool.

https://www-304.ibm.com/sales/gss/download/spst/servicepac/
extProductSelectorWWW.do

```
Machine 5458
Warranty and Maintenance Upgrade                            Country
                                                              List

Service Description                        ServicePac ServicePac
                                           SEO        MTM


3 Year IOR 9x5x4 Hour Response             00GV032    67586CW   A
3 Year IOR 24x7x4 Hour Response            00GV031    67586CV   A
4 Year IOR 9x5x4 Hour Response             00GV028    67586CT   A
4 Year IOR 24x7x4 Hour Response            00GV034    67586CX   A
5 Year IOR 9x5x4 Hour Response             00GV037    67586CY   A
5 Year IOR 24x7x4 Hour Response            00GV029    67586CU   A

3 Year IOR 24x7 6 hour Committed Service   00GV049    67586DA   B
3 Year IOR 24x7 8 hour Committed Service   00GV048    67586D9   C
3 Year IOR 24x7 24 hour Committed Service  00GV053    67586DC   D

3 Year IOR 9x5 Next Business Day Committed 00GV039    67586D0   E
        Parts
3 Year IOR 9x5 48 hour CS Office Hours     00GV047    67586D8   F
3 Year IOR 24x7 24h CS + HDD Retention     00GV044    67586D5   G


3 Year Essentials 24x7x4 HW&SW Support     00GV046    67586D7   H
3 Year Virt Essentials 24x7x4 HW&SW Support 00GV043   67586D4   H
3 Year Essentials 24x7x4 HW&SW Support     00GV041    67586D2   I
3 Year Virt Essentials 24x7x4 HW&SW Support 00GV045   67586D6   I
3 Year Essentials 24x7 24hr CS HW&SW Support 00GV038  67586CZ   J
3 Year Virt Essentials 24x7 24hr CS HW&SW
        Support                            00GV040    67586D1   J
3 Year Essentials 24x7 24hr CS HW&SW Support 00GV042  67586D3   G
3 Year Virt Essentials 24x7 24hr CS HW&SW  00GV050    67586DB   G
        Support


Post Warranty Maintenance                                   Country
                                                              List

Service Description                        ServicePac ServicePac
                                           SEO        MTM
```

```
1 Year IOR 9x5x4 Hour Response            00GV033    6758FWU    A
1 Year IOR 24x7x4 Hour Response           00GV036    6758FWW    A
2 Year IOR 9x4x4 Hour Response            00GV035    6758FWV    A
2 Year IOR 24x7x4 Hour Response           00GV030    6758FWT    A

1 Year IOR 24x7 6 hour Committed Service   00GV057    6758FX2    N
2 Year IOR 24x7 6 hour Committed Service   00GV054    6758FWZ    N
1 Year IOR 24x7 8 hour Committed Service   00GV060    6758FX5    O
2 Year IOR 24x7 8 hour Committed Service   00GV059    6758FX4    O
1 Year IOR 24x7 24 hour Committed Service  00GV058    6758FX3    K
2 Year IOR 24x7 24 hour Committed Service  00GV061    6758FX6    K

1 Year IOR 9x5 Next Business Day Response      00GV052    6758FWY    L
2 Year IOR 9x5 Next Business Day Response      00GV056    6758FX1    L
1 Year IOR 9x5 Next Business Day Parts Only    00GV055    6758FX0    M
2 Year IOR 9x5 Next Business Day Parts Only    00GV051    6758FWX    M


IOR = IBM Onsite Repair
CS  = Committed Service
```

Country list A

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Egypt
- Estonia [a]
- Finland
- France [b]
- Germany
- Greece
- Hungary
- Ireland
- Israel
- Italy
- Kenya [c]
- Latvia
- Lithuania [a]
- Luxembourg
- Morocco [d]
- Netherlands
- Nigeria [e]
- Norway
- Pakistan
- Poland
- Portugal
- Romania
- Saudi Arabia
- Serbia

- Slovakia
- Slovenia
- South Africa
- Spain
- Sweden
- Switzerland
- Tunisia [f]
- Turkey
- UAE
- Ukraine
- United Kingdom [g]

Country list B

- Austria
- Belgium
- Germany
- Italy
- Luxembourg
- Pakistan
- Netherlands
- South Africa
- Turkey
- UK [a]

Country list C

- Bulgaria
- Croatia
- Czech Republic
- Denmark
- Egypt
- Finland
- France [b]
- Hungary
- Morocco [d]
- Norway
- Poland
- Romania
- Russia
- Serbia
- Slovakia
- Slovenia
- Sweden
- Switzerland
- Tunisia [f]

Country list D

- Austria
- Belgium

- Bulgaria
- Croatia
- Czech Republic
- Egypt
- Germany
- Hungary
- Luxembourg
- Morocco [d]
- Netherlands
- Pakistan
- Poland
- Romania
- Russia
- Serbia
- Slovakia
- Slovenia
- South Africa
- Switzerland
- Tunisia [f]
- Turkey
- Ukraine

Country list E

- Kazakhstan
- Russia

Country list F

- Russia
- Ukraine

Country list G

- Germany

Country list H

- Austria
- Greece
- Israel
- Italy
- Luxembourg
- Portugal
- South Africa
- Spain
- Switzerland

Country list I

- Belgium
- Denmark
- Finland

- France [b]
- Netherlands
- Norway
- Sweden
- UK [g]

Country list J

- Hungary
- Poland
- Slovenia
- Turkey

Country list K

- Austria
- Croatia
- Czech Republic
- Egypt
- Germany
- Hungary
- Morocco [d]
- Pakistan
- Poland
- Romania
- Russia
- Slovakia
- Slovenia
- South Africa
- Switzerland
- Tunisia [f]
- Turkey
- Ukraine

Country list L

- Angola
- Botswana
- Kenya [c]
- Mozambique
- Nigeria [e]
- Russia
- Tanzania

Country list M

- Kazakhstan
- Ukraine

Country list N

- Austria
- Germany
- Pakistan
- South Africa
- Turkey

Country list O

- Croatia
- Czech Republic
- Egypt
- Hungary
- Morocco
- Poland
- Romania
- Russia
- Slovakia
- Slovenia
- Switzerland
- Tunisia [f]

[a] Order and register via Finland.

[b] Except overseas territories.

[c] Nairobi only.

[d] Restricted to 50 km of Casablanca/Rabat.

[e] Lagos only.

[f] Restricted to 50 km of Tunis.

[g] UK mainland only.

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Corrections

(Corrected on October 15, 2013)
Processor descriptions were revised.