

## Lenovo System x3500 M4 server (7383B2G)

x3500 M4, Intel Xeon E5-2609 (10M Cache, 2.40 GHz, 6.40 GT/s Intel® QPI), 4GB, O/Bay HS 2.5in SATA/SAS, SR M1115, DVD-ROM, 750W p/s, Tower



### Price details:

Price excl. VAT: 1,636.55 €

Eco fees: 0.08 €

VAT 21 %: 343.69 €

### Product details:

Product code: 7383B2G

EAN: 5051045092999

Manufacturer: Lenovo

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**1,980.32 €**

\* VAT included

The IBM® System x3500 M4 server provides outstanding performance for your business-critical applications. Its energy-efficient design supports more cores, memory, and data capacity in a scalable Tower or 5U Rack package that is easy to service and manage. With more computing power per watt and the latest Intel Xeon processors, you can reduce costs while maintaining speed and availability.

Suggested use: infrastructure applications, collaboration/email, web, and virtualized desktops in a workgroup or distributed environments.

Did you know?

The x3500 M4 offers a flexible, scalable design and simple upgrade path to 32 HDDs, with up to eight PCIe 3.0 slots and up to 768 GB of memory. The Onboard Ethernet solution provides four standard integrated Gigabit Ethernet ports without occupying PCIe slots. Comprehensive systems management tools with the next-generation Integrated Management Module II (IMM2) make it easy to deploy, integrate, service, and manage.

### Key features

A high-performance dual-socket tower server, the IBM System x3500 M4, can deliver the scalability, reliable performance, and optimized efficiency for your business-critical applications. Start with the basics and upgrade as your business changes without jeopardizing existing investments. Virtualizing the PC infrastructure into one server can provide access to a powerful server with abundant storage space, while significantly reducing IT costs.

### Scalability and performance

The x3500 M4 offers numerous features to boost performance, improve scalability, and reduce costs:

- The Intel Xeon processor E5-2600 product family improves productivity by offering superior system performance with 8-core processors and up to 2.9 GHz core speeds, up to 20 MB of L3 cache, and two QPI interconnect links of up to 8 GT/s.
- Up to two processors, 16 cores, and 32 threads maximize the concurrent execution of multi-threaded applications.
- Intelligent and adaptive system performance with Intel Turbo Boost Technology 2.0 allows CPU cores to run at maximum speeds during peak workloads by temporarily going beyond processor TDP.
- Intel Hyper-Threading Technology boosts performance for multi-threaded applications by enabling simultaneous multi-threading within each processor core, up to two threads per core.
- Intel Virtualization Technology integrates hardware-level virtualization hooks that allow operating system vendors to better utilize the hardware for virtualization workloads.
- Intel Advanced Vector Extensions (AVX) significantly improve floating point performance for compute-intensive technical and scientific applications compared to Intel Xeon 5600 series processors.
- Twenty-four Load Reduced DIMMs (LRDIMMs) of 1333 MHz DDR3 ECC memory provide speed, high availability, and a memory capacity of up to 768 GB.
- The theoretical maximum memory bandwidth of the Intel Xeon processor E5 family is 51.6 GBps, which is 60% more than in the previous generation of Intel Xeon processors.
- Up to 32 drive bays together with internal backup and optical drive at the same time provide a flexible and scalable all-

in-one platform to meet increasing demands.

- The server has four integrated Gigabit Ethernet ports that double the network throughput compared with the previous generation of IBM System x® servers.
- The server offers PCI Express 3.0 I/O expansion capabilities that improve the theoretical maximum bandwidth by 60% (8 GT/s per link) compared with the previous generation of PCI Express 2.0.
- With Intel Integrated I/O Technology, the PCI Express 3.0 controller is integrated into the Intel Xeon processor E5 family. This helps to dramatically reduce I/O latency and increase overall system performance.

#### Availability and serviceability

The x3500 M4 provides many features to simplify serviceability and increase system uptime:

- The server offers memory mirroring and memory rank sparing for redundancy in the event of a non-correctable memory failure.
- Tool-less cover removal provides easy access to upgrades and serviceable parts, such as CPU, memory, and adapter cards.
- The server offers hot-swap drives supporting RAID redundancy for data protection and greater system uptime.
- The server has up to two redundant hot-swap power supplies and up to six simple swap N+N redundant fans to provide availability for business-critical applications.
- The power source independent light path diagnostics panel and individual light path LEDs quickly lead the technician to failed (or failing) components. This simplifies servicing, speeds up problem resolution and helps improve system availability.
- The Predictive Failure Analysis (PFA) detects when system components (for example, processors, memory, hard disk drives) operate outside of standard thresholds and generates pro-active alerts in advance of possible failure, therefore increasing uptime.
- Built-in Integrated Management Module Version II (IMM2) continuously monitors system parameters, triggers alerts, and performs recovering actions in case of failures to minimize downtime.
- Built-in diagnostics using Dynamic Systems Analysis (DSA) Preboot speeds up troubleshooting tasks to reduce service time.
- Three-year customer replaceable unit and onsite limited warranty, next business day 9x5. Optional service upgrades available.

#### Manageability and security

Powerful systems management features simplify local and remote management of the x3500 M4:

- The server includes an Integrated Management Module II (IMM2) to monitor server availability and perform remote management.
- Integrated industry-standard Unified Extensible Firmware Interface (UEFI) enables improved setup, configuration, and updates, and simplifies error handling.
- Integrated Trusted Platform Module (TPM) 1.2 support enables advanced cryptographic functionality, such as digital signatures and remote attestation.
- Industry-standard AES NI support for faster, stronger encryption.
- IBM Systems Director is included for proactive systems management. It offers comprehensive systems management tools that help to increase up-time, reduce costs, and improve productivity through advanced server management capabilities.
- Intel Execute Disable Bit functionality can help prevent certain classes of malicious buffer overflow attacks when combined with a supporting operating system.
- Intel Trusted Execution Technology provides enhanced security through hardware-based resistance to malicious software attacks, allowing an application to run in its own isolated space protected from all other software running on a system.

#### Energy efficiency

The x3500 M4 offers the following energy-efficiency features to save energy, reduce operational costs, increase energy availability, and contribute to the green environment:

- Energy-efficient planar components help lower operational costs.
- High-efficient 750 W and 900 W power supplies with 80 PLUS Platinum certification.
- The Intel Xeon processor E5-2600 product family offers significantly better performance over the previous generation while fitting into the same thermal design power (TDP) limits.
- Intel Intelligent Power Capability powers individual processor elements on and off as needed, to reduce power draw.
- Low-voltage Intel Xeon processors draw less energy to satisfy demands of power and thermally constrained data centers and telecommunication environments.
- Low-voltage 1.35 V DDR3 memory RDIMMs consume 15% less energy than 1.5 V DDR3 RDIMMs.
- The server uses hexagonal ventilation holes, a part of IBM Calibrated Vectors Cooling technology. Hexagonal holes can be grouped more densely than round holes, providing more efficient airflow through the system.
- IBM Systems Director Active Energy Manager provides advanced data center power notification and management to help achieve lower heat output and reduced cooling needs.

The x3500 M4 servers are shipped with the following items:

- Statement of Limited Warranty
  - Important Notices
  - Registration flyer
  - Documentation CD that contains the Installation and User's Guide
  - IBM Systems Director 6.3 Base for x86 DVD-ROM
  - One 2.8 m C13 line cord (country-specific)
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Main specifications:

#### Processor

Processor frequency:	2.4 GHz
Processor family:	Intel Xeon E5
Processor model:	E5-2609
Processor cores:	4
Number of processors installed:	1
Processor cache type:	Smart Cache
Processor cache:	10 MB
System bus rate:	6.4 GT/s
Processor manufacturer:	Intel
Maximum number of SMP processors:	2
Compatible processor series:	Xeon
Processor socket:	LGA 2011 (Socket R)
Motherboard chipset:	Intel C602J
Processor boost frequency:	2.50 GHz
Processor lithography:	32 nm
Processor threads:	4
Processor operating modes:	64-bit
Stepping:	M1
FSB Parity:	N
Bus type:	QPI
Number of QPI links:	2
Processor codename:	Sandy Bridge EP
Tcase:	70 °C
Maximum internal memory supported by processor:	768 GB
Memory types supported by processor:	DDR3-SDRAM
Memory clock speeds supported by processor:	800,1066 MHz
Memory bandwidth supported by processor (max):	34.1 GB/s
Memory channels supported by processor:	Quad
ECC supported by processor:	Y
Execute Disable Bit:	Y
Idle States:	Y
Thermal Monitoring Technologies:	Y
Maximum number of PCI Express lanes:	40
PCI Express configurations:	x4, x8, x16
Processor package size:	52.5 mm
Supported instruction sets:	AVX
Scalability:	2S
Physical Address Extension (PAE):	46 bit
Embedded options available:	N
Graphics & IMC lithography:	32 nm
Thermal Design Power (TDP):	80 W
CPU multiplier (bus/core ratio):	24
Processor series:	Intel Xeon E5-2600
Conflict Free processor:	N

#### Memory

Internal memory:	4 GB
Internal memory type:	DDR3-SDRAM
Maximum internal memory:	768 GB
Memory slots:	24 DDR3 DIMM
ECC:	Y
Memory layout (slots x size):	1 x 4 GB

#### Storage

Hard drive size:	2.5 "
Hard drive interface:	Serial ATA,Serial Attached SCSI (SAS)
RAID support:	N
Maximum storage capacity:	32 TB
RAID levels:	0,1,10
Number of hard drives supported:	8
Internal drive bays:	5.25" x 2, 2.5" x 8
Supported hard disk drive sizes:	2.5 "
Hot-swap:	Y
Supported storage drive interfaces:	SAS,Serial ATA

#### Graphics

Maximum graphics adapter memory:	16 MB
On-board graphics adapter:	Y

#### Networking

Ethernet LAN:	Y
LAN controller:	Intel I350AM4
Cabling technology:	10/100/1000Base-T(X)
Ethernet interface type:	Fast Ethernet,Gigabit Ethernet

#### Ports & interfaces

USB 2.0 ports quantity:	8
VGA (D-Sub) ports quantity:	1
Ethernet LAN (RJ-45) ports:	5
Serial ports quantity:	1

#### Expansion slots

PCI Express x8 slots:	5
PCI Express x16 (Gen 3.x) slots:	3
PCI Express slots version:	3.0

#### Design

Optical drive type:	DVD-ROM
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#### Performance

Operating system installed:	N
Compatible operating systems:	Microsoft Windows Server 2008 R2, 2008, Red Hat Enterprise Linux 5 & 6, SUSE Linux Enterprise Server 10 & 11, VMware vSphere 5
BIOS type:	UEFI
Trusted Platform Module (TPM):	Y

#### Processor special features

CPU configuration (max):	2
Intel Rapid Storage Technology:	N
Enhanced Intel SpeedStep Technology:	Y
Intel® Identity Protection Technology (Intel® IPT):	N
Intel® Wireless Display (Intel® WiDi):	N
Intel Virtualization Technology for Directed I/O (VT-d):	Y
Intel® Anti-Theft Technology (Intel® AT):	N
Intel® Hyper Threading Technology (Intel® HT Technology):	N
Intel® My WiFi Technology (Intel® MWT):	N
Intel® Turbo Boost Technology:	N
Intel® vPro® Technology:	Y
Intel® Quick Sync Video Technology:	N
Intel® InTru® 3D Technology:	N
Intel® Clear Video HD Technology (Intel® CVT HD):	N
Intel® Insider®:	N
Intel Flex Memory Access:	Y
Intel® AES New Instructions (Intel® AES-NI):	Y
Intel Trusted Execution Technology:	Y
Intel Enhanced Halt State:	Y
Intel VT-x with Extended Page Tables (EPT):	Y
Intel Demand Based Switching:	Y
Intel® Secure Key:	Y
Intel Clear Video Technology:	N
Intel® Clear Video Technology for Mobile Internet Devices (Intel CVT for MID):	N
Intel 64:	Y
Intel Identity Protection Technology version:	0.00
Intel Secure Key Technology version:	1.00
Intel Virtualization Technology (VT-x):	Y

Intel TSX-NI version:	0.00
Intel Dual Display Capable Technology:	N
Intel FDI Technology:	N
Intel Fast Memory Access:	N
Processor ARK ID:	64588

#### Power

Redundant power supply (RPS) support:	Y
Power supply:	750 W
Number of main power supplies:	1

#### Weight & dimensions

Width:	218 mm
Depth:	750 mm
Height:	440 mm
Weight:	25000 g

#### Other features

Graphics adapter:	G200eR2
Graphics adapter family:	Matrox
Intel® Virtualization Technology (Intel® VT):	VT-d,VT-x