Product Brief

Intel® Server Board SE7525RP2
- Support for Dual 64-bit Intel® Xeon™ Processors
- Intel® E7525 Chipset
- PCI Express* I/O Interconnect Technology
- Support for Dual-Channel DDR2 400 SDRAM

intel®

Intel® Server Board SE7525RP2

Dual-purpose server/workstation board supporting extreme I/O and graphics bandwidth
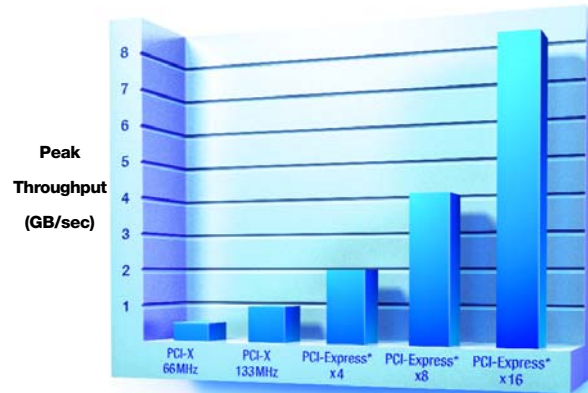

intel® inside
XEON

The 64-bit Intel® Xeon™ processor, with up to 2MB L2 Cache, Hyper-Threading Technology, Intel® EM64T[1], and Enhanced Intel SpeedStep® technology[2], provides an efficient, reliable, and proven foundation for a basic server or high-end graphics workstation.

Intel® Server Board SE7525RP2

A general-purpose midrange workstation platform plays a vital role in the success of a workgroup, department, or small to medium-size business. Whether used as a file or application server or high-end graphics workstation, the platform must provide the performance, manageability, reliability, and flexibility that groups and businesses depend on. For organizations using such a platform, Intel offers the Intel® Server Board SE7525RP2.

With support for dual 64-bit Intel® Xeon™ processors with an 800MHz system bus and the Intel® E7525 chipset, the Server Board SE7525RP2 is capable of powering solutions ranging from entry-level to enterprise-critical. Another capability, vital for running high-end graphics applications, is the board's support for up to 8 GB of Registered ECC DDR 2 400 SDRAM, dual-interleaved for improved performance. For solutions requiring especially fast I/O, the board features next-generation PCI Express* interconnect technology, which also expands application functionality by providing a common foundation for serial connectivity among servers, desktops, mobile devices, and other communications platforms.

In addition, to help organizations maintain performance and availability of critical server and workstation solutions, the Intel Server Board SE7525RP2 includes Intel® Server Management 8 and other sophisticated technologies. By helping to provide adequate power supply and thermal protection, these innovative technologies assist in maximizing performance and minimizing validation and support costs.

PCI Express* Offers Outstanding Data Throughput

In the Intel® Server Board SE7525RP2, the PCI Express* x16 slot provides up to 8 GB/sec bandwidth. In the unidirectional graphics environment, this is twice the bandwidth of current AGP 8x graphics connections. *Calculations are based on maximum theoretical throughput. Individual results may vary.*

Through support for the Intel® E7525 chipset, the Intel® Server Board SE7525RP2 provides impressive levels of overall performance and memory reliability.
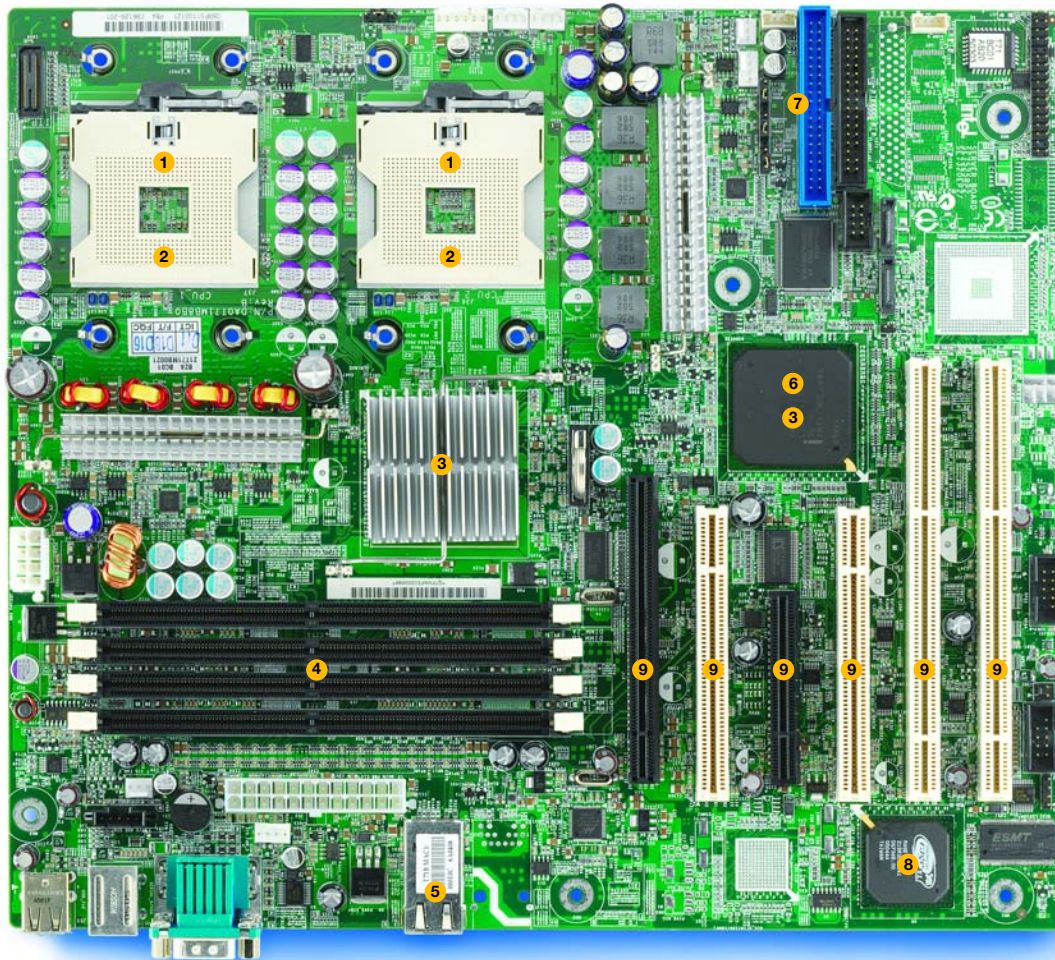
To meet the demanding memory requirements of high-end graphics applications, the Intel® Server Board SE7525RP2 supports up to 8 GB of Registered ECC DDR2 400 SDRAM, dual-interleaved for improved performance.

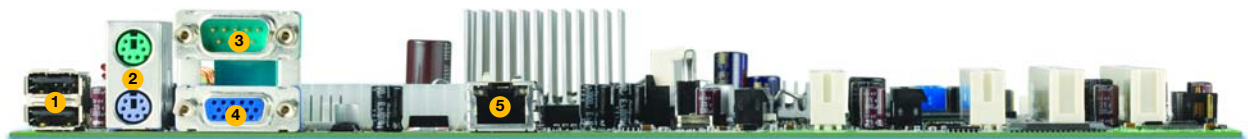## Intel® Server Board SE7525RP2 Features and Benefits

Features	Benefits
Support for one or two 64-bit Intel® Xeon™ processors with an 800MHz system bus	Innovative technology for high-performance server and graphics workstation workloads
Support for Intel® EM64T[1]	Compatibility with 64-bit-capable operating systems and applications
Intel® E7525 chipset	High performance in a purpose-built server/workstation chipset
Support for up to 8 GB of Registered ECC DDR2 400 SDRAM through four DIMM sockets	Memory capacity to support diverse server and high-end workstation tasks, dual-interleaved for improved performance
Four independent PCI buses and six total slots: one PCI Express* x16, one PCI Express x4, two PCI-X 66MHz, and two PCI 32-bit/33MHz	The bandwidth support needed for current and next-generation server and workstation applications
PCI Express I/O interconnect technology	Next-generation connectivity for high-performance servers, workstations, and other communications platforms
Integrated ATI* RAGE* XL SVGA PCI video controller with 8 MB of video memory	High-end video without the loss of a PCI slot or the need to add a graphic card
Intel® Server Management 8	Remote monitoring and proactive notification for outstanding availability

Intel® Server Board SE7525RP2

1. Support for two 64-bit Intel® Xeon™ processors with an 800MHz system bus

2. Support for Intel® EM64T[1]

3. Intel® E7525 chipset

4. Support for up to 8 GB of Registered ECC DDR2 400 SDRAM
  • Dual-interleaved memory channels for high-speed data transfer

5. Integrated Intel® PRO/1000 Server Network Connection

6. Integrated dual-channel Serial ATA controller supporting RAID 0 and 1

7. Single-channel EIDE for a total of two devices

8. Integrated graphics
  • ATI* RAGE* XL SVGA PCI video controller with 8 MB of video memory

9. Four independent buses and six adapter slots:
  • One PCI Express* x16
  • One PCI Express x4
  • Two PCI-X 66MHz
  • Two PCI 32-bit/33MHz
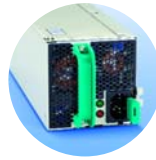
Intel® Server Board SE7525RP2 – I/O Panel Features

1. USB connectors

2. Keyboard/mouse connectors

3. Serial connector

4. Video connector

5. RJ45 Ethernet connector

The Intel® Server Board SE7525RP2 Supports Technologies That Define Innovation[3]

Two sophisticated server technologies from Intel work together in the Intel® Server Board SE7525RP2 to reinforce the board's ability to provide extreme I/O and graphics bandwidth support with flexibility for servers and workstations. **Intel® Power and Thermal Headroom** provides sufficient power supply and thermal protection to maintain the performance levels essential for high-end I/O and graphics in current and next-generation servers and workstations. And the **Intel® Validation Stress Test Suite** ensures that the Server Board SE7525RP2 has passed some of the industry's most rigorous and extensive testing to optimize time-to-market, maximize data integrity, and minimize support costs.

Intel® Power and
Thermal Headroom

Intel® Validation
Stress Test Suite

Intel server technologies provide powerful capabilities designed to help make server systems more reliable, more available, and easier to service. Seamlessly integrated into the latest generation of Intel® Server Products, these technologies work in concert to complement the capabilities of the most current Intel processor and chipset technologies.

For more information on these technologies, please visit: **http://developer.intel.com/design/servers/technologies/**

Intel® Server Board SE7525RP2 Boxed Contents

The Intel® Server Board SE7525RP2 comes with all the board components required to help build a general-purpose server or high-performance workstation.

1. One Intel® Server Board SE7525RP2

2. Quick Start User Guide

3. Intel® Server Management 8 CD Pack containing:

- Intel® Server Deployment Toolkit with Intel® Express Installer, Intel® Server Maintenance and Reference Training (SMaRT) Tool Software, server product information, technical documentation, customer support information, drivers and utilities, and Web links
- CD-ROM with Intel® Server Manager 8 family of software

4. Cable kit

5. I/O shield

6. Board-configuration label

Compatible Products for Comprehensive Solutions

The following table provides a list of key compatible products for the Intel® Server Board SE7525RP2.
Please see **http://support.intel.com/support/motherboards/server/se7525rp2** for the most recent and comprehensive product compatibility list.

Intel Building Block	Product Name(s)	Product Order Code(s)
Intel® Server Board	Intel® Server Board SE7525RP2	SE7525RP2
Intel® Server Chassis	Intel® Entry Server Chassis SC5275-E Intel® Entry Server Chassis SC5295-E	SC5275E SC5275ENA SC5295WS SC5295WSNA
Intel® RAID Controller	Intel® RAID Controller SRCS16	SRCS16
Intel® Server Accessories	Six-Drive SATA Hot-Swap Drive Bay Six-Drive SCSI Hot-Swap Drive Bay Maintenance Kit Memory Cooling Kit	AXX6SATADB AXX6SCSIDB FPT2PMKIT FSWMEMFAN

For a complete list of spares and accessories, see the Intel® Server Board SE7525RP2 Configuration Guide at
http://support.intel.com/support/motherboards/server/se7525rp2

The Intel® Server Board SE7525RP2 is Part of a Family of Server Boards[4] for Pedestal Solutions and Supporting the 64-bit Intel® Xeon™ Processor with an 800MHz System Bus.

Product	Market	Positioning	PCI Configuration	Integrated Storage	Integrated Networking	Memory Support	Management Solution
SE7520AF2	Business-critical database and departmental applications	Outstanding performance, excellent data protection, and advanced management for departmental servers	Seven independent PCI buses and five total slots: 1 PCI Express* x8 1 PCI Express x4 2 PCI-X 133MHz 1 PCI-X 100MHz	Dual-channel Ultra320 SCSI with optional integrated Intel® RAID supporting RAID 0, 1, 5, 10, and 50 and support for the Intel® Portable Cache Module; also includes dual-channel SATA with support for RAID 0 and 1, single-channel IDE	Dual Intel® PRO/1000 Server Network Connections	Eight DIMMs, up to 16 GB of ECC DDR2 400	Intel® Server Management 8: support for Intel® Management Module upgrade (Professional and Advanced Editions)
SE7520BD2 (supporting DDR2)	Workgroup application, file, and messaging servers	Powerful processing, high bandwidth, and scalable management for general-purpose servers	Six independent PCI buses and up to six total slots: 1 PCI Express x8[5] 1 PCI Express x4[6] 1 PCI-X 133MHz 2 PCI-X 100MHz 1 PCI 32-bit/33MHz	Dual-channel SATA with support for RAID 0 and 1, dual-channel IDE; also available with single-channel Ultra320 SCSI (SE7520BD2VD2) or dual-channel Ultra320 SCSI (SE7520BD2SCSID2)	Dual Gigabit Ethernet connections	Eight DIMMs, up to 16 GB of ECC DDR2 400	Intel Server Management 8: support for Intel Management Module upgrade (Professional and Advanced Editions)
SE7525RP2	Workstations	Flexible server and workstation board with extreme I/O and graphics bandwidth support	Four independent PCI buses and six total slots: 1 PCI Express x16 1 PCI Express x4 2 PCI-X 66MHz 2 PCI 32-bit/33MHz	Dual-channel SATA with support for RAID 0 and 1, single-channel IDE	Single Intel PRO/1000 Server Network Connection	Four DIMMs, up to 8 GB of ECC DDR2 400	Intel Server Management 8
SE7320EP2	Entry-level general-purpose, file/print, and Web servers	Entry server board for small and medium-size businesses	Three independent PCI buses and five total slots: 1 PCI Express x4 2 PCI-X 66MHz 2 PCI 32-bit/33MHz	Dual-channel SATA with support for RAID 0 and 1, single-channel IDE; also available with one four-port SATA card (SE7320EP2SA4)	Dual Gigabit Ethernet connections[7]	Four DIMMs, up to 8 GB of ECC DDR2 400	Intel Server Management 8

See **http://www.intel.com/go/serverbuilder** for details on specific Intel® Server Board configurations.

Intel® Server Board SE7525RP2 Specifications

Processor

For the latest information on processor support, visit
http://support.intel.com/support/motherboards/server/se7525rp2

One or two 64-bit Intel® Xeon™ processors with an 800MHz system bus

System Memory

For the latest information on memory support, visit
http://support.intel.com/support/motherboards/server/se7525rp2

Capacity	Four DIMM sockets for up to 8 GB of registered ECC DDR2 400 memory (memory must be populated in pairs of equal-size DIMMs)
Type	Registered ECC DDR2 400 SDRAM 72-bit, 184-pin gold-plated DIMMs
Reliability Features	Corrects single-bit errors, detects double-bit errors (using ECC memory), and supports Intel® Single Device Data Correction (SDDC)

Integrated Onboard

Chipset	Intel® E7525 chipset
Intel® Server Network Connection	One Intel® PRO/1000 Server Network Connection via RJ45 connector (Intel® 82541GB controller); supports 10BASE-T, 100BASE-TX, and 1000BASE-T
Super I/O Controller	National Semiconductor* PC87427
Graphics	ATI* RAGE* XL SVGA PCI video controller with 8 MB of video memory

Integrated Storage Support

Serial ATA	Dual-channel SATA controller supporting RAID 0 and 1

Input/Output

PCI	Four independent PCI buses and six adapter slots: one PCI Express* x16, one PCI Express x4, two PCI-X 66MHz, and two PCI 32-bit/33MHz
IDE	Single-channel EIDE for a total of two IDE devices; dual-channel SATA for a total of two SATA devices
USB	Two USB connectors (optional header for two more)
Serial Ports	External DB9 serial port, internal serial header
Floppy Controller	1.44 MB and 2.88 MB, 3-mode support
Keyboard/Mouse	Two PS/2 ports, 8240A-compatible

Intel® Server Management

Software Support	Intel® Server Manager 8 family of software

Fully Validated Operating Systems

Microsoft* Windows* Server 2003 Enterprise Edition, Microsoft Windows 2000 Advanced Server, Microsoft Windows XP, Red Hat* Linux* Enterprise, SUSE* LINUX* Enterprise Server, and Novell* NetWare*

System BIOS

Type	8Mb Flash EEPROM with AMI* BIOS, Multiboot BBS (BIOS Boot Specification) 1.4–compliant
Special Features	Plug and Play, IDE drive autoconfigure, SMBIOS 2.3, ECC/parity support, multilingual support, enabled for rolling/online BIOS updates
Configuration Utilities	Server Configuration Wizard for easy system setup of initial Intel Server Management 8 configuration

Jumpers

CMOS clear, password clear, BIOS recovery, BMC boot block write protect

Front-Panel Support

Power LED, hard-drive activity LED, system-fault LED, power/sleep switch, server network connection 1 LED, reset switch, NMI switch

Mechanical

Board Style	ATX
Board Size	12" x 10.6" (305 mm x 269 mm)

Power Requirements

+5V	3.0A maximum continuous current
+5V Standby	1.6A minimum continuous current
+12V	19A maximum continuous current
+3.3V	8.4A maximum continuous current
–5V	0.0A maximum continuous current
–12V	0.0A maximum continuous current

Environmental

Ambient Temperature	Operating (system): 10°C to 35°C; non-operating/storage (system): –40°C to +70°C ambient
Relative Humidity	Non-operating: 95%, non-condensing at 30°C

Safety and EMC Regulatory Compliance (Class A)

(EMC Regulatory Compliance is based on a board configured in an Intel host system in which Intel tested the board and found it compliant.)

Country	Certification Safety and/or EMC	Regulatory Mark Safety and/or EMC
Australia and New Zealand	ACA, MED	C-Tick
Canada	UL / Industry Canada	cURus / ICES
Europe	European Directives	CE
International	CB Report / CISPR	Not applicable
Japan	VCCI (Verification only)	Not applicable
Korea	RRL	MIC
Russia	GOST	GOST
Taiwan	BSMI DOC	BSMI
United States	UL / FCC (Verification only)	cURus

N232   E139761   CANADA ICES-003 CLASS A   CE   ME06   D33025   MIC

[1] 64-bit Intel® Xeon™ processors with Intel® EM64T require a computer system with a processor, chipset, BIOS, OS, device drivers and applications enabled for Intel EM64T. Processor will not operate (including 32-bit operation) without an Intel EM64T-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel EM64T-enabled OS, BIOS, device drivers and applications may not be available. Check with your vendor for more information.

[2] Enhanced Intel SpeedStep® technology is available on Intel® Xeon™ processors with an 800MHz system bus at operating frequencies of 3.40 GHz and above.

[3] Features may vary depending on system configuration.

[4] Feature sets may vary by board model. See http://www.intel.com/go/serverbuilder/ for more detail.

[5] Two models of the Intel® Server Board SE7520BD2 supporting DDR2 memory (SE7520BD2SATAD2 and SE7520BD2SCSID2) support both PCI Express* x4 and PCI Express x8; a third model (SE7520BD2VD2) supports only PCI Express x4

[6] The PCI Express x4 slot is a PCI Express x8 connector running at x4 speed.

[7] Dual Gigabit Ethernet connections are available on two models of the Intel® Server Board SE7320EP2: order code SE7320EP2DG and order code SE7320EP2SA4.

For more information on how to make the Intel® Server Board SE7525RP2 part of your server environment, please contact an Intel® Channel Membership Programs participant

Intel Literature Center: 1-800-548-4725
ORDER NUMBER 306603-002US