Product Brief

Intel® Server Board SE7525GP2
- Support for Dual Intel® Xeon™ Processors
- Intel® E7525 Chipset
- PCI Express* I/O Interconnect Technology

Intel® Server Board SE7525GP2

Extreme I/O and graphics bandwidth support with flexibility for servers and workstations

The Intel® Xeon™ processor, with up to 2MB Advanced Transfer Cache, Hyper-Threading Technology, and the Intel NetBurst® microarchitecture, provides remarkable levels of performance and reliability.

Intel® Server Board SE7525GP2

A general-purpose mid-range workstation platform, whether used as a database or application server or high-end graphics workstation, plays a fundamental role in the success of a workgroup, department, or small to medium-sized business. For such platforms Intel offers the Intel® Server Board SE7525GP2, including a vast range of capabilities helping to ensure the performance, manageability, reliability, and flexibility that groups and businesses depend on.

PCI Express* Offers Outstanding Data Throughput

In the Intel® Server Board SE7525GP2, the PCI Express x16 slot provides up to 8Gbps bandwidth. In the unidirectional graphics environment, this is twice the bandwidth of current AGP 8x graphics connections.[1]

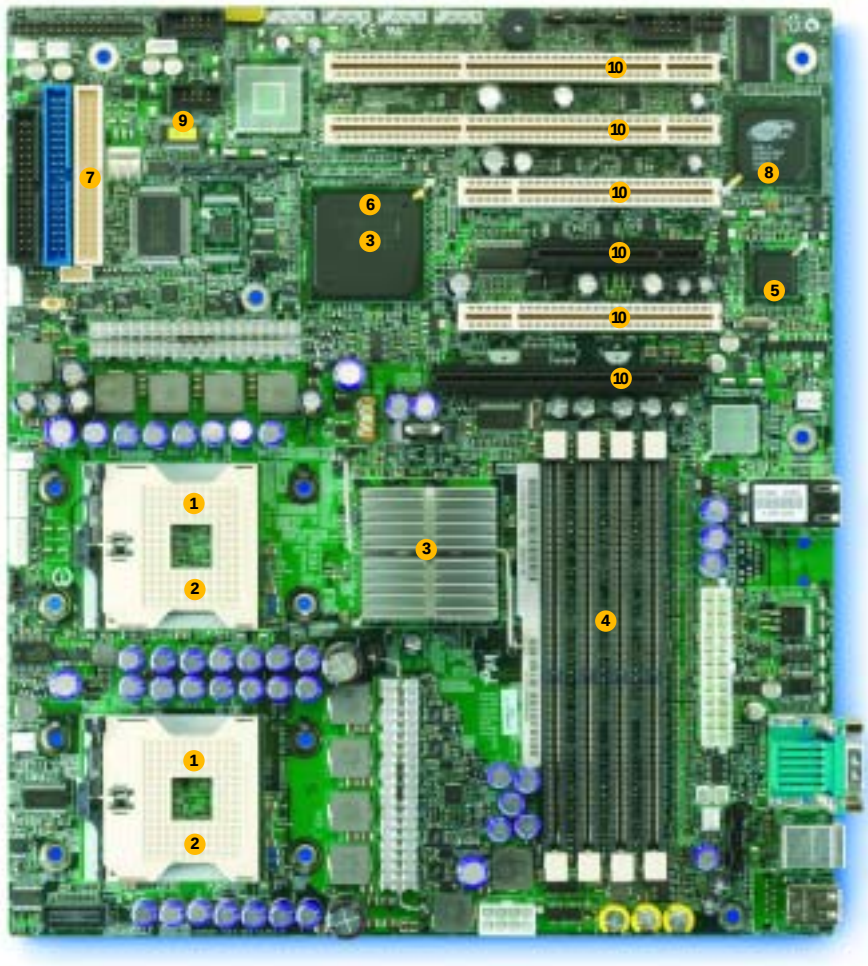
The Server Board SE7525GP2 supports dual Intel® Xeon™ processors with an 800MHz system bus along with the Intel® E7525 chipset—essential for powering solutions ranging from entry-level to enterprise-critical. Another capability, vital for running high-end graphics applications, is the board's support for up to 8 GB of Registered ECC DDR 266/333 SDRAM, dual-interleaved for improved performance. For solutions requiring fast I/O, the board features not only PCI-X 66MHz but also the next-generation PCI Express* interconnect technology. In addition to delivering exceptional I/O performance, PCI Express technology expands the functionality of applications by providing a common foundation for serial connectivity among servers, desktops, mobile devices, and other communications platforms.

Finally, to help workgroups and businesses maintain both performance and availability of critical server and workstation solutions, the Intel Server Board SE7525GP2 includes Intel® Server Management 8 and other sophisticated technologies for helping to provide adequate power supply and thermal protection and for ensuring that the board has passed some of the industry's most rigorous and extensive stress and validation testing. These innovative technologies help to maximize performance and minimize validation and support costs.

To meet the demanding memory requirements of high-end graphics applications, the Intel® Server Board SE7525GP2 supports up to 8 GB of Registered ECC DDR 266/333 SDRAM, dual-interleaved for improved performance.

Intel® Server Board SE7525GP2 Features and Benefits

Features	Benefits
Support for one or two Intel® Xeon™ processors with an 800MHz system bus	Innovative technology for high-performance server and graphics workstation workloads
Intel® E7525 Chipset	High performance in a purpose-built server/workstation chipset
Support for up to 8 GB of Registered ECC DDR 266/333 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 SE7525GP2

1. Support for two Intel® Xeon™ processors with an 800MHz system bus
2. Support for Intel® Extended Memory 64 Technology[2]
3. Intel® E7525 Chipset
4. Up to 8 GB of Registered ECC DDR 266/333 SDRAM
   - Dual-interleaved memory channels for high-speed data transfer
5. Integrated Intel® PRO/1000 Server Adapter
6. Integrated dual-channel Serial ATA controller supporting RAID 0 and 1
7. Dual-channel EIDE for a total of four devices
8. Integrated graphics
   - ATI* RAGE* XL SVGA PCI video controller with 8 MB of video memory
9. Integrated hardware management
   - National Semiconductor* PC87431M mini-Baseboard Management Controller
10. Four independent buses and six adapter slots:
    - One PCI Express* x16
    - One PCI Express* x4
    - Two PCI-X 66MHz
    - Two PCI 32-bit/33MHz

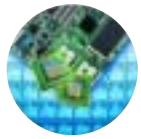
Intel® Server Board SE7525GP2 – I/O Panel Features

1. Keyboard /mouse connector
2. RJ45 Ethernet connectors
3. USB connectors
4. Video connector
5. Status LEDs
6. System-ID LED
7. Serial connector

Intel® Server Board SE7525GP2 Supports Technologies That Define Innovation[3]

Two sophisticated server technologies from Intel work together in the Intel Server Board SE7525GP2 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 SE7525GP2 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 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 SE7525GP2 Boxed Contents

The Intel® Server Board SE7525GP2 comes with all the board components required to help build a general-purpose server or high-performance workstation.

Included for easy integration:

1. One Intel® Server Board SE7525GP2
2. Quick Start User Guide
3. Intel® Server Management 8 CD Pack containing:
   - Intel® 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 SE7525GP2.
Please see **http://support.intel.com** 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 SE7525GP2**	**SE7525GP2**
Intel® Server Chassis	**Intel® Entry Server Chassis SC5275-E**	**SC5275E** **SC5275ENA**
Intel® RAID Controllers	**Intel® RAID Controller SRCS16**	**SRCS16**
Intel® Server Accessories	**Six-Drive SATA Hot-Swap Drive Bay** **Six-Drive SCSI Hot-Swap Drive Bay** **Workstation Cooling Kit** **Maintenance Kit**	**AXX6SATADB** **AXX6SCSIDB** **APT2WKTCOOLKIT** **FPT2PMKIT**

The Intel® Server Board SE7525GP2 is Part of a Family of Server Boards[4] for Pedestal Solutions and Supporting the 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 Adapters	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	Workgroup application, file, and messaging servers	Powerful processing, high bandwidth, and scalable management for general-purpose servers	Six independent PCI buses and six total slots: 1 PCI Express* x8 1 PCI Express* x4 1 PCI-X 133MHz 2 PCI-X 100MHz 1 PCI 32-bit/33MHz (x8 not included on SE7520BD2V)	Dual-channel Ultra320 SCSI, (SE7520BD2SCSI), also available with single-channel Ultra320 SCSI (SE7520BD2V) and without SCSI (SE7520BD2); all board models include dual-channel SATA with support for RAID 0 and 1 and dual-channel IDE	Dual Gigabit Ethernet Connections	Six DIMMs, up to 12 GB of ECC DDR 266/333	Intel® Server Management 8: Support for Intel® Management Module upgrade (Professional and Advanced Editions)
SE7525GP2	Workstations	Extreme I/O and graphics bandwidth support with flexibility for servers and work-stations	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, dual-channel IDE	Single Intel® PRO/1000 Server Adapter	Four DIMMs, up to 8 GB of ECC DDR 266/333	Intel® Server Management 8
SE7320SP2	Entry-level general-purpose, file/print, and Web servers	Real server features that provide room-to-grow for small business server solutions	Four independent PCI buses and five total slots: 1 PCI Express* x4 2 PCI-X 66MHz 2 PCI 32-bit/33MHz	Dual-channel SATA with sup-port for RAID 0 and 1 and quad-channel SATA with support for RAID 0 and 1 (SE7320SP2LX); also avail-able without quad-channel SATA (SE7320SP2); all board models include dual-channel IDE	Dual Gigabit Ethernet Server Adapters (SE7320SP2LX); also available without a second server adapter (SE7320SP2)	Four DIMMs, up to 8 GB of ECC DDR 266/333	Intel® Server Management 8

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

Intel® Server Board SE7525GP2 Specifications

Processor

One or two Intel, Xeon™ processors with an 800MHz system bus; for the latest processor support information, visit http://support.intel.com/support/motherboards/server/se7525gp2

System Memory

For the latest information on memory support, visit http://support.intel.com/support/motherboards/server/se7525gp2

Capacity	Four DIMM sockets for up to 8 GB of registered ECC DDR 266/333 memory (memory must be populated in pairs of equal-size DIMMs)
Type	Registered ECC DDR 266/333 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 Connections	One Intel® PRO/1000 Server Adapter via RJ45 connector (Intel® 82541GB controller); supports 10BASE-T, 100BASE-TX, and 1000BASE-T
Super I/O Controller	National Semiconductor* PC87427
Integrated Management Controller	National Semiconductor* PC87431M mini-Baseboard Management Controller
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; second board model with additional quad-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	Dual-channel EIDE for a total of four 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

Integrated Management Type	Onboard Platform Instrumentation
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* 6.5

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 access 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

Environment

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/ 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 ME06 D33025

[1] Calculations based on maximum theoretical throughput. Individual results may vary.

[2] Intel® Extended Memory 64 Technology (Intel® EM64T) requires 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.

[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.

For more information on how to make the Intel® Server Board SE7525GP2 part of your server environment, please contact an Intel® Channel Membership Programs participant

0704/JPT/MM/DMW/MAN/PP/10K

Intel Literature Center: 1-800-548-4725

ORDER NUMBER 300585-001E