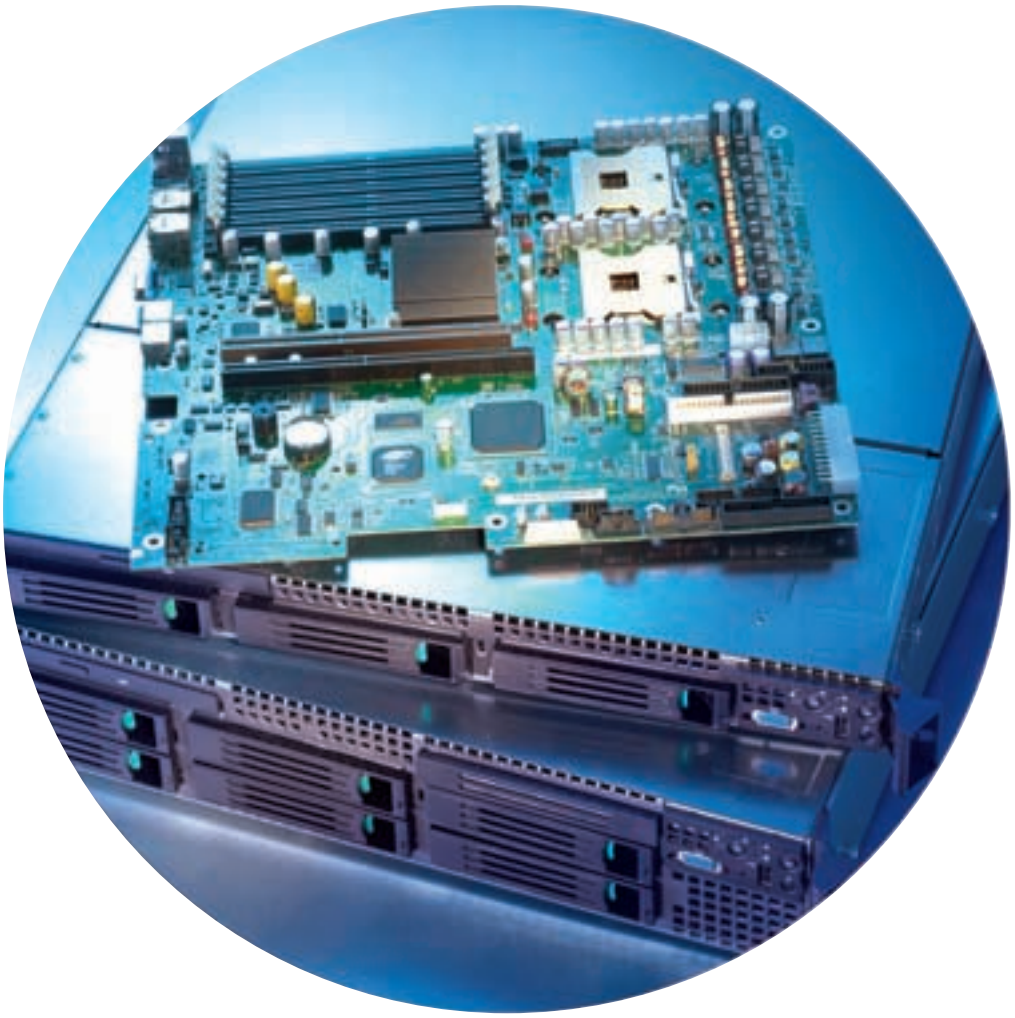
Product Brief

Intel® Server Board SE7320VP2 and Intel® Server Platform SR1435VP2

- Support for Dual 64-bit Intel® Xeon™ Processors
- Intel® E7320 Chipset
- PCI Express* I/O Interconnect Technology
- Support for Error-Correcting Code DDR or DDR2 SDRAM

Intel® Server Board SE7320VP2 and Intel® Server Platform SR1435VP2

High-density optimized board and 1U platform for entry-level parallel computing and front-end solutions



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 remarkable levels of performance and reliability for parallel computing applications.

Intel® Server Board SE7320VP2 and Intel® Server Platform SR1435VP2

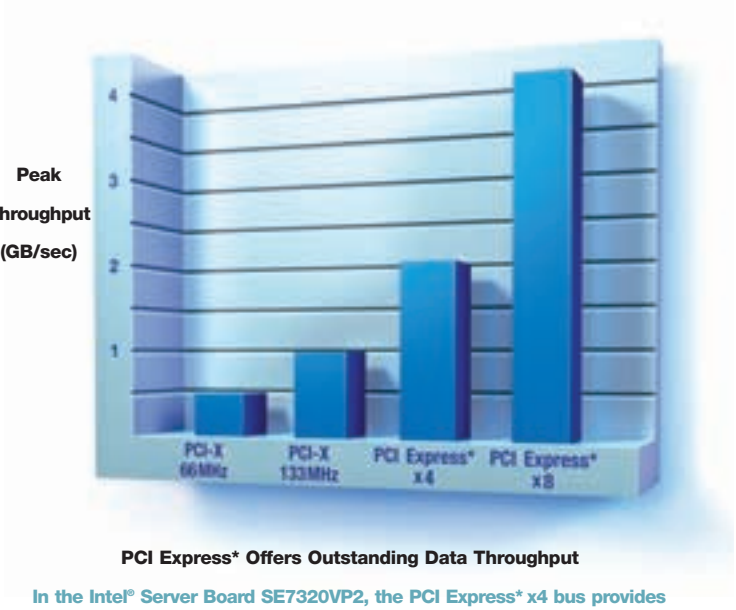
Businesses running entry-level HPC and front-end applications in high-density environments face the challenge of securing high performance, availability, and scalability on a limited budget. Intel addresses the needs of such businesses with the Intel® Server Board SE7320VP2 and Intel® Server Platform SR1435VP2.

Space-Saving Thin E-Bay Form Factor

The Intel Server Board SE7320VP2's SSI Thin E-Bay–based design makes it an exceptional choice for scalable 1U and 2U high-density rack systems. For high performance the server board accommodates dual 64-bit Intel® Xeon™ processors and PCI Express* I/O interconnect technology, and to help ensure high availability it supports Intel® Server Management 8.

1U Rack-Optimized Platform

For 1U use, Intel has combined the Server Board SE7320VP2 with a value-oriented chassis to create the Intel® Server Platform SR1435VP2. This platform has the same appearance and many of the same features as systems built with Intel's mainstream 1U chassis, the Intel® Server Chassis SR1400 (1U).

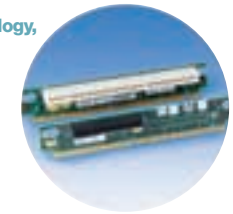


PCI Express* Offers Outstanding Data Throughput

In the Intel® Server Board SE7320VP2, the PCI Express* x4 bus provides up to four times the throughput of PCI-X 66MHz. *Calculations are based on maximum theoretical throughput. Individual results may vary.*

For businesses that need the cost-effective versatility of a server without a hard drive, the Intel® Server Board SE7320VP2 is compatible with the iDiskOnChip* diskless system.

Through its support for Intel® Adaptive Slot technology, the Intel® Server Board SE7320VP2 provides integrators and businesses a highly flexible approach to maintaining and enhancing I/O capabilities based on PCI Express*, PCI-X, and PCI.



Intel® Server Board SE7320VP2 and Intel® Server Platform SR1435VP2 Features and Benefits

Features	Benefits
Support for one or two 64-bit Intel® Xeon™ processors[1] with an 800MHz system bus and Enhanced Intel SpeedStep® technology[2]	Outstanding processing performance for advanced server applications; enhanced power utilization
Intel® E7320 chipset	Management of high data throughput to other board components
Dual-channel memory with six Registered ECC DDR 266/333 or DDR2 400[3] DIMM sockets	Excellent chipset-to-memory transfer rates and high memory capacity to support diverse server configurations
Intel® Adaptive Slot for PCI Express*, PCI-X, and PCI I/O interconnect technologies accessed through a riser card	Support for multiple I/O configurations spanning I/O interconnect architectures
Intel® Server Management 8	Proactive monitoring and remote control for maximum availability
Dual integrated Gigabit Ethernet connections	Fast communication between server and network with options for separate subnets and redundant links

Intel® Server Board SE7320VP2

1. Support for two 64-bit Intel® Xeon™ processors with an 800MHz system bus
2. Intel® E7320 chipset
3. Six DIMM sockets supporting ECC DDR 266/333 or DDR2 400 SDRAM[3]
4. Dual Gigabit Ethernet connections
5. Intel® Server Management 8
6. Dual ATA 100 channels supporting up to four IDE devices (one standard connector and one 100-pin high-density connector)
7. Integrated dual-channel Serial ATA controller supporting RAID 0 and 1
8. Integrated graphics
9. One Intel® Adaptive Slot and one PCI-X riser card slot supporting PCI Express*, PCI-X, and PCI–based add-in cards

Intel® Server Platform SR1435VP2

1. Intel® Server Board SE7320VP2
2. SSE-compliant front panel with hard-drive, network-activity, and system-fault LEDs
3. Three hard-drive bays
4. Slimline DVD, CD, or floppy bay
5. Bracket to support two riser cards: one full-height and one low-profile
6. 450W PFC power supply
7. Five system fans and two power-supply fans for cooling
8. Baffle for optimized core-zone cooling

Intel® Server Platform SR1435VP2 with Optional Bezel

The Intel® Server Board SE7320VP2 Supports Technologies That Define Innovation[4]

A number of sophisticated Intel server technologies work together in the Intel® Server Board SE7320VP2 to meet the needs of organizations supporting entry-level HPC and front-end applications in high-density environments. To reinforce the performance afforded by the server board's support of the 64-bit Intel® Xeon™ processor, the Server Board SE7320VP2 features **Intel® Power and Thermal Headroom**. For I/O flexibility, **Intel® Adaptive Slot** technology enables the board to provide riser slots supporting PCI Express*, PCI-X, and PCI I/O interconnect technologies.

Further technologies designed to simplify management are available when the Server Board SE7320VP2 is integrated into the Intel® Server Platform SR1435VP2. These technologies include **Intel® Drive Power Isolation**, which protects against voltage spikes during hot-swap drive replacement to safeguard data and lower support costs; **Intel® Multi-Path Boot**, which enables redundant processor booting to reduce technician workload and increase server uptime, and **Intel® Drive Stabilization Technology**, which reduces hard-drive vibration and minimizes head-skip to improve drive reliability, longevity, and performance.

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.

Intel® Power and Thermal Headroom

Intel® Adaptive Slot

Intel® Drive Power Isolation

Intel® Multi-Path Boot

Intel® Drive Stabilization Technology

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

Intel® Server Board SE7320VP2 Boxed Contents

The Intel® Server Board SE7320VP2 comes with all the board components required to help build an entry-level server in a high-density environment.

1. One Intel® Server Board SE7320VP2
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

The Intel® Server Board SE7320VP2 is Part of a Family of Server Boards[5] for 1U and 2U Rack-Mount Applications and Supporting the 64-bit Intel® Xeon™ Processor with an 800MHz System Bus.

Product	Market	PCI Configuration[6]	Integrated Storage	Integrated Networking	Memory Support	Management Solution	Other Innovations
SE7520JR2	Web hosting, data center, terminal services, high-performance computing (HPC)	Four independent PCI buses supporting up to PCI Express* x8 and PCI-X 133MHz	Optional dual-channel Ultra320 SCSI with support for RAID 0 and 1, dual-channel SATA with support for RAID 0 and 1, two EIDE channels supporting up to four IDE devices	Dual Intel® PRO/1000 MT Server Network Connections	Six DIMMs, up to 24 GB of ECC DDR 266 or 16 GB of ECC DDR 333 or DDR2 400	Intel® Server Management 8: Support for Intel Management Module upgrade (Professional and Advanced Editions)	Support for Intel® Local Control Panel, Intel® Cable Reduction Technology, Intel® Light-Guided Diagnostics, and Intel® Adaptive Slot technology
SE7320VP2	Entry-level Web hosting, data center, terminal services, HPC	Four independent PCI buses supporting up to PCI Express* x4 and PCI-X 66MHz	Dual-channel SATA with support for RAID 0 and 1, two EIDE channels supporting up to four IDE devices	Dual Gigabit Ethernet connections	Six DIMMs, up to 24 GB of ECC DDR 266 or 16 GB of ECC DDR 333 or DDR2 400	Intel Server Management 8	Support for Intel Adaptive Slot technology
SE7221BK1-E	High-performance and mainstream uniprocessor systems	Four independent PCI buses: 1U–One Intel® Adaptive Slot for PCI Express* x8 or PCI-X 100MHz Pedestal–Four slots with PCI Express x8, PCI-X 100MHz, and PCI support	Quad-channel SATA with integrated RAID 0, 1, and 10, one EIDE channel supporting up to two IDE devices	One or two Intel® PRO/1000 Server Network Connections	Four DIMMs, up to 4 GB of ECC DDR2 400/533	Intel Server Management 8	Support for Intel Adaptive Slot technology

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

Compatible Products for Comprehensive Solutions

The following table provides a list of key compatible products for the Intel® Server Board SE7320VP2. Please see http://support.intel.com/support/motherboards/server/se7320vp2 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 SE7320VP2** (supporting DDR 266/333) **Intel® Server Board SE7320VP2** (supporting DDR2 400)	**SE7320VP2** **SE7320VP2D2**
Intel® Server Platform	**Intel® Server Platform SR1435VP2** (supporting DDR 266/333)	**SR1435VP2** **SR1435VP2NA**[7]
	Intel® Server Platform SR1435VP2 (supporting DDR2 400)	**SR1435VP2D2** **SR1435VP2D2NA**[7]
Intel® Server Chassis	Intel® Server Chassis SR2400	SR2400 SR2400NA[7]
Intel® Server Accessories (abbreviated list)	1U Hot-Swap SATA Backplane and Cables 2U Hot-Swap SATA Backplane and Cables	A1400SATAKIT A2400SATAKIT
	1U Full-Height PCI Express* Riser 1U Full-Height PCI-X Riser 1U Low-Profile PCI-X Riser 1U/2U Fixed-Drive Kit	ADWPCIEXPR ADWPCIXR ADWLPRISER AFIXDRVKIT
	2U Standard Front-Panel Kit	AXXRACKFP
	1U/2U Fixed Rack Mounting Kit 1U/2U Sliding-Rail Rack Kit	AXXBRACKETS AXXHERAIL
	Slimline CD Slimline DVD/CDR Slimline Floppy 1U Bezel 2U Bezel iDiskOnChip* Power Connector	AXXSCD AXXDVDCDR AXXSFLOPPY ADWBEZBLACK ADRBEZBLACK AXXFLASHPWR

For a complete list of spares and accessories, see the Intel® Server Board SE7320VP2 Configuration Guide at http://support.intel.com/support/motherboards/server/se7320vp2.

The Intel® Server Platform SR1435VP2 is designed to support the Intel® Server Board SE7320VP2, providing an ideal server solution for businesses requiring maximum performance, data protection, and scalability.

Intel® Server Board SE7320VP2 and Intel® Server Platform SR1435VP2 Specifications

Processor

For the latest information on processor support, visit http://support.intel.com/support/motherboards/server/se7320vp

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/se7320vp2

Capacity	Six DIMM sockets for up to 24 GB of Registered ECC DDR 266 or 16 GB of Registered ECC DDR 333 or DDR2 400 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 or Registered ECC DDR2 72-bit, 240-pin gold-plated DIMMs
Reliability Features	Corrects single-bit errors, detects double-bit errors (using ECC memory); supports Intel® Single Device Data Correction (SDDC), memory sparing

Integrated Onboard

Chipset	Intel® E7320 chipset
Intel® Server Network Connections	One Intel® PRO/1000 MT Server Network Connection via an RJ45 connector (Intel® 82541PI GB controller); supports 10BASE-T, 100BASE-TX, and 1000BASE-T; one Marvell* 88E8050 10/100/1000 Network Interface Controller
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

Parallel ATA	Dual-channel ATA 100 (one standard connector and one 100-pin high-density connector) supporting up to two IDE devices per channel
Serial ATA	Dual-channel SATA 150 (two connectors) integrated with RAID 0/1 support

Input/Output

PCI	Four independent PCI buses enabling integrated video, integrated network controllers, and two riser card slots; the first riser slot is an Intel® Adaptive Slot supporting PCI Express* x4 and PCI-X 66MHz, and the second riser slot supports PCI-X 66MHz
USB	Two USB headers (back) and one internal front-panel USB header for two additional USB ports
Serial Ports	One asynchronous RS-232C 8-pin RJ45 port and one 10-pin internal header
Floppy Controller	1.44 MB and 2.88 MB, 3-mode support
Keyboard/Mouse	PS/2, 8240A-compatible

Intel® Server Management

Integrated Management Type	Onboard platform instrumentation
Software Support	Intel® Server Manager 8 family of software
Supported Standards	IPMI, DMI, CIM, SNMP

Fully Validated Operating Systems

Microsoft* Windows* Server 2003 Enterprise Edition, Microsoft Windows 2000 Advanced Server, Red Hat* Linux* Enterprise 3.0, SUSE* LINUX* Enterprise Server 9, and Novell* NetWare* 6.5

System BIOS

Type	4Mb 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, flashable, integrated BIOS setup utility
Configuration Utilities	Server Configuration Wizard for system setup of BIOS utilities; Save and Restore System Configuration Utility and initial Intel Server Management configuration

Jumpers

CMOS clear, password clear, BIOS recovery

Front-Panel Support

Power LED, hard-drive activity LED, system-fault LED, power/sleep switch, server network connection 1 LED, server network connection 2 LED, reset switch, NMI switch

Mechanical

Board Style	SSI Thin E-Bay v3.0
Board Size	13" x 12" (330 mm x 305 mm)

Power Requirements[8]

+5V	5.9A maximum continuous current
+5V Standby	2A minimum continuous current
+12V	22A maximum continuous current
+3.3V	4A maximum continuous current
–5V	0A maximum continuous current
–12V	0.5A 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

Additional Intel® Server Platform SR1435VP2 Specifications

Dimensions	1U: Height 1.7", Width 16.9", Depth 26.5" (27.2" with handles) (43 mm x 429 mm x 673 mm [691 mm with handles])
Power	450W PFC
Cooling	Seven fans (five for the system and two for the power supply) to provide cooling for processors, hard drives, power supply, and add-in cards monitored by Intel® Server Management 8

[1] 64-bit Intel® Xeon™ processors with IntelÆ 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 2.80 GHz and above.

[3] Depending on product model: Order code SE7320VP2 supports DDR 266/333, and order code SE7320VP2D2 supports DDR2 400.

[4] Features may vary depending on system configuration

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

[6] Based on PCI riser support.

[7] Board models whose order codes end in "NA" include a North American power cord.

[8] The power requirements listed are for guidance only. Please see http://support.intel.com for information on how to calculate the power requirements for specific system configurations.

For more information on how to make the Intel® Server Board SE7320VP2 and Intel® Server Platform SR1435VP2 part of your server environment, please contact an Intel® Channel Membership Programs participant.

Intel Literature Center: 1-800-548-4725
0505/SJ/MM/DMW/MAN/PP/10K
ORDER NUMBER 300587-003US