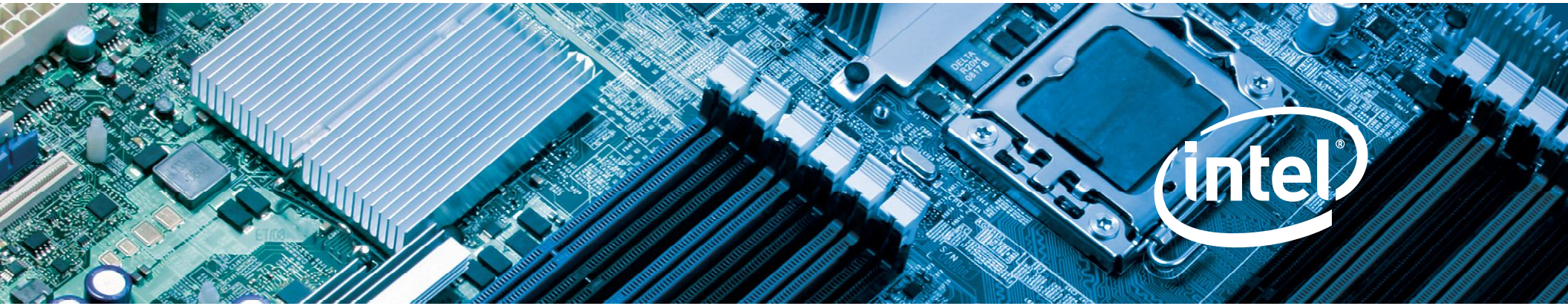

Product Brief

Intel® Server Board S5520SC
Intel® Workstation SC5650SCWS
Intel® Server Chassis SC5600BASE
Intel® Server Chassis SC5650WS

Intel® Server Board S5520SC
Intel® Workstation System SC5650SCWS
Intel® Server Chassis SC5600BASE
Intel® Server Chassis SC5650WS

A workstation-optimized product family designed with world-class performance and flexible expandability for graphics-intensive applications

Key Features

- Supports up to two Intel® Xeon® Processor 5600 series on Intel® Microarchitecture, codenamed Nehalem
- Highly scalable DDR3 memory (12 DIMMs)
- High-speed PCI Express* 2.0 I/O (Two PCIe 2.0 up to 16 slots)
- High-speed IEEE 1394a port
- HD 7.1 channel audio support

Target Applications: *Graphics-intensive applications, including CAD, CAM, industrial design, AEC, DCC, Web design, oil and gas exploration, financial services, EDA and CAE.*

Features and Benefits

- **Supports up to two Intel® Xeon® Processor 5500 or 5600 series on Intel® Microarchitecture** Increase server workstation performance with no increase in power consumption
- **Highly scalable, energy-efficient memory** 12 DIMMs of registered or unbuffered DDR3 ensure ample capacity and energy-efficient performance for any application
- **High-performance I/O architecture** 5 total expansion slots, including two fast PCI Express* 2.0 x16 slots, provide I/O flexibility for the most demanding, high-bandwidth workstation applications
- **Highly flexible storage architecture** 6 SATA ports plus an optional four-port SAS expansion module provide versatile storage configurations, from 6 fixed SATA drives to 6 hot-swap SATA or SAS devices
- **IEEE 1394a port** A high-performance IEEE 1394a serial bus provides sustained high-throughput connectivity and control for external storage, cameras and other high-definition audio-visual devices

Intel® Server Workstation System and Chassis Information

Intel® Workstation System SC5650SCWS
A pedestal system designed for graphic-intensive applications

Order Code	**SC5650SCWS**
Form Factor	5.2U pedestal, convertible to 6U rack[1]
Drive Bays	Up to 6 fixed 3.5" SATA hard drives Upgradeable to 6 hot-swap 2.5" or 3.5" SAS or SATA hard drives
Peripheral bay	Two 5.25" peripheral bays One 3.5" peripheral bay
System Cooling	Three non-redundant cooling fans: • One 120-mm chassis fan • One 120-mm PCI fan • One 92-mm drive bay fan
Processor Heat Sink	Not Included
Power Supply	Non-redundant 1000-watt high-efficiency PFC power supply with integrated cooling fan
Add-in Card Support	Five full-length, full-height PCI cards
Pedestal Dimensions (H x W x D)	17.8" (45.2 cm) x 9.256" (23.5 cm) x 19" (48.3 cm)
Rack Dimensions (H x W x D)	9.256" (23.5 cm) x 17.6" (44.7 cm) x 19" (48.3 cm)

Intel® Server Chassis SC5600 & Intel Server Chassis SC5650
Maximum reliability, scalability, and manageability in a highly versatile pedestal chassis

Chassis Order Code	SC5650WS SC5650WSNA	SC5600BASE SC5600BASENA
Form Factor	Pedestal, convertible to 6U rack[2]	Pedestal, convertible to 5U rack[1]
Drive Bays	Support for up to a total of six 3.5" fixed or hot swap SAS/SATA drives	Support for up to a total of six 3.5" fixed or hot swap SAS/SATA drives
Peripheral bay(s)	Media Bays (2 x 5.25") & (1 x 3.5")	Media Bays (3 x 5.25")
System Cooling	Three non-redundant fans: • One 120 mm chassis fan • One 120 mm PCI fan • One 92 mm drive bay fan	Three fixed, non-redundant fans: • Two 120 mm chassis fans • One 92 mm drive bay fan
Power Supply	Non-redundant 1000-watt high-efficiency PFC power supply with integrated cooling fan	Non-redundant 670-watt PFC power supply with integrated cooling fan
Pedestal Dimensions (H x W x D)	17.8" (45.2 cm) x 9.256" (23.5 cm) x 19" (48.3 cm)	17" (43.2 cm) x 8.6" (21.8 cm) x 28.4" (70.9 cm)
Rack Dimensions (H x W x D)	9.256" (23.5 cm) x 17.6" (44.7 cm) x 19" (48.3 cm)	8.6" (21.8 cm) x 16.6" (42.2 cm) x 27.4" (69.6 cm)

Intel® Workstation Server Board S5520SC Technical Specifications

Form Factor	Extended ATX (12" x 13")
Processor	Supports up to two Intel® Xeon® Processor 5500 or 5600 series[3]
Chipset	Intel® 5520 chipset with Intel® ICH10R
Memory Capacity	Twelve DDR3 DIMM sockets (Registered or Unbuffered) • Six channel native (800/1066/1333MHz)
Memory RAS Features	Channel-Independent Mode Channel-Mirroring Mode Demand Scrubbing Mode Patrol Scrubbing Mode
Storage	Six SATA ports (3 Gbps) via ICH10R with Intel® Embedded Server RAID Technology II Modular SAS RAID solution via Intel® I/O Expansion Module Options
Intel® RAID Support	Integrated • Intel® Embedded Server RAID Technology II with host-based SW RAID levels 0/1/10. Optional SW RAID 5 with activation key Optional • Intel® SAS Entry RAID Module AXX4SASMOD with RAID 0, 1, 1E, or Intel® Integrated RAID Module SROMBSASMR with RAID 0,1,5,6 and striping capability for spans 10, 50, 60 offering value above a traditional add-in card • Validated Intel® RAID Controllers[4]
Expansion Slots	Five total expansion slots • 2 PCI Express 2.0 x16 slot (x16 mechanical) • 1 PCI Express 1.0 x4 slot (x8 mechanical shared w/ optional SAS module) • 1 PCI Express 1.0 x1 slot (x4 mechanical) • 1 PCI 32/33 5V slot
Integrated LAN	Embedded Intel® Dual Gigabit Controller 82575EB with Intel® Virtualization Technology[5]
Integrated Graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8MB allocated to graphics

Integrated Audio	HD 7.1 channel audio, Dolby* Home Theater certified
IEEE Support	1 external IEEE 1394a port 1 internal IEEE 1394a connector
Management Hardware	Integrated IPMI 2.0 baseboard management controller • Fan speed control • Diagnostic LED's • Temperature monitoring and recovery • SMASH CLP (command line interface) • Email alerting • Power management with Intel® Intelligent Power Node Manager Optional Intel® Remote Management Module (RMM3) • KVM & Virtual Media redirection • Dedicated 3rd NIC • Remote Power on/off • Embedded Web UI • Event log and configuration
Management Software	Intel® Deployment Assistant 3.X • Wizard based UI to deploy, configure and update server • BIOS, BMC and RAID array configuration • Unattended OS install • Online patch updates Intel® Server Management Software 3.X • View critical or warning events • Power on/off/reset • View sensor (fan speeds, temperature, power) • Full IPMI 2.0 interface • Chassis Intrusion detection • Serial Over LAN (Text Console Redirection)

Safety and EMC Regulatory Compliance

Regulatory compliance for an Intel host system is based on the use of an Intel server base board that was tested in the host chassis and found compliant. Intel server base boards and host chassis are tested to Class A EMC requirements. Intel server products comply with RoHS (Restriction of Hazardous Substances).

Region (Compliance Obtained)	Board Markings	Host Chassis Markings
Argentina (IRAM)	Regulation N/A	
Australia (ACA) / New Zealand (MED)		
Belarus	Regulation N/A	
Canada		
	ICES-003	
China	Regulation N/A	
Europe (EU Directives) - LVD & EMC require CE mark; No mark required for RoHS; WEEE marking added voluntarily for end integrator convenience)		
Germany GS for Chassis Only; German Green Dot (Duales System Deutschland) for Board Packaging Only		
International Compliance (CB Report & CISPR Emission & Immunity)	Marking Not Required	
Japan (VCCI for chassis only) & Japan Recycling Marks on Board Retail Packaging Only	Regulation N/A	
		Marking Not Required
Korea (KCC)		
Russia (GOSSTANDART)	Regulation N/A	
Taiwan (BSMI)		
Ukraine (UKRTEST)	Regulation N/A	Marking Not Required
United States NRTL & FCC (For Board Products FCC Notation May Be in Documentation)		
	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation	

To build your system and get more details on server configurations from Intel visit:
www.intel.com/go/serverconfigurator

For more information on Intel® Server Products, visit:
www.intel.com/go/serverproducts

[1] Requires rack conversion kit ARIGRACK

[2] Requires rack conversion kit APP3RACKIT

[3] When installing two processors, both processors must be from the same processor series; either two Intel® Xeon® processor 5500 series or two Intel® Xeon® processor 5600 series. Out of the box support for the Intel Xeon 5600 series processors will be indicated by the addition of the letter "R" at the end of the Product Order Code. For boards and systems currently supporting the Intel Xeon 5500 series, a BIOS update is required before installing the 5600 series processor(s). Refer to http://support.intel.com for more information.

[4] For tested Intel RAID Controller options go to http://support.intel.com/support/motherboards/server/compat_matrix.htm

[5] Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, virtual machine monitor (VMM) and, for some uses, certain computer system software enabled for it. Functionality, performance or other benefits will vary depending on hardware and software configurations and may require a BIOS update. Software applications may not be compatible with all operating systems. Please check with your application vendor.