

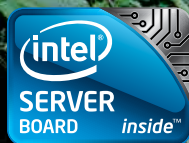
# Intel® Server Boards, Chassis, and Systems Catalog

Intel® Xeon® Processor 3400, 3500, 5500 and 5600 Server Products

# Building and Sustaining Ecological Leadership with Intel® Server Boards, Chassis and Systems

Intel recognizes that industry leadership requires true innovation to help define the future in as many ways as possible.

Development of “eco-smart” computing technologies that help customers conserve energy is a key component of Intel’s efforts to mitigate climate and environmental change.



Intel® server boards and systems are designed to deliver industry leading energy efficiency for reduced power and cooling costs.

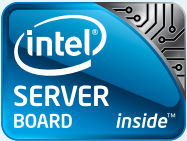
COMING SOON

Intel® On-Demand Redundant Power Technology, a new patent-pending technology on Intel Server Systems of the SR2600 and SR2625 family. On-Demand Redundant Power Technology moves the full power load to the active power supply, while powering down the second power supply. This saves up to 14 watts while still providing redundant power should the first power supply fail. Intel On-Demand Redundant Power Technology enables redundancy when you need it, saves power when you don't.

Intel® Server System or Chassis	80 PLUS*	Additional Features
SR1630BC	Bronze	High-efficiency power supply unit (PSU) Low Voltage DDR3 (LVDDR3) memory support
SC5650UP	Bronze	Quiet system design Supports low-voltage Intel® Xeon® processor 3400 SKUs
SR1630HGPRX/ SR1630GPRX	Silver	Five Gigabit Ethernet ports and support for 2 Intel® I/O Expansion Modules
SR1640TH	Silver	Four Intel® Xeon® 3400 series processors in a 1U system
SR1670HV	Silver	Separate high-efficiency 770-watt PSU for each node LVDDR3 memory support

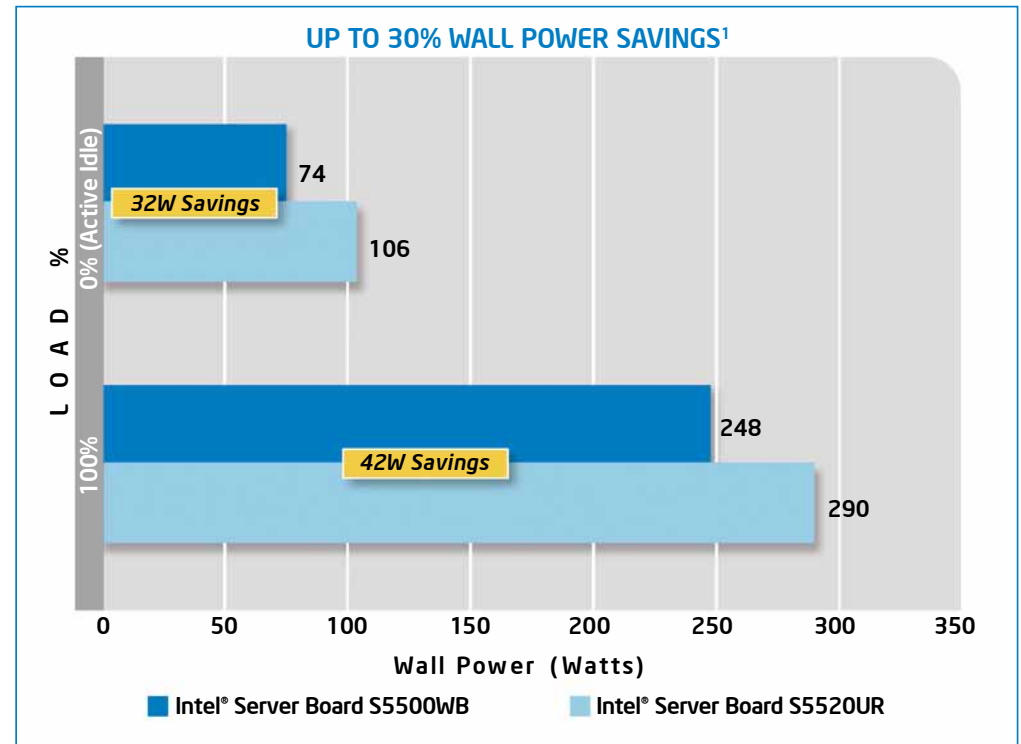
Intel® Server System or Chassis	80 PLUS*	Additional Features
SR1690WB	Silver	Various SKUs available with fixed or hot-swap PSUs LVDDR3 memory support
SR2612UR	Silver	760W ENERGY STAR*- compliant redundant hot-swap PSUs LVDDR3 memory support
SC5650BRP	Silver	PMBus-compliant 600W redundant PSU LVDDR3 memory support
SR1680MV	Gold	Single high-efficiency 1100-watt PSU supports both nodes independently LVDDR3 memory support
SR2600UR/ SR2625UR	Gold	Intel® On Demand Redundant Power Technology LVDDR3 memory support

# Deliver Energy Efficiency with Intel® Server System SR1690WB or Intel® Server Board S5500WB



Utilizing high-efficiency voltage regulators and an optimized design, the Intel® Server Board S5500WB delivers uncompromising performance with up to 30% power reductions compared to other solutions and savings up to \$224 over the life of the server.<sup>1</sup>

The Intel® SR1690WB Server System supports four 3.5" drives, a high-efficiency power supply, a PCI Express\* x8 (Gen 2) slot, and support for Intel® I/O Expansion Modules.



An optimized system built around the Intel® Server Board S5500WB saves 32W at the wall over a typical 1U server such as the Intel® Server System SR1600UR. This equates to total data center power savings of 64W (in a typical data center with PUE of 2.0)<sup>2</sup> Over a four year life, with electricity cost of \$0.10 per KWh, that would amount to over \$224 in power costs saving for each server deployed.<sup>3</sup>

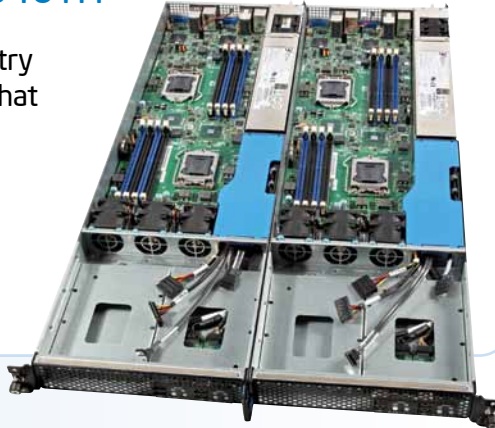
<sup>1</sup> Power benchmark data from SPECpower\_ssj2008. <http://www.spec.org/specpower/> Measurements were taken on pre-production systems (January 2009) that were configured with identical memory, processors and hard disk drive, operating system and JVM. Variables were fan configuration, cooling duct design, fan speed control and power wattage and supply efficiency rating.

<sup>2</sup> PUE = Power Usage Effectiveness. A PUE of 2.0 means that for every 2 watts in at the utility meter, only one watt is delivered out to the IT load (the server in this case). PUE ratio of 2.0 is the average value across all U.S. data centers. Source: [http://www.energystar.gov/ia/partners/prod\\_development/downloads/EPA\\_Datacenter\\_Report\\_Congress\\_Final1.pdf](http://www.energystar.gov/ia/partners/prod_development/downloads/EPA_Datacenter_Report_Congress_Final1.pdf)

<sup>3</sup> Calculation backup:  $32W \times 3 \text{ years} \times 365 \text{ days} \times 24 \text{ hours}/1000 = 1,121 \text{ Kilo Watt Hours (KWh)}$ . At a PUE of 2.0, that becomes  $2,241 \text{ KWh} \times \$0.10/\text{KWh} = \$224$ .

## High-Density, Four Socket Intel® Xeon® 3400 System Intel® Server System SR1640TH

A 1U four-node system ideal for entry HPC and high-density applications that value compute density, power and cooling efficiency. Each SR1640TH system includes two trays with each tray having two separate Intel Xeon® 3400 nodes and a high-efficiency power supply.



### Key features include:

- Four nodes each supporting one Intel® Xeon® 3400 series processor
- Support for 4 ECC UDIMMS or RDIMMS
- Two Silver high-efficiency power supplies
- Four fixed 3.5" SATA drive bays (one for each socket)
- Dual Intel® Gigabit Ethernet for each Intel® Xeon® 3400 Socket
- IPMI 2.0 integrated with optional remote management

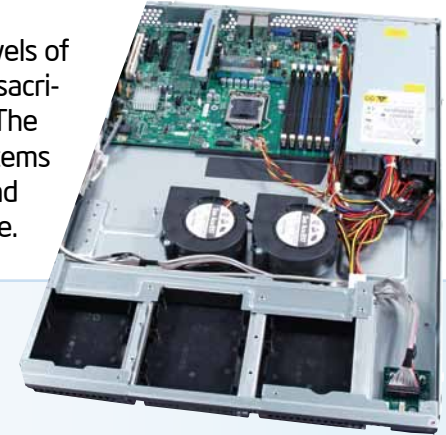


**System:** SR1640THNA (Four heat sinks included)

**Remote Management Card:** IPMI 2.0 is integrated. Remote management requires AXXRMM3LITEV

## Network Optimized Intel® Xeon® 3400 System Intel® Server System SR1630HGPRX or SR1630GPRX

Ideal for datacenter environments and application servers that need higher levels of integrated gigabit networking without sacrificing storage or additional expansion. The SR1630GPRX and SR1630HGPRX systems integrate five Gigabit Ethernet ports and 3.5" hard drive capabilities at a low price.



### Key features include:

- Support for one Intel® Xeon® 3400 series processor
- Memory expansion with 6 x RDIMMs or 4 x UDIMMs DDR3 slots
- Five integrated Intel® Gigabit Ethernet ports
- One silver high-efficiency power supply
- Support for two optional Intel® I/O Expansion Modules
- One PCI Express\* x8 (gen 2) riser slot
- IPMI 2.0 integrated with optional remote management
- Includes heat sink and rail kit



**System:** SR1630HGPRXNA (Supports three hot-swap 3.5" SAS/SATA drives) or SR1630GPRXNA (20" depth supporting 2 fixed 3.5" SAS/SATA drives)

**Storage I/O expansion module (choose 1):** Add hardware RAID 0/1/5/10 (AXXROMBSASMR) or 4-port SAS support (AXX4SASMOD)

**Network I/O expansion module (choose 1):** Add additional quad-port GbE (AXX4GBIOMOD2)

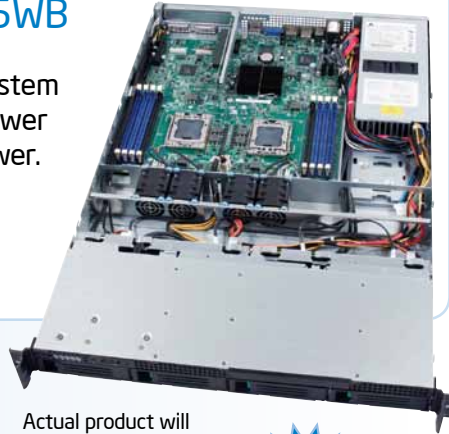
**Slim-line Optical Drive (Choose 1):** DVD Slim-line SATA Optical Drive (AXXSATADVDROM) or DVD +/- RW Slim-line SATA Optical Drive (AXXSATADVDRWROM)

**Remote Management Card:** IPMI 2.0 is integrated. Remote management requires AXXRMM3LITE and utilizes one onboard NIC

## High-Efficiency Redundant AC/DC Power for Datacenters

### Intel® Server System SR1695WB

An energy optimized 1U rack server system designed to support either AC or DC power with optional support for redundant power. Room for expansion with support for four 3.5" SAS/SATA hard drives and the Intel® I/O Expansion module.



Actual product will vary from image



Coming in June

#### Key features include:

- Support for two Intel® Xeon® 5600 series processors
- Redundant AC or DC power support
- One PCIe x8 (gen 2) riser slot
- I/O Expansion Module support
- Four hot-swap 2.5" or 3.5" SAS/SATA drives with optional upgrade to hardware RAID 0/1/5/6/10/50/60
- IPMI 2.0 with remote management option

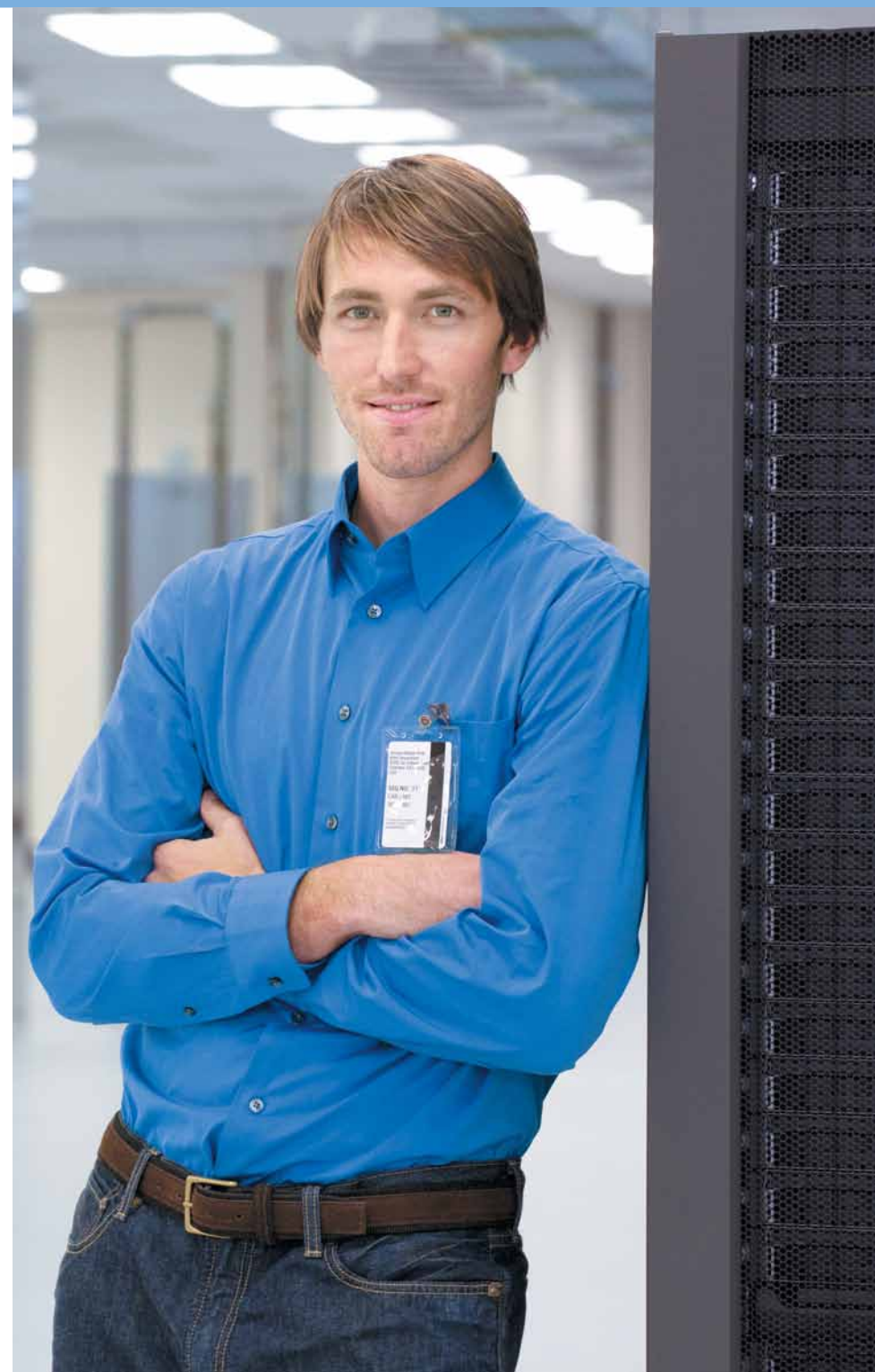
**System:** SR1695WBDCNA (for DC power) or SR1695WBACNA (for AC power)

**Hot-swap, redundant power:** Requires optional second power supply ASR1695PSDC (for DC Power) or ASR1695PSAC (For AC power)

**RAID Upgrade or I/O expansion module (choose 1):** Intel® RAID Controller (AXXR0MBSASMR), Quad-port GbE (AXX4GBIOMOD2) or Dual CX4-port 10GbE (AXX10GBIOMOD)

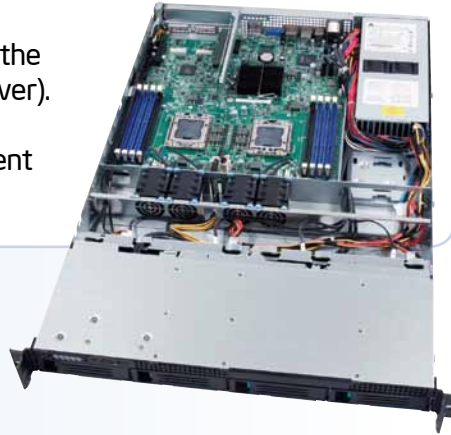
**Remote Management Card:** IPMI 2.0 is integrated. Remote management requires Intel® Remote Management Module 3 (AXXRMM3).

**Slim-line Optical Drive (Choose 1):** DVD Slim-line SATA Optical Drive (AXXSATADVDR0M) or DVD +/- R/W Slim-line SATA Optical Drive (AXXSATADVDRW0M)



## Energy Efficient 1U System Intel® Server System SR1690WB

Realize power savings of up to 30% at the wall (up to \$224 over the life of the server). This system is ideal for businesses or datacenters looking for a capable, efficient 1U rack server.



Optional RAID I/O Module  
(AXXROMBSASMR)

### Key features include:

- Support for two Intel® Xeon® 5600 series processors
- One PCIe x8 (gen 2) riser slot
- I/O Expansion Module support
- Four hot-swap 2.5" or 3.5" SAS or SATA drives with optional upgrade to hardware RAID 0/1/5/6/10/50/60
- High-efficiency power supply

**System:** SR1690WBRNA

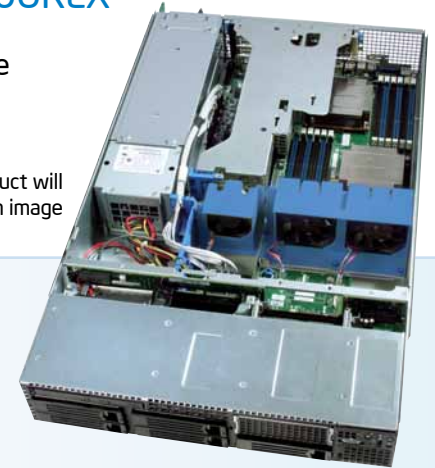
**RAID Upgrade or I/O expansion module (choose 1):** Intel® RAID Controller (AXXROMBSASMR), Quad-port GbE (AXX4GBIOMOD2), Dual CX4-port 10GbE (AXX10GBIOMOD)

**Remote Management Card:** IPMI 2.0 is integrated. Remote management requires Intel® Remote Management Module 3 (AXXRMM3)

## Expandable 2U System for High Reliability Intel® Server System SR2600URLX

A full-featured, expandable system, the Intel® Server System SR2600URLX is ideal for datacenter and rack environments that need expansion and reliability.

Actual product will vary from image



### Key features include:

- Support for two Intel® Xeon® 5600 series processors
- Hot-swap, redundant fans included
- Hot-swap power supplies (requires optional second power supply)
- Up to 6 SAS/SATA hot-swap drives with ASR2500SIXDRV kit and optional upgrade to hardware RAID 0/1/5/6/10/50/60
- Standard Riser supports three PCIe x8 (gen 2). Upgradable to five PCIe x8 (gen 2) or two PCI-X and one PCIe x8 (gen 2) with optional riser cards
- I/O Expansion Module support

**System:** SR2600URLXRNA

**RAID Upgrade:** Requires optional AXXRAKSAS2 & AXXMINIDIMM512. Battery backup with AXXBBU3

**I/O expansion module (choose 1):** Quad-port GbE (AXX4GBIOMOD2), Dual CX4-port 10GbE (AXX10GBIOMOD), external 4-port SAS (AXXSASIOMOD)

**Hot-swap, redundant power:** Requires optional second power supply AXX750WPSCR

**Management:** IPMI 2.0 is integrated. Remote management requires Intel® Remote Management Module 3 (AXXRMM3)

**Rail Kit:** AXXHERAIL2

**Slimline Optical Drive (Choose 1):** DVD Slimline SATA Optical Drive (AXXSATADVDRW) or DVD +/- RW Slimline SATA Optical Drive (AXXSATADVDRWROM)

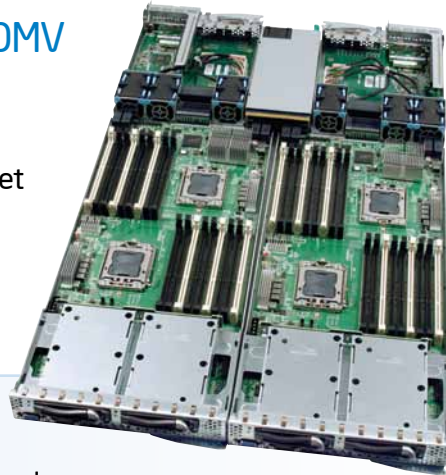


Coming soon:  
**Intel® On-Demand  
Redundant Power  
Technology**

## High-Performance Dual-Node Solutions with I/O Expansion

### Intel® Server System SR1680MV

A 1U system that is ideal for dense compute environments. Contains two pluggable high-performance dual-socket nodes with two slots for networking expansion. Each server node is cold-pluggable for ease of system repair and increased up-times.



#### Key features include:

- Support for two Intel® Xeon® 5600 series processors on each node
- Support for 18 DDR3 ECC UDIMMS or RIMMs on each node
- One PCIe x8 (gen 2) riser slot on each node
- Support for I/O Expansion Modules (10 GbE, Infiniband\*, Quad GbE) on each node
- Two hot-swap 2.5" SATA drives for each node (4 total in the system)
- 1100w high-efficiency power supply

**System:** SR1680MVRNA (includes power supply, two server nodes, hot-swap drive carriers)

**I/O expansion module (choose 1):** Dual CX4-port 10GbE (AXX10GBIOMOD), Single port QDR (CX4) Infiniband\* (AXXIBQDR10MV), Quad-port GbE (AXX4GBIOMOD2)

## Dual-Node 1U System Intel® Server System SR1670HV

A 1U system designed for dense compute or HPC applications and a PCI Express\* 2.0 x16 slot.



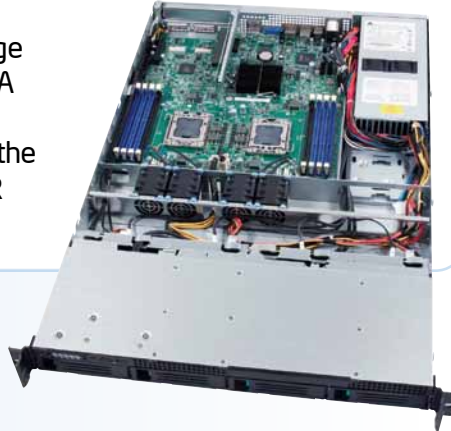
#### Key features include:

- Support for two Intel® Xeon® 5600 series processors on each node
- Support for 12 DDR3 ECC UDIMMS or RDIMMs on each node
- One PCIe x16 (gen 2) riser slot on each node
- Four hot-swap 2.5" SATA drives for each node (8 total in the system)
- Two 770W high-efficiency power supplies, (one for each node)

**System:** SR1670HVRNA (includes two power supplies, two server nodes, hot-swap drive carriers)

## 1U Four-Drive System Intel® Server System SR1690WB

Ideal for customers needing the storage capacity offered by four 3.5" SAS/SATA hard drives in a 1U system. Add data protection with hardware RAID 5 using the Intel® RAID Controller AXXROMBSASMR without consuming the riser slot.



### Key features include:

- Support for two Intel® Xeon® 5600 series processors
- One PCIe x8 (gen 2) riser slot
- I/O Expansion Module support
- Four hot-swap 2.5" or 3.5" SAS or SATA drives with optional upgrade to hardware RAID 0/1/5/6/10/50/60
- High-efficiency (Silver) power supply



Optional RAID I/O Module  
(AXXROMBSASMR)

**System:** SR1690WBRNA

**RAID Upgrade or I/O expansion module (choose 1):** Intel® RAID Controller (AXXROMBSASMR), Quad-port GbE (AXX4GBIOMOD2), Dual CX4-port 10GbE (AXX10GBIOMOD)

**Remote Management Card:** IPMI 2.0 is integrated. Remote management requires Intel® Remote Management Module 3 (AXXRMM3).

**Slimline Optical Drive (Choose 1):** DVD Slimline SATA Optical Drive (AXXSATADVDRM) or DVD +/- RW Slimline SATA Optical Drive (AXXSATADVDRWROM)

*Create a complete storage solution using the validated and certified software applications available through the Intel® ESAA program. With software from leading vendors such as Open E, Symantec and many other ISVs, it's easier to provide the backup and storage solutions your customers need.*

## Maximum Hard Drive Capacity in a 2U System Intel® Server System SR2612UR

Ideal for applications where high disk drive counts enable higher-performance or additional storage capacity. The twelve 3.5" hot-swap drives support either SAS or SATA drives. The expander backplane allows the drives to be controlled by one Intel® RAID Card.



### Key features include:

- Support for two Intel® Xeon® 5600 series processors
- Up to 12 SAS/SATA hot-swap drives
- Hot-swap, high-efficiency power supplies (Both power supplies included)
- Standard Riser supports three PCIe x8 (gen 2). Upgradable to five PCIe x8 (gen 2) or two PCI-X and one PCIe x8 (gen 2) with optional riser cards
- Hardware RAID 0/1/5/6/10/50/60 using Intel® I/O Expansion Module (AXXROMBSASMR)
- Support for slim-line USB optical drives at the rear of system



Optional RAID I/O Module  
(AXXROMBSASMR)

**System:** SR2612URRNA (Includes server board, riser with 3 PCIe x8 (gen 2) slots, 2 hot-swap redundant power supplies and two heat sinks)

**RAID Upgrade:** Requires AXXROMBSASMR for SAS and hardware RAID 0/1/5/6/10/50/60. Optional battery backup with AXXBBU3

**Management:** IPMI 2.0 is integrated. Remote management requires AXXRMM3

**Slimline Optical Drive (Choose 1):** DVD Slimline SATA Optical Drive (AXXSATADVDRM) or DVD +/- RW Slimline SATA Optical Drive (AXXSATADVDRWROM)



## Reliable and Expandable Dual-Socket Pedestal Server

### Intel® Server Board S5520HC and Intel® Server Chassis SC5650BRP

Designed for reliability and expandability, the Intel® Server Board S5520HC and SC5650BRP is ideal for applications such as database, e-mail, storage, and virtualization in small and medium business environments.



#### Key features include:

- Support for two Intel® Xeon® 5600 series processors
- 6 PCIe and PCI expansion slots
- Mezzanine module upgrades for SAS or SAS RAID
- Upgradeable to six 3.5" hot-swap SAS/SATA drives
- Hot-swap, redundant, high-efficiency power supplies

**Board:** S5520HCR

**Chassis:** SC5650BRPNA

**Hot-swap, redundant power:** Requires optional second power supply (APPT600WHPSU)

**Storage Upgrades:** Six hot-swap SAS/SATA drive bays (AXX6DRV3GEXP and APP3HSDBKIT) and Intel® RAID Controller AXXROMBSASMR for hardware RAID 0/1/5/6/10/50/60. Optional Intel® RAID Smart Battery AXXRSBBU3

**Remote Management Card:** IPMI 2.0 is integrated. Remote management requires Intel® Remote Management Module 3 (AXXRMM3)

## Cost-Effective Dual-Socket Pedestal Server

### Intel® Server Board S5500BC and Intel® Server Chassis SC5650DP

Ideal for small and medium businesses needing a cost-effective, dual-socket pedestal server for e-mail, file, print and basic business support applications.



#### Key features include:

- Support for two Intel® Xeon® 5600 series processors
- Upgradeable to six 3.5" hot-swap SAS/SATA drives
- Small form factor is ideal for office environments
- Integrated IPMI 2.0 with remote management upgrades

**Board:** S5500BCR

**Chassis:** SC5650DPNA

**Storage Upgrades:** Six hot-swap SAS/SATA drive bays with (AXX6DRV3GR and APPTHSDBKIT) and Intel® RAID Controller SRCASBB8I with 8 SAS ports for hardware RAID 0/1/5/6/10/50/60

**Remote Management Card:** IPMI 2.0 is integrated. Remote management requires Intel® Remote Management Module 3 (AXXRMM3)

## Entry, Single-Socket Pedestal Server

Intel® Server Board  
S3420GPLC and Intel®  
Server Chassis SC5650UP

Great for small businesses that need the reliability a server provides in a small and quiet pedestal chassis.



Actual product  
may vary from image

### Key features include:

- Support for one Intel® Xeon® 3400 series processor
- Supports DDR3 ECC UDIMMs and up to 32GB of DDR3 Registered DIMMs
- Upgradeable to six 3.5" hot-swap SAS/SATA drives
- Dual Gigabit Ethernet Controllers
- PCI Express\* 2.0 slots for future expansion
- Integrated IPMI 2.0
- High-efficiency power supplies
- Designed for Energy Star\* requirements
- Designed for office environments with acoustic levels as low as 32dB

**Board:** S3420GPLC

**Chassis:** SC5650UPNA

**Storage Upgrades:** Six hot-swap drive bays (AXX6DRV3GR and APPTHSDBKIT) and Intel® RAID Controller SCRSATAWB with 8 SATA ports for hardware RAID 0/1/5/6/10/50/60

## Entry 1U, Single-Socket Server System

Intel® Server System  
SR1630GP

The Intel® Server System SR1630GP is ideal for entry web-hosting or small & medium businesses.



### Key features include:

- Support for one Intel® Xeon® 3400 series processor
- One PCI Express\* x8 (gen 2) slot
- Integrated IPMI 2.0
- Support for two SATA drives
- 20" short depth
- Includes rail kit and heat sink

**System:** SR1630GPNA



**Upgrade to three hot-swap drives with SR1630HGPNA.**

## High-Performance, Dual-Socket Workstation for Demanding Applications Intel® Workstation Board S5520SC and Intel® Server Chassis SC5650WS

When maximum compute performance, support for high-end graphics and audio are required, Intel® Workstation Board S5520SC is the right solution. Ideal for CAD/CAM, scientific, digital content creation, and industrial applications where performance leads to increased productivity.



### Key features include:

- Support for two Intel® Xeon® 5600 series processors
- Two PCIe x16 (gen 2) slots for high-performance graphics
- Mezzanine module upgrades for SAS or SAS RAID
- Upgradeable to six 3.5" hot-swap SAS/SATA drives
- Integrated 7.1 High-Definition audio, IEEE 1394a and USB ports
- New and quieter 1000W power supply to support dual graphics cards



New power supply for quiet operation.



Order the board integrated in the chassis together using SC5650SCWSRNA

**Board:** S5520SCR

**Chassis:** SC5650WSNA

**Storage Upgrades:** Six hot-swap SAS/SATA drive bays (AXX6DRV3GEXP and APP3HSDBKIT) and Intel® RAID Controller AXXROMBSASMR for hardware RAID 0/1/5/6/10/50/60. Optional Intel RAID Smart Battery AXXRSBBU3

**Remote Management Card:** IPMI 2.0 is integrated. Remote management requires Intel® Remote Management Module 3 (AXXRMM3)

## Entry, Single-Socket Workstation Board Intel® Workstation Board WX58BP

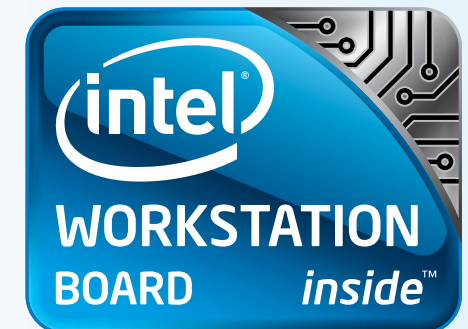
Intel® Workstation Board WX58BP is an affordable, entry level workstation board for video editing, multi-display and financial applications.



### Key features include:

- Support for one Intel® Xeon® processor W3500 series with Error Checking & Correction (ECC) memory
- Dual PCIe x16 (gen 2) slots with support for ATI\* CrossFireX\* Technology
- Standard ATX form factor for broad chassis compatibility
- Integrated Dolby\* home theater with High-Definition audio
- Gigabit Ethernet Controller

**Board:** WX58BP



## Simple, Cost-Effective Server Solution Intel® Modular Server

Ideal for growing midsize businesses with demanding IT needs and limited budget. Intel® Modular Server integrates storage, computing, and networking to simplify complex IT environments. Intel Modular Server is a business-in-a-box server system that is:

**Simple** – intuitive, powerful web-based remote management

**Flexible** – simple configuration, capacity on demand and easy reallocation of resources

**Exceptional Value** – lower (TCO) with enterprise-level features not available in traditional rack or pedestal servers

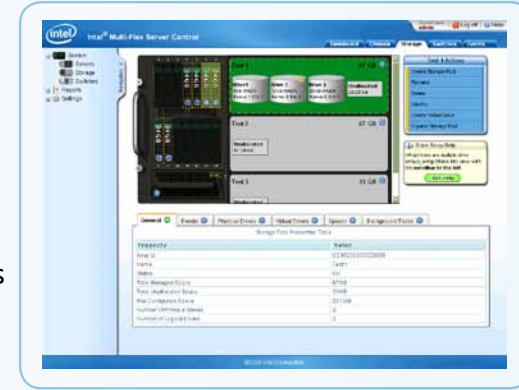


### Key features include:

- 6U rack-mount or pedestal form factor
- Up to 6 server compute modules each supporting up to two Intel® Xeon® 5600 series processors
- Shared disk storage subsystem
- Fourteen 2.5" SAS or six 3.5" SAS/SATA hard drives
- Additional storage control module offers full redundancy
- Up to two 10-port Gigabit Ethernet switch modules
- N+1 redundant hot swap power subsystem

### Included with each system is:

- Intel® Modular Server System
  - Intel® Management Module
  - Intel® Storage Control Module
  - Intel® 10-port Gigabit Ethernet Switch
  - 2 x Intel® Modular Server Power Supply
  - Hot-swap hard drive carriers
- System Resource CD
  - Software, Drivers & Documentation
- Intel® System Manager Software



### Necessary Components

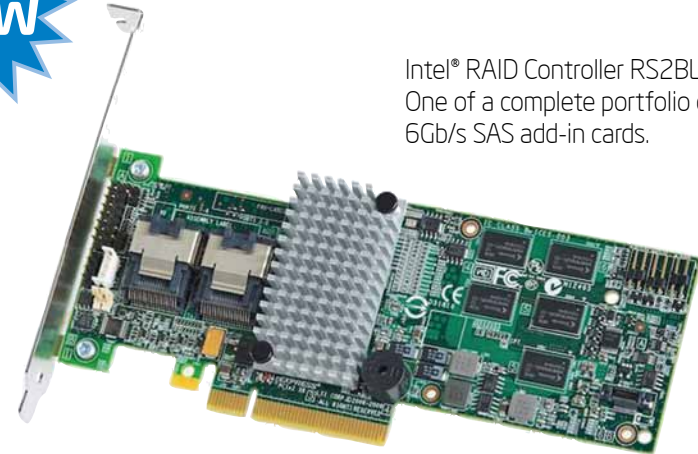
- One or more compute modules (MFS5520VIR)
  - One or two Intel® Xeon® 5500 or 5600 series processors
  - DDR3 ECC Unbuffered DIMMS or DDR3 Registered DIMMS

### Optional Accessories

- Quickly deploy and provision OSES or do backups with Intel® LUN Copier (MFLSUNCOPY)
- Intel® Modular Server Power Supply (AXXPSU). An optional third power supply is required to support six compute modules and a fourth power supply is required for redundancy.
- Add storage controller redundancy with Intel® Storage Control Module (AXXSCM3S)
- Upgrade the system network capacity by adding a second 10-port Intel® Gigabit Ethernet Switch (AXXSW1GB). Requires a Gigabit Ethernet I/O Expansion Mezzanine Card (AXXGBIOMEZV) for each installed compute module.
- Tool-less Rail kit (AXXMFRAIL)
- Support virtualized environments with Shared LUN Software Upgrade Key (MFLSLUNKEY)

## Intel® 6Gb/s RAID Products For Faster and More Secure 3Gb/s and 6Gb/s Systems

Intel 6Gb/s RAID solutions provide significant read and write performance enhancements for both 3Gb/s and 6Gb/s drive-based systems. Data security through Self Encrypting Drive management is also available within the 6Gb/s RAID line-up. System Builders who sell Intel servers with Intel 6Gb/s RAID storage solutions offer their end-customer more system performance, and higher return on their investments.

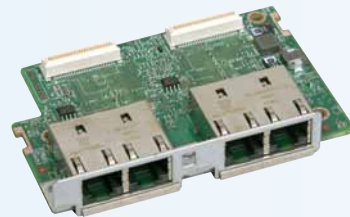


Intel® RAID Controller RS2BL080:  
One of a complete portfolio of  
6Gb/s SAS add-in cards.

## Configure the Ideal Solution with Intel® I/O Expansion Modules and Risers

Intel® I/O Expansion Modules enable internal or external SAS, SAS RAID, Dual or Quad Gigabit, 10 GbE and Infiniband\* interconnects to be added to selected

Intel rack products without consuming standard PCI slots. Optional risers for 2U rack systems give the flexibility to choose between three PCI Express\* x8 (gen 2) slots, 5 PCIe x8 (gen 2) slots or PCI-X slots for legacy applications. This configurability reduces operating and support costs by allowing a single product to be standardized on and then deployed into a variety of different environments.



## Intel® Server Product Family







# INTEL® XEON® 5500 AND 5600 SERIES PROCESSORS



MULTI-CORE INTEL® XEON® PROCESSOR 5600 SERIES FOR SERVER / WORKSTATION SYSTEMS FEATURING TWO LGA1366 SOCKETS (thermal solution sold separately)

 	PROCESSOR NAME	PRODUCT CODE	CLOCK SPEED	INTEL® QPI® SPEED	SHARED L3 CACHE	MAX. MEMORY SPEED	NO. OF CORES / THREADS	INTEL® HYPER-THREADING TECHNOLOGY <sup>2</sup>	INTEL® TURBO BOOST TECHNOLOGY <sup>3</sup>	POWER	UPC CODE
✓	Intel® Xeon® processor X5680	BX80614X5680	3.33 GHz	6.40 GT/s	12 MB	1333 MHz	6 / 12	▪	▪	130 W	7 35858 21412 4
✓	Intel® Xeon® processor X5677	AT80614005145AB (tray only)	3.46 GHz	6.40 GT/s	12 MB	1333 MHz	4 / 8	▪	▪	130 W	
✓	Intel Xeon processor X5670	BX80614X5670	2.93 GHz	6.40 GT/s	12 MB	1333 MHz	6 / 12	▪	▪	95 W	7 35858 21413 1
✓	Intel Xeon processor X5667	AT80614005154AB (tray only)	3.06 GHz	6.40 GT/s	12 MB	1333 MHz	4 / 8	▪	▪	95 W	
✓	Intel Xeon processor X5660	BX80614X5660	2.80 GHz	6.40 GT/s	12 MB	1333 MHz	6 / 12	▪	▪	95 W	7 35858 21414 8
✓	Intel Xeon processor X5650	BX80614X5650	2.66 GHz	6.40 GT/s	12 MB	1333 MHz	6 / 12	▪	▪	95 W	7 35858 21415 5
✓	Intel Xeon processor E5640	BX80614E5640	2.66 GHz	5.86 GT/s	12 MB	1066 MHz	4 / 8	▪	▪	80 W	7 35858 21416 2
✓	Intel Xeon processor E5630	BX80614E5630	2.53 GHz	5.86 GT/s	12 MB	1066 MHz	4 / 8	▪	▪	80 W	7 35858 21417 9
✓	✓ Intel Xeon processor E5620	BX80614E5620	2.40 GHz	5.86 GT/s	12 MB	1066 MHz	4 / 8	▪	▪	80 W	7 35858 21418 6
✓	Intel Xeon processor L5640	BX80614L5640	2.40 GHz	5.86 GT/s	12 MB	1066 MHz	6 / 12	▪	▪	60 W	7 35858 21411 7
✓	Intel Xeon processor L5630	BX80614L5630	2.13 GHz	5.86 GT/s	12 MB	1066 MHz	4 / 8	▪	▪	40 W	7 35858 21419 3
✓	Intel Xeon processor L5609	AT80614005940AA (tray only)	1.86 GHz	4.80 GT/s	12 MB	1066 MHz	4 / 4			40 W	

Learn more at: [www.intel.com/go/serverprocessors](http://www.intel.com/go/serverprocessors)

Look for Intel® Server Boards with an "R" in the product order codes to differentiate those that are shipping with the new BIOS which supports Intel® Xeon® processor 5600 series out of the box. Existing boards / systems will support Intel Xeon processor 5600 series after BIOS update. Low-voltage DDR memory and AES-NI will be supported on Intel Server Boards with Intel Xeon processor 5600 series installed.

1 Intel® QPI-Intel® QuickPath Interconnect; GT/s-Gigatransfers per second.  
 2 Intel® Hyper-Threading Technology requires a computer system with a processor supporting HT Technology and an HT Technology-enabled chipset, BIOS, and operating system. Performance will vary depending on the specific hardware and software you use. See [www.intel.com/info/hyperthreading](http://www.intel.com/info/hyperthreading) for more information.  
 3 Intel® Turbo Boost Technology requires a PC with a processor with Intel Turbo Boost Technology capability. Intel Turbo Boost Technology performance varies depending on hardware, software, and overall system configuration. Check with your PC manufacturer on whether your system delivers Intel Turbo Boost Technology. See [www.intel.com/technology/turboboost](http://www.intel.com/technology/turboboost) for more information.

MULTI-CORE INTEL® XEON® PROCESSOR 5500 SERIES FOR SERVER / WORKSTATION SYSTEMS FEATURING TWO LGA1366 SOCKETS (thermal solution sold separately)



NEW	LONG LIFE	PROCESSOR NAME	PRODUCT CODE	CLOCK SPEED	INTEL® QPI® SPEED	SHARED L3 CACHE	MAX. MEMORY SPEED	NO. OF CORES / THREADS	INTEL® HYPER-THREADING TECHNOLOGY <sup>2</sup>	INTEL® TURBO BOOST TECHNOLOGY <sup>3</sup>	POWER	UPC CODE
		Intel® Xeon® processor W5590	BX80602W5590	3.33 GHz	6.40 GT/s	8 MB	1333 MHz	4 / 8	▪	▪	130 W	7 35858 20995 3
		Intel Xeon processor W5580	BX80602W5580	3.20 GHz	6.40 GT/s	8 MB	1333 MHz	4 / 8	▪	▪	130 W	7 35858 20568 9
		Intel Xeon processor X5570	BX80602X5570	2.93 GHz	6.40 GT/s	8 MB	1333 MHz	4 / 8	▪	▪	95 W	7 35858 20569 6
		Intel Xeon processor X5560	BX80602X5560	2.80 GHz	6.40 GT/s	8 MB	1333 MHz	4 / 8	▪	▪	95 W	7 35858 20570 2
		Intel Xeon processor X5550	BX80602X5550	2.66 GHz	6.40 GT/s	8 MB	1333 MHz	4 / 8	▪	▪	95 W	7 35858 20571 9
	✓	Intel® Xeon® processor E5540	BX80602E5540	2.53 GHz	5.86 GT/s	8 MB	1066 MHz	4 / 8	▪	▪	80 W	7 35858 20572 6
		Intel Xeon processor E5530	BX80602E5530	2.40 GHz	5.86 GT/s	8 MB	1066 MHz	4 / 8	▪	▪	80 W	7 35858 20573 3
		Intel Xeon processor L5530	BX80602L5530	2.40 GHz	5.86 GT/s	8 MB	1066 MHz	4 / 8	▪	▪	60 W	7 35858 20996 0
		Intel Xeon processor E5520	BX80602E5520	2.26 GHz	5.86 GT/s	8 MB	1066 MHz	4 / 8	▪	▪	80 W	7 35858 20574 0
		Intel Xeon processor L5520	BX80602L5520	2.26 GHz	5.86 GT/s	8 MB	1066 MHz	4 / 8	▪	▪	60 W	7 35858 20575 7
		Intel Xeon processor E5507	BX80602E5507	2.26 GHz	4.80 GT/s	4 MB	800 MHz	4 / 4			80 W	7 35858 21389 9
		Intel Xeon processor E5506	BX80602E5506	2.13 GHz	4.80 GT/s	4 MB	800 MHz	4 / 4			80 W	7 35858 20576 4
		Intel Xeon processor L5506	BX80602L5506	2.13 GHz	4.80 GT/s	4 MB	800 MHz	4 / 4			60 W	7 35858 20579 5
	✓	Intel Xeon processor E5504	BX80602E5504	2 GHz	4.80 GT/s	4 MB	800 MHz	4 / 4			80 W	7 35858 20577 1
		Intel Xeon processor E5503	BX80602E5503	2 GHz	4.80 GT/s	4 MB	800 MHz	2 / 2			80 W	7 35858 21390 5
		Intel Xeon processor E5502	BX80602E5502	1.86 GHz	4.80 GT/s	4 MB	800 MHz	2 / 2			80 W	7 35858 20578 8





# INTEL® XEON® 3400, 3500 AND 3600 SERIES PROCESSORS





## INTEL® XEON® PROCESSOR W3600 SERIES FOR WORKSTATION SYSTEMS FEATURING ONE LGA1366 SOCKET (thermal solution sold separately)

 	PROCESSOR NAME	PRODUCT CODE	CLOCK SPEED	INTEL® QPI <sup>1</sup> SPEED	SHARED L3 CACHE	MAX. MEMORY SPEED	NO. OF CORES / THREADS	INTEL® HYPER-THREADING TECHNOLOGY <sup>2</sup>	INTEL® TURBO BOOST TECHNOLOGY <sup>3</sup>	POWER	UPC CODE
✓	Intel® Xeon® processor W3680	BX80613W3680	3.33 GHz	6.40 GT/s	12 MB	1333 MHz	6 / 12	▪	▪	130 W	7 35858 21408 7

## INTEL® XEON® PROCESSOR W3500 SERIES FOR WORKSTATION SYSTEMS FEATURING ONE LGA1366 SOCKET (thermal solution included)

 	PROCESSOR NAME	PRODUCT CODE	CLOCK SPEED	INTEL® QPI <sup>1</sup> SPEED	SHARED L3 CACHE	MAX. MEMORY SPEED	NO. OF CORES / THREADS	INTEL® HYPER-THREADING TECHNOLOGY <sup>2</sup>	INTEL® TURBO BOOST TECHNOLOGY <sup>3</sup>	POWER	UPC CODE
	Intel® Xeon® processor W3580	BX80601W3580	3.33 GHz	6.40 GT/s	8 MB	1333 MHz	4 / 8	▪	▪	130 W	7 35858 21004 1
	Intel Xeon processor W3570	BX80601W3570	3.20 GHz	6.40 GT/s	8 MB	1333 MHz	4 / 8	▪	▪	130 W	7 35858 20633 4
	Intel Xeon processor W3550	BX80601W3550	3.06 GHz	4.80 GT/s	8 MB	1066 MHz	4 / 8	▪	▪	130 W	7 35858 21005 8
	Intel Xeon processor W3540	BX80601W3540	2.93 GHz	4.80 GT/s	8 MB	1066 MHz	4 / 8	▪	▪	130 W	7 35858 20634 1
✓	Intel Xeon processor W3530	BX80601W3530	2.80GHz	4.80 GT/s	8 MB	1066 MHz	4 / 8	▪	▪	130 W	7 35858 21384 4
	Intel Xeon processor W3520	BX80601W3520	2.66 GHz	4.80 GT/s	8 MB	1066 MHz	4 / 8	▪	▪	130 W	7 35858 20635 8

## INTEL® XEON® PROCESSOR 3400 SERIES FOR SERVER / WORKSTATION SYSTEMS FEATURING ONE LGA1156 SOCKET (thermal solution included)

 	PROCESSOR NAME	PRODUCT CODE	CLOCK SPEED	SHARED L3 CACHE	MAX. MEMORY SPEED	NO. OF CORES / THREADS	INTEL® HYPER-THREADING TECHNOLOGY <sup>2</sup>	INTEL® TURBO BOOST TECHNOLOGY <sup>3</sup>	POWER	UPC CODE
	Intel® Xeon® processor X3470	BX80605X3470	2.93 GHz	8 MB	1333 MHz	4 / 8	▪	▪	95 W	7 35858 21029 4
	Intel Xeon processor X3460	BX80605X3460	2.80 GHz	8 MB	1333 MHz	4 / 8	▪	▪	95 W	7 35858 21030 0
✓	Intel Xeon processor X3450	BX80605X3450	2.66 GHz	8 MB	1333 MHz	4 / 8	▪	▪	95 W	7 35858 21031 7
	Intel Xeon processor X3440	BX80605X3440	2.53 GHz	8 MB	1333 MHz	4 / 8	▪	▪	95 W	7 35858 21032 4
✓	Intel Xeon processor X3430	BX80605X3430	2.40 GHz	8 MB	1333 MHz	4 / 4	▪	▪	95 W	7 35858 21033 1
	Intel Xeon processor L3426	BX80605L3426	1.86 GHz	8 MB	1333 MHz	4 / 8	▪	▪	45 W	7 35858 21201 4
✓	Intel Xeon processor L3406	BX80605L3406	2.26 GHz	4 MB	1333 MHz	2 / 4	▪	▪	30 W	7 35858 21347 9

Learn more at: [www.intel.com/go/serverprocessors](http://www.intel.com/go/serverprocessors)



# Recommended Intel® Xeon® 5500 and 5600 Series Processor Memory Configurations

INTEL® SERVER BOARDS S5520HC, S5520SC, S5520UR, S5500WB, S5500HV, INTEL® SERVER SYSTEMS IN THE SR1670HV, SR1680MV, SR1690WB, SR1695WB, SR1600UR, SR1625UR, SR2600UR, SR2612UR AND SR2625UR FAMILIES, AND COMPUTE MODULES (MFS5520VI) (NOTES 1 AND 2)

6GB	12GB	24GB	48GB
6x 1GB DDR3 Unbuffered ECC 1333 MHz	6x 2GB DDR3 Unbuffered ECC 1333 MHz	6x 4GB DDR3 Registered ECC 1333 MHz, Single- or Dual-Rank or 12x 2GB DDR3 Unbuffered ECC 1333 MHz (Note 3)	6x 8GB DDR3 Registered ECC 1333 MHz, Single- / Dual-Rank or 12x 4GB DDR3 Registered ECC 1 (Note 3)

## INTEL® SERVER BOARD S5500BC

4GB	8GB	16GB	32GB
4x 1GB Unbuffered DDR3 ECC 1333 MHz	4x 2GB DDR3 Unbuffered ECC 1333 MHz	4x 4GB DDR3 Registered ECC 1333MHz, Single- / Dual-Rank or 8x 2GB DDR3 Unbuffered EC 1333 MHz C	4x 8GB DDR3 Registered ECC 1333MHz - Single- / Dual-Rank or 8x 4GB DDR3 Registered ECC 1333 MHz

Note 1: Ideal configurations may vary by application and memory configuration is subject to change and any time, without notice. More information on supported memory configurations is available at [www.intel.com](http://www.intel.com)

Note 2: Assumes a system with both processors populated

Note 3: Intel® Server System SR1690WB, SR1695WB, and Intel® Server Board S5500WB only support 8 DIMMs and S5500HCV only supports 9 DIMMs.

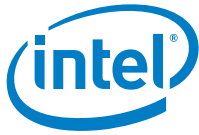
Note 4: W5590 and W5580 are supported on the Intel® Workstation Board S5520SC.

## Choose the Right Heat Sink for Intel® Xeon® 5500 and 5600 Series Processor Servers

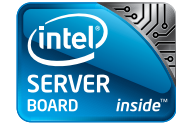
One heat sink required for each processor	SC5650 (DPNA, BRPNA, WSNA) and SC5600 (BASENA, BRPNA) Families	SC5600LXNA	SR1600UR, SR1625UR, SR1670HV, SR1680MV, SR1690WB, SR2600UR, SR2625UR and compute modules MFS5520VI	S5500WB Server Board and SR1630BCNA Servers
Intel® Xeon® Processor W5590, W5580, X5677 and X5680	BXSTS100C (Note 1)	5500 Series not supported. Consult <a href="http://www.intel.com">www.intel.com</a> for 5600 Series support.	5500 Series not supported. Consult <a href="http://www.intel.com">www.intel.com</a> for 5600 Series support.	Not Supported
Intel® Xeon® Processor X5570, X5560, X5550, X5650, X5660, X5667, X5670	BXSTS100C	FXXRGTHS	System includes BXSTS100P heat sinks.	BXSTS100P
Intel® Xeon® Processor E5540, E5530, L5530, L5520, E5520, L5506, E5506, E5504, E5502, L5609, L5630, L5640, E5620, E5630, E5640	BXSTS100A or BXSTS100C	FXXRGTHS	System includes BXSTS100P heat sinks.	BXSTS100P

Note 1: Intel® Xeon® Processor W5590 and W5580 are only supported in Intel® Workstation Board S5520SCR in Intel® Workstation Chassis SC5650WSNA.

Note 2: Intel® Server System SR2612UR includes two heat sinks.



# INTEL® SERVER BOARDS



Boards	Intel® Entry Server Board S3420GPLX	Intel® Entry Server Board S3420GPLC
	<i>Entry server board with support for mainstream applications and additional features</i>	<i>Entry server board with support for mainstream applications</i>
Order Code <sup>1</sup>	<b>S3420GPLX</b>	<b>S3420GPLC</b>
Intel® Server Chassis Support	Intel® Server Chassis SC5650UP	Intel® Server Chassis SC5650UP Intel® Server System SR1630GP Intel® Server System SR1630HGP
Processor Support <sup>2</sup>	<b>Intel® Xeon® processor 3400 series</b>	<b>Intel® Xeon® processor 3400 series</b>
Number of Processors Supported	1	1
Chipset	Intel® 3420 Chipset and PCI Express* switch	Intel® 3420 Chipset
Total Slots	6	4
Slot Types	1 x PCI Express 2.0 x8 (x16 mechanical) 1 x PCI Express 2.0 x8 (x8 mechanical) 1 x PCI Express 2.0 x4 (x8 mechanical) 1 x PCI Express x4 (x8 mechanical) 1 x PCI Express x1 (x1 mechanical) 1 x PCI 32-bit / 33 MHz (5 V) 1 x Mezzanine connector—SAS module	1 x PCI Express* 2.0 x8 (x16 mechanical) 1 x PCI Express 2.0 x8 (x8 mechanical) 1 x PCI Express x4 (x8 mechanical) 1 x PCI 32-bit / 33 MHz (5 V)
Memory Capacity	6 x RDIMMs or 4 x UDIMMs DDR3 memory through dual memory channels (32 GB max for RDIMM and 16 GB max for UDIMM)	6 x RDIMMs or 4 x UDIMMs DDR3 memory through dual memory channels (32 GB max for RDIMM and 16 GB max for UDIMM)
Integrated Serial ATA	6-port SATA (3.0 Gb/s)	6-port SATA (3.0 Gb/s)
SAS Option	Optional SAS or SAS RAID solutions via Intel® I/O Expansion Modules	N/A
Integrated LAN	Embedded Intel® Dual-Gigabit Controllers 82574L and 82578DM	Embedded Intel® Dual-Gigabit Controllers 82574L and 82578DM
Integrated Graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics
System Management Software	Intel® System Management Software 3.x Intel® Deployment Assistant	Intel® System Management Software 3.x Intel® Deployment Assistant
Server Management Support	Integrated baseboard management controller with IPMI 2.0 support and option for KVM and virtual media redirection with dedicated NIC via Intel® Remote Management Module (AXXRM3)	Integrated baseboard management controller with IPMI 2.0 support
Intel® RAID Support	Integrated SAS / SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Intel® Rapid Storage Technology with host-based software RAID levels 0, 1, 5, and 10	Integrated SAS / SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Intel® Rapid Storage Technology with host-based software RAID levels 0, 1, 5, and 10
Warranty	3 year limited warranty	3 year limited warranty




Learn more at: [www.intel.com/go/serverboards](http://www.intel.com/go/serverboards)



	<b>Intel® Entry Server Board S3420GPRX</b>	<b>Intel® Entry Server Board S3420GPV</b>
<b>Boards</b>	<i>High-efficiency server board for rack optimization</i>	<i>Essential server features for entry-level applications</i>
<b>Order Code<sup>1</sup></b>	<b>S3420GPRX</b>	<b>S3420GPV</b>
<b>Intel® Server Chassis Support</b>	Intel® Server System SR1630GPRX Intel® Server System SR1630HGPRX	Intel® Server Chassis SC5650UP
<b>Processor Support<sup>2</sup></b>	<b>Intel® Xeon® processor 3400 series</b>	<b>Intel® Xeon® processor 3400 series</b>
<b>Number of Processors Supported</b>	1	1
<b>Chipset</b>	Intel® 3420 Chipset	Intel® 3420 Chipset
<b>Total Slots</b>	1	4
<b>Slot Types</b>	1 x PCI Express* 2.0 x8 ( <i>x16 mechanical</i> ) 1 x Mezzanine connector—internal SAS module 2 x Mezzanine connector—external I/O module ( <i>GbE and SAS</i> )	1 x PCI Express* 2.0 x8 ( <i>x16 mechanical</i> ) 1 x PCI Express 2.0 x8 ( <i>x8 mechanical</i> ) 1 x PCI Express x4 ( <i>x8 mechanical</i> ) 1 x PCI 32-bit / 33 MHz ( <i>5 V</i> )
<b>Memory Capacity</b>	6 x RDIMMs or 4 x UDIMMs DDR3 memory through dual memory channels ( <i>32 GB max for RDIMM and 16 GB max for UDIMM</i> )	4 x UDIMMs DDR3 memory through dual memory channels ( <i>16 GB max for UDIMM</i> )
<b>Integrated Serial ATA</b>	6-port SATA ( <i>3.0 Gb/s</i> )	6-port SATA ( <i>3.0 Gb/s</i> )
<b>SAS Option</b>	Optional SAS or SAS RAID solutions via Intel® I/O Expansion Modules	N/A
<b>Integrated LAN</b>	Embedded Intel® 5 ports Gigabit Controllers ( <i>one for 82574L and four for 82576EB</i> ) Optional Quad or Dual GbE solution via Intel® I/O Expansion Modules	Embedded Intel® Dual-Gigabit Controllers 82574L and 82578DM
<b>Integrated Graphics</b>	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Onboard graphic controller ( <i>SM712</i> )
<b>System Management Software</b>	Intel® System Management Software 3.x Intel® Deployment Assistant Intel® Remote Management Module 3 Lite ( <i>AXXRMMLITE</i> )	Intel® System Management Software 3.x Intel® Deployment Assistant
<b>Server Management Support</b>	Integrated baseboard management controller with IPMI 2.0 support and option for KVM and virtual media redirection with dedicated NIC via 82574L ( <i>RMM3 Lite required</i> )	N/A
<b>Intel® RAID Support</b>	Integrated SAS / SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Intel® Rapid Storage Technology with host-based software RAID levels 0, 1, 5, and 10	Intel® Matrix Storage Technology with host-based software RAID levels 0, 1, 5, and 10
<b>Warranty</b>	3 year limited warranty	3 year limited warranty



Boards	Intel® Server Board S5520UR	Intel® Server Board S5500WB	Intel® Server Board S5520HC
	<i>Highly integrated, rack-optimized server board for enterprise data centers and high-performance computing</i>	<i>A rack-optimized server board, purpose-built for high energy efficiency and lowest total cost of ownership in dense computing applications</i>	<i>A pedestal-optimized server board designed with world-class performance, scalable management, and maximum expandability for small and medium business applications</i>
Order Code <sup>1</sup>	BB5520URR (OEM 10-pack) / S5520URT (TPM-enabled option)	S5500WBR or S5500WBR12V	S5520HCR / S5520HCT (TPM-enabled option)
Intel® Server Chassis Support	Intel® Server System SR1600UR family Intel® Server System SR1625UR family Intel® Server System SR2600UR family Intel® Server System SR2625UR family	Intel® Server System SR1690WB Intel® Server System SR1695WB	Intel® Server Chassis SC5600 family Intel® Server Chassis SC5650 family Intel® Server System SC5650HCBRP
Processor Support <sup>2</sup>	Intel® Xeon® processor 5500 or 5600 series <sup>4</sup>	Intel® Xeon® processor 5500 or 5600 series <sup>4</sup>	Intel® Xeon® processor 5500 or 5600 series <sup>4</sup>
Number of Processors Supported	1 or 2	1 or 2	1 or 2
Intel® QuickPath Interconnect (GT/s) <sup>3</sup>	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s
Chipset	Intel® 5520 Chipset with ICH10R	Intel® 5500 Chipset with ICH10R	Intel® 5520 Chipset with ICH10R
Total Slots	1U: 1 2U: up to 5 Plus proprietary I/O module and Midplane2 connection	Up to 2, plus 1 via Intel® I/O Expansion Module (chassis dependent)	6
Slot Types	1U: 1 x PCI Express* 2.0 x16 (x16 mechanical via riser) 2U: Options vary by system 3 x full-height PCI Express 2.0 x8 (passive riser) 3 x full-height PCI Express 2.0 x8, 2 x low-profile PCI Express 2.0 x8 3 x full-height PCI-X 133 MHz 2 x full-height PCI-X 133 MHz, 1 x full-height and 2 x low-profile PCI Express 2.0 x8 Optional 1 x PCI Express 2.0 x8 via Intel® I/O Expansion Module Optional 1 x PCI Express x4 via bridge board connector on Midplane2	1 x PCI Express* 2.0 x8 in slot 6 (x16 mechanical) 1 x PCI Express 2.0 x4 in slot 1 (x8 mechanical) 1 x PCI Express 2.0 x8 (GbE, 10 GbE, SAS, and InfiniBand* options) via Intel® I/O Expansion Module	1 x PCI Express* 2.0 x8 (x16 mechanical) 3 x PCI Express 2.0 x8 (x8 mechanical) 1 x PCI Express 2.0 x4 (x8 mechanical shared with Intel® 4-port SAS I/O module) 1 x PCI 32-bit / 33 MHz (5 V)
Memory Capacity	12 x DDR3 memory DIMM slots through 6 memory channels	8 x DDR3 memory DIMM slots through 6 memory channels	12 x DDR3 memory DIMMs through 6 memory channels
Integrated Serial ATA	6-port SATA (3.0 Gb/s) via ICH10R	6-ports SATA (3.0 Gb/s) via ICH10R	6-port SATA (3.0 Gb/s) via ICH10R
SAS Option	Optional SAS / SATA RAID solution via Intel® Integrated Server RAID system boards	Optional via Intel® I/O Expansion Modules: 4-port internal SAS, 4-port internal SAS hardware RAID	Optional SAS or SAS RAID solutions via Intel® I/O Expansion Modules
Integrated LAN	Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>5</sup>	Embedded Intel® Dual-Gigabit Controller 82576EB with Intel® Virtualization Technology <sup>5</sup>	Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>5</sup>
Integrated Graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics
System Management Software	Intel® System Management Software 3.x Intel® Deployment Assistant	Intel® System Management Software 3.x Intel® Deployment Assistant	Intel® System Management Software 3.x Intel® Deployment Assistant
Server Management Support	Integrated baseboard management controller with IPMI 2.0 support, Intel® Intelligent Power Node Manager and option for KVM and virtual media redirection with dedicated NIC via Intel® Remote Management Module (AXXRMM3)	Support for the new simplified Data Center Management Interface (DCMI), IPMI 2.0, and Intel® Intelligent Power Node Manager Optional Intel® Remote Management Module (AXXRMM3)	Integrated baseboard management controller with IPMI 2.0 support, Intel® Intelligent Power Node Manager and option for KVM and virtual media redirection with dedicated NIC via Intel® Remote Management Module (AXXRMM3)
Intel® RAID Support	Includes SATA RAID with Intel® Embedded Server RAID Technology providing host-based RAID 0, 1, and 10 Optional host-based RAID 5 with activation key AXXRAKSW5 Optional SAS RAID with Intel® Integrated RAID module AXXROMBSASMR providing RAID 0, 1, 5, and 6 and spans 10, 50, and 60 Compatible with Intel® RAID Controller add-in cards	Includes SATA RAID with Intel® Embedded Server RAID Technology providing host-based RAID 0, 1, and 10 Optional host-based RAID 5 with activation key AXXRAKSW5 Optional SAS RAID with Intel® Integrated RAID module AXXROMBSASMR providing RAID 0, 1, 5, and 6 and spans 10, 50, and 60 Compatible with Intel® RAID Controller add-in cards	Includes SATA RAID with Intel® Embedded Server RAID Technology providing host-based RAID 0, 1, and 10 Optional host-based RAID 5 with activation key AXXRAKSW5 Optional SAS RAID with Intel® Integrated RAID module AXXROMBSASMR providing RAID 0, 1, 5, and 6 and spans 10, 50, and 60 Compatible with Intel® RAID Controller add-in cards
Warranty	3 year limited warranty	3 year limited warranty	3 year limited warranty

			
<b>Boards</b>	<b>Intel® Server Board S5500HCV</b>	<b>Intel® Server Board S5500HV</b>	<b>Intel® Server Board S5500BC</b>
	<i>A pedestal-optimized server board designed with enterprise-class performance and scalable management, for small and medium business applications</i>	<i>A high-performance, half-width dual-socket server board optimized for high-density HPC applications</i>	<i>An entry-level server board for rack- and pedestal-optimized server solutions designed for business-class performance and quality</i>
<b>Order Code<sup>1</sup></b>	<b>S5500HCVR</b>	<b>BB5500HVR (OEM 10-pack)</b>	<b>S5500BCR</b>
<b>Intel® Server Chassis Support</b>	Intel® Server Chassis SC5600 family Intel® Server Chassis SC5650 family	Intel® Server System SR1670HV	Pedestal: Intel® Server System SC5650BCDP, Intel® Server Chassis SC5650 family 1U Rack: Intel® Server System SR1630BC
<b>Processor Support<sup>2</sup></b>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>4</sup></b>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>4</sup></b>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>4</sup></b>
<b>Number of Processors Supported</b>	1 or 2	1 or 2	1 or 2
<b>Intel® QuickPath Interconnect (GT/s)<sup>3</sup></b>	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s
<b>Chipset</b>	Intel® 5500 Chipset with ICH10R	Intel® 5500 Chipset with ICH10R	Intel® 5500 Chipset with ICH10R
<b>Total Slots</b>	5	1	5
<b>Slot Types</b>	2 x PCI Express* 2.0 x8 (x8 mechanical) 1 x PCI Express 2.0 x4 (x16 mechanical) 1 x PCI Express x4 (x8 mechanical shared with Intel® 4-port SAS I/O module) 1 x PCI 32-bit / 33 MHz (5 V)	1 x low-profile, half-length PCI Express* 2.0 x 16	Pedestal: 2 x half-length PCI Express* 2.0 x8 (x8 mechanical) 1 x half-length PCI Express 2.0 x4 (x8 mechanical) 1 x half-length PCI Express x4 1 x half-length PCI 32-bit / 33 MHz (5 V) Rack: 1 x low-profile, half-length PCI Express 2.0 x8 riser in slot 6
<b>Memory Capacity</b>	9 x DDR3 memory DIMMs through 6 memory channels	12 x DDR3 memory DIMM slots through 6 memory channels	8 x DDR3 memory DIMMs through 4 memory channels
<b>Integrated Serial ATA</b>	6-port SATA (3.0 Gb/s) via ICH10R	4-port SATA (3.0 Gb/s) via ICH10R	6-port SATA ports (3.0 Gb/s) via ICH10R
<b>SAS Option</b>	Optional SAS or SAS RAID solutions via Intel® I/O Expansion Modules	N/A	N/A
<b>Integrated LAN</b>	Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>5</sup>	Embedded Intel® 82574L PHYs with Intel® I/O Acceleration Technology	Embedded Intel® Dual-Gigabit Controllers 82574L and 82567LM
<b>Integrated Graphics</b>	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Onboard ASPEED* AST2050 with integrated 2D video controller with 8 MB video memory	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics
<b>System Management Software</b>	Intel® System Management Software 3.x Intel® Deployment Assistant	IPMI 2.0 Management Features	Intel® System Management Software 3.x Intel® Deployment Assistant
<b>Server Management Support</b>	Integrated baseboard management controller with IPMI 2.0 support, Intel® Intelligent Power Node Manager and option for KVM and virtual media redirection with dedicated NIC via Intel® Remote Management Module (AXXRM3)	Onboard ASPEED AST2050 with integrated Baseboard Management Controller (BMC) Management Module with IPMI 2.0 support	Integrated baseboard management controller with IPMI 2.0 support and option for KVM and virtual media redirection with dedicated NIC via Intel® Remote Management Module (AXXRM3)
<b>Intel® RAID Support</b>	Includes SATA RAID with Intel® Embedded Server RAID Technology providing host-based RAID 0, 1, and 10 Optional host-based RAID 5 with activation key AXXRAKSw5 Optional SAS RAID with Intel® Integrated RAID module AXXROMBSASMR providing RAID 0, 1, 5, and 6 and spans 10, 50, and 60 Compatible with Intel® RAID Controller add-in cards	Includes SATA RAID support using Intel® Matrix RAID 0, 1, 5, and 10 or LSI* MegaSR 0, 1, and 10 Compatible with select Intel® RAID Controller add-in cards	Includes SATA RAID with Intel® Embedded Server RAID Technology providing host-based RAID 0, 1, and 10 Optional host-based RAID 5 with activation key AXXRAKSw5 Compatible with Intel® RAID Controller add-in cards
<b>Warranty</b>	3 year limited warranty	3 year limited warranty	3 year limited warranty



Boards	Intel® Workstation Board S5520SC	Intel® Workstation Board WX58BP
	<i>A workstation-optimized board designed with world-class performance and flexible expandability for graphics-intensive applications</i>	<i>Entry-level workstation board supports ECC memory</i>
Order Code <sup>1</sup>	<b>S5520SCR</b>	<b>WX58BP</b>
Intel® Server Chassis Support	Intel® Server Chassis SC5600BASE Intel® Server Chassis SC5650WS Intel® Server System SC5650SCWS	N/A
Processor Support <sup>2</sup>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>4</sup></b>	<b>Intel® Xeon® processor 3500 or 3600 series</b>
Number of Processors Supported	1 or 2	1
Intel® QuickPath Interconnect (GT/s) <sup>3</sup>	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s
Chipset	Intel® 5520 Chipset with ICH10R	Intel® X58 Express Chipset
Total Slots	5	6
Slot Types	2 x PCI Express* 2.0 x16 (x16 mechanical) 1 x PCI Express 2.0 x4 (x8 mechanical shared with Intel® 4-port SAS I/O module) 1 x PCI Express x1 (x4 mechanical) 1 x PCI 32-bit / 33 MHz (5 V)	2 x PCI Express* 2.0 x16 (supports ATI CrossFire*) 1 x PCI Express 2.0 x4 2 x PCI Express x1 1 x PCI 32-bit / 33 MHz
Memory Capacity	12 x DDR3 memory DIMMs through 6 memory channels	4 DIMM slots for DDR3 1333 / 1066 Unbuffered ECC / non-ECC DIMMs (16 GB max) via 3 channels
Integrated Serial ATA	6-port SATA (3.0 Gb/s) via ICH10R	6-port SATA (3.0 Gb/s)
SAS Option	Optional SAS or SAS RAID solutions via Intel® I/O Expansion Modules	N/A
Integrated LAN	Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>5</sup>	1 x Intel® Gigabit Ethernet Controller
Integrated Graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	N/A
System Management Software	Intel® System Management Software 3.x Intel® Deployment Assistant	N/A
Server Management Support	Integrated baseboard management controller with IPMI 2.0 support and option for KVM and virtual media redirection with dedicated NIC via Intel® Remote Management Module (AXXRM3)	N/A
Intel® RAID Support	Includes SATA RAID with Intel® Embedded Server RAID Technology providing host-based RAID 0, 1, and 10 Optional host-based RAID 5 with activation key AXXRAKS5 Optional SAS RAID with Intel® Integrated RAID module AXXROMBSASMR providing RAID 0, 1, 5, and 6 and spans 10, 50, and 60 Compatible with Intel® RAID Controller add-in cards	Includes SATA RAID support using Intel® Matrix RAID 0, 1, 5, and 10 Compatible with Intel® RAID Controller add-in cards
Warranty	3 year limited warranty	3 year limited warranty

<sup>1</sup> Out of the box support for the Intel® Xeon® processor 3600 or 5600 series 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® processor 3500 or 5500 series, a BIOS update is required before installing the Intel Xeon processor 3600 or 5600 series. Refer to <http://support.intel.com> for more information.

<sup>2</sup> Refer to <http://support.intel.com/support/motherboards/server> for up-to-date details on processors supported by each server board.

<sup>3</sup> GT/s—Gigatransfers per second.

<sup>4</sup> 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.

<sup>5</sup> 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.



# INTEL® SERVER SYSTEMS






System	Intel® Server System SR1640TH	Intel® Server System SR1630GP	Intel® Server System SR1630GPRX
	<i>High-density, 1U four-node system with optimized power efficiency and cooling for space- and cost-sensitive customers</i>	<i>Highly integrated, 1U rack solution for cost-sensitive customers</i>	<i>Highly integrated, 1U rack solution for cost-sensitive customers</i>
Order Code <sup>1, 2</sup>	<b>SR1640TH</b>	<b>SR1630GP</b>	<b>SR1630GPRX</b>
Components Included	<ul style="list-style-type: none"> <li>Intel® Server Board S3420TH</li> <li>Intel® Server Chassis with dual 450 W 80 PLUS* Silver-level power supply</li> <li>Pre-routed cables</li> </ul>	<ul style="list-style-type: none"> <li>Intel® Server Board S3420GPLC</li> <li>Intel® Server Chassis with 350 W power supply</li> <li>One low-profile PCI Express* riser card</li> <li>Slim-line DVD-ROM bay</li> <li>Black rail kit</li> <li>Pre-routed cables</li> </ul>	<ul style="list-style-type: none"> <li>Intel® Server Board S3420GPRX</li> <li>Intel® Server Chassis with 350 W 80 PLUS* Silver-level power supply</li> <li>One low-profile PCI Express* riser card</li> <li>Slim-line DVD-ROM bay</li> <li>Black rail kit</li> <li>Pre-routed cables</li> </ul>
Number of Processors Supported	4	1	1
Processor Support <sup>3</sup>	<b>Intel® Xeon® processor 3400 series</b>	<b>Intel® Xeon® processor 3400 series</b>	<b>Intel® Xeon® processor 3400 series</b>
Chipset	Intel® 3420 Chipset	Intel® 3420 Chipset	Intel® 3420 Chipset
Total Slots	0	1	1
Slot Types	N/A	1 x PCI Express 2.0 x8	1 x PCI Express 2.0 x8 1 x PCI Express 2.0 x8 (GbE and SAS options) via Intel® I/O Expansion Module
Memory Capacity	4 x DIMMs DDR3 memory through dual memory channels	6 x RDIMMs or 4 x UDIMMs DDR3 memory through dual memory channels	6 x RDIMMs or 4 x UDIMMs DDR3 memory through dual memory channels
Backplane	N/A	N/A	N/A
Integrated LAN	2 x Embedded Intel® Dual-Gigabit Controllers 82574L	Embedded Intel® Dual-Gigabit Controllers 82574L and 82578DM	Embedded 5-port Intel® Gigabit Controllers (one for 82574L and four for 82576EB)
Integrated Graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics
Server Management Support	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard with optional Intel® Remote Management Module 3 Lite (AXXRMM3LITEV)	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard with optional Intel® Remote Management Module 3 Lite (AXXRMM3LITE)
Intel® RAID Controller Compatibility <sup>4</sup>	N/A	Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Integrated SATA: Intel® Matrix Storage Technology with host-based software RAID levels 0, 1, 5, and 10	Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Integrated SATA: Intel® Matrix Storage Technology with host-based software RAID levels 0, 1, 5, and 10
Form Factor	1U Rack	1U Rack	1U Rack
Drive Bays	4 x fixed 3.5" SATA (3.0 Gb/s) HDDs	2 x fixed 3.5" SATA (3.0 Gb/s) HDDs 1 x fixed slim-line DVD-ROM	2 x fixed 3.5" SATA (3.0 Gb/s) HDDs 1 x fixed slim-line DVD-ROM
Thermal Solution	4 x UP passive thermal solution included	1 x UP passive thermal solution included	1 x UP passive thermal solution included
System Cooling	6 x fixed cooling fans with 2 x air duct	2 x fixed cooling blowers with duct	3 x fixed cooling blowers with duct
Power Supply	450 W non-redundant 80 PLUS* Silver-level efficiency	350 W non-redundant	350 W non-redundant; 80 PLUS* Silver-level efficiency
Dimensions (H x W x D)	1.7" x 17.3" x 26.8" (44mm x 440mm x 680mm)	1.7" x 16.9" x 20" (43mm x 430mm x 508mm)	1.7" x 16.9" x 20" (43mm x 430mm x 508mm)

Learn more at: [www.intel.com/go/serversystems](http://www.intel.com/go/serversystems)



	Intel® Server System SR1630HGP	Intel® Server System SR1630HGPRX
<b>System</b>	<i>Flexible high-density server solution for entry-level system infrastructures</i>	<i>Flexible high-density server solution for entry-level system infrastructures</i>
<b>Order Code<sup>1, 2</sup></b>	<b>SR1630HGP</b>	<b>SR1630HGPRX</b>
<b>Components Included</b>	<ul style="list-style-type: none"> <li>Intel® Server Board S3420GPLC</li> <li>Intel® Server Chassis with 350 W power supply</li> <li>One low-profile PCI Express* riser card</li> <li>Slim-line DVD-ROM bay</li> <li>Black rail kit</li> <li>Pre-routed cables</li> </ul>	<ul style="list-style-type: none"> <li>Intel® Server Board S3420GPRX</li> <li>Intel® Server Chassis with 350 W 80 PLUS* Silver-level power supply</li> <li>One low-profile PCI Express* riser card</li> <li>Slim-line DVD-ROM bay</li> <li>Black rail kit</li> <li>Pre-routed cables</li> </ul>
<b>Number of Processors Supported</b>	1	1
<b>Processor Support<sup>3</sup></b>	<b>Intel® Xeon® processor 3400 series</b>	<b>Intel® Xeon® processor 3400 series</b>
<b>Chipset</b>	Intel® 3420 Chipset	Intel® 3420 Chipset
<b>Total Slots</b>	1	1
<b>Slot Types</b>	1 x PCI Express 2.0 x8	1 x PCI Express 2.0 x8 1 x PCI Express 2.0 x8 ( <i>GbE and SAS options</i> ) via Intel® I/O Expansion Module
<b>Memory Capacity</b>	6 x RDIMMs or 4 x UDIMMs DDR3 memory through dual memory channels	6 x RDIMMs or 4 x UDIMMs DDR3 memory through dual memory channels
<b>Backplane</b>	Hot-swap SAS / SATA backplane	Hot-swap SAS / SATA backplane
<b>Integrated LAN</b>	Embedded Intel® Dual-Gigabit Controllers 82574L and 82578DM	Embedded 5-port Intel® Gigabit Controllers ( <i>one for 82574L and four for 82576EB</i> )
<b>Integrated Graphics</b>	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics
<b>Server Management Support</b>	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard with optional Intel® Remote Management Module 3 Lite ( <i>AXXRMMLITE</i> )
<b>Intel® RAID Controller Compatibility<sup>4</sup></b>	Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Integrated SATA: Intel® Matrix Storage Technology with host-based software RAID levels 0, 1, 5, and 10	Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Integrated SATA: Intel® Matrix Storage Technology with host-based software RAID levels 0, 1, 5, and 10 Optional SAS: Intel® Integrated Server RAID system boards with RAID 0, 1, 1E, 5, and 6 plus spans 10, 50, and 60
<b>Form Factor</b>	1U Rack	1U Rack
<b>Drive Bays</b>	3 x hot-swap 3.5" SATA ( <i>3.0 Gb/s</i> ) HDDs 1 x fixed slim-line DVD-ROM	3 x hot-swap 3.5" SATA ( <i>3.0 Gb/s</i> ) HDDs 1 x fixed slim-line DVD-ROM
<b>Thermal Solution</b>	1 x UP passive thermal solution included	1 x UP passive thermal solution included
<b>System Cooling</b>	2 x fixed cooling blowers with duct	3 x fixed cooling blowers with duct
<b>Power Supply</b>	350 W non-redundant	350 W non-redundant; 80 PLUS* Silver-level efficiency
<b>Dimensions (H x W x D)</b>	1.7" x 16.9" x 25.51" ( <i>43mm x 430mm x 648mm</i> )	1.7" x 16.9" x 25.51" ( <i>43mm x 430mm x 648mm</i> )



			
System	<b>Intel® Server System SC5650HCBRP</b>	<b>Intel® Server System SC5650BCDP</b>	<b>Intel® Workstation System SC5650SCWS</b>
Order Code <sup>1, 2</sup>	<b>SC5650HCBRPR</b>	<b>SC5650BCDPR</b>	<b>SC5650SCWSR</b>
Components Included	<ul style="list-style-type: none"> <li>Intel® Server Board S5520HC</li> <li>Intel® Server Chassis SC5650BRP</li> <li>Backplane with SAS expander (AXX6DRV3GEXP) supports up to six 3.5" hot-swap hard drives</li> <li>Two data cables for hard drive backplane</li> <li>One SATA data cable for optical drive</li> <li>One IPMB cable for hard drive backplane</li> <li>Cabled front panel with front panel cable, chassis intrusion cable, and front panel USB cable</li> <li>One SATA device power adapter cable</li> </ul>	<ul style="list-style-type: none"> <li>Intel® Server Board S5500BC</li> <li>Intel® Server Chassis SC5650DP</li> <li>Fixed hard drive cage supports up to six 3.5" hard drives, support for six hot-swap hard drives with optional backplane kit</li> <li>Four SATA data cables for hard drives and optical drives</li> </ul>	<ul style="list-style-type: none"> <li>Intel® Workstation Board S5520SC</li> <li>Intel® Workstation Chassis SC5650WS</li> <li>Fixed hard drive cage supports up to six 3.5" hard drives, support for six hot-swap hard drives with optional backplane kit</li> <li>Four SATA data cables for hard drives and optical drives</li> <li>Cabled front panel with front panel cable, chassis intrusion cable, and front panel USB cable</li> <li>One SATA device power adapter cable</li> </ul>
Number of Processors Supported	1 or 2	1 or 2	1 or 2
Processor Support <sup>3</sup>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>6</sup></b>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>6</sup></b>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>6</sup></b>
Intel® QPI (GT/s) <sup>5</sup> / System Bus Speed (MHz)	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s
Chipset	Intel® 5520 Chipset with ICH10R	Intel® 5500 Chipset with ICH10R	Intel® 5520 Chipset with ICH10R
Total Slots	6	5	5
Slot Types	4 x PCI Express* 2.0 x8 (x8 mechanical) 1 x PCI Express 1.0 x4 (x8 mechanical shared with optional SAS module) 1 x PCI 32 / 33 MHz (5 V)	2 x half-length PCI Express* 2.0 x8 (x8 mechanical) 1 x half-length PCI Express 2.0 x4 (x8 mechanical) 1 x half-length PCI Express x4 1 x half-length PCI 32 / 33 MHz (5 V)	2 x PCI Express* 2.0 x16 (x16 mechanical) 1 x PCI Express 1.0 x4 (x8 mechanical shared with optional SAS module) 1 x PCI Express 1.0 x1 (x4 mechanical) 1 x PCI 32 / 33 MHz (5 V)
Memory Capacity	12 x DDR3 memory DIMMs through 6 memory channels	8 x DDR3 memory DIMMs through 4 memory channels	12 x DDR3 memory DIMMs through 6 memory channels
Integrated SCSI	N/A	N/A	N/A
Integrated LAN	Embedded Intel Dual Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>7</sup>	Embedded Intel® Dual-Gigabit Controllers 82574L and 82567LM	Embedded Intel® Dual Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>7</sup>
Integrated Graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics
Server Management Support	Integrated IPMI 2.0 baseboard management controller Power management with Intel® Intelligent Power Node Manager Optional Intel® Remote Management Module (RMM3)	Integrated IPMI 2.0 baseboard management controller Power management with Intel® Intelligent Power Node Manager Optional Intel® Remote Management Module (RMM3)	Integrated IPMI 2.0 baseboard management controller Power management with Intel® Intelligent Power Node Manager Optional Intel® Remote Management Module (RMM3)
Intel® RAID Controller Compatibility <sup>4</sup>	Integrated Intel® Embedded Server RAID Technology II with host-based SW RAID levels 0, 1, and 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, and 60	Integrated Intel® Embedded Server RAID Technology II with host-based SW RAID levels 0, 1, and 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, and 60	Integrated Intel® Embedded Server RAID Technology II with host-based SW RAID levels 0, 1, and 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, and 60
Form Factor	5.2U pedestal, convertible to 6U rack	5.2U pedestal, convertible to 6U rack	5.2U pedestal, convertible to 6U rack
Drive Bays	6 x 3.5" hot-swap SAS / SATA drive bays Supports 2.5" hot-swap SAS, SATA, or Solid-State Drive with optional 2.5" hard drive carrier accessory	6 x 3.5" hot-swap SAS / SATA drive bays Supports 2.5" hot-swap SAS, SATA, or Solid-State Drive with optional 2.5" hard drive carrier accessory	6 x 3.5" hot-swap SAS / SATA drive bays Supports 2.5" hot-swap SAS, SATA, or Solid-State Drive with optional 2.5" hard drive carrier accessory
System Cooling	3 x non-redundant fans	3 x non-redundant fans	3 x non-redundant fans
Power Supply	600 W high-efficiency, 1+0 redundant power supply	600 W non-redundant power supply	Non-redundant 1000 W high-efficiency PFC power supply with integrated cooling fan
Dimensions (H x W x D)	17.8" x 9.256" x 19" (452mm x 235mm x 483mm)	17.8" x 9.256" x 19" (452mm x 235mm x 483mm)	17.8" x 9.256" x 19" (452mm x 235mm x 483mm)



System	Intel® Server System SR1690WB	Intel® Server System SR1695WB	Intel® Server System SR1630BC
	<i>An energy-optimized 1U rack server system designed to meet your general purpose high-density needs</i>	<i>An energy-optimized 1U rack server system featuring AC or DC PSU redundancy; designed to meet your high RAS and general purpose high-density needs</i>	<i>An entry-level family of rack-optimized server systems designed for business-class performance and quality for small- to medium-sized business applications</i>
Order Code <sup>1, 2</sup>	SR1690WBR	SR1695WB	SR1630BCR
Components Included	<ul style="list-style-type: none"> <li>Intel® Server Board S5500WB</li> <li>Intel® Server Chassis SR1690</li> <li>650 W non-redundant power supply</li> <li>Four 3.5" hard drive carriers</li> <li>Hot-swap SAS / SATA backplane</li> <li>Four high-speed fans</li> <li>One PCI Express* 2.0 riser</li> </ul>	<ul style="list-style-type: none"> <li>Intel® Server Board S5500WB</li> <li>Intel® Server Chassis SR1695 with one AC or DC redundant capable 450 W high-efficiency power supply</li> <li>Four 3.5" hard drive carriers</li> <li>Hot-swap SAS / SATA backplane</li> <li>Four high-speed fans</li> <li>One PCI Express* 2.0 riser</li> </ul>	<ul style="list-style-type: none"> <li>Intel® Server Board S5500BC (SATA)</li> <li>Intel® Server Chassis SR1630</li> <li>400 W non-redundant high-efficiency power supply</li> <li>One low-profile PCI Express* riser card</li> <li>Slim-line CD-ROM bay</li> <li>Basic rail kit</li> <li>Pre-routed cables</li> </ul>
Number of Processors Supported	1 to 2	1 to 2	1 to 2
Processor Support <sup>3</sup>	Intel® Xeon® processor 5500 or 5600 series <sup>6</sup>	Intel® Xeon® processor 5500 or 5600 series <sup>6</sup>	Intel® Xeon® processor 5500 or 5600 series <sup>6</sup>
Intel® QPI (GT/s) <sup>5</sup> / System Bus Speed (MHz)	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s
Chipset	Intel® 5500 Chipset with ICH10R	Intel® 5500 Chipset with ICH10R	Intel® 5500 Chipset with ICH10R
PCI Buses	N/A	N/A	N/A
Total Slots	Up to 2 + Intel® I/O Expansion Module	Up to 2 + Intel® I/O Expansion Module	1
Slot Types	1 x full-height PCI Express 2.0 x16 1 x PCI Express 2.0 x8 (GbE, 10 GbE, SAS, and InfiniBand* options) via Intel® I/O Expansion Module	1 x full-height PCI Express 2.0 x16 1 x PCI Express 2.0 x8 (GbE, 10 GbE, SAS, and InfiniBand* options) via Intel® I/O Expansion Module	1 x low-profile, half-length PCI Express 2.0 x8 via riser
Memory Capacity	8 x DDR3 memory DIMMs through 6 memory channels	8 x DDR3 memory DIMMs through 6 memory channels	8 x DDR3 memory DIMMs through 4 memory channels
Backplane	Hot-swap SAS / SATA backplane	Hot-swap SAS / SATA backplane	Embedded Intel® Dual-Gigabit Controllers 82574L and 82567LM
Integrated LAN	Embedded Intel® Dual-Gigabit Controller 82576EB with Intel® Virtualization Technology <sup>7</sup>	Embedded Intel® Dual-Gigabit Controller 82576EB with Intel® Virtualization Technology <sup>7</sup>	N/A
Integrated Graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics
Server Management Support	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard with optional Intel® Remote Management Module (AXXRM3)	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard with optional Intel® Remote Management Module (AXXRM3)	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard
Intel® RAID Controller Compatibility <sup>4</sup>	Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Optional software RAID 5 with activation key	Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Optional software RAID 5 with activation key	Integrated: Intel® Embedded Server RAID Technology with software RAID levels 0, 1, and 10 Optional software RAID 5 with activation key
Form Factor	1U rack	1U rack	1U rack
Drive Bays	4 x 3.5" hot-swap drive bays Configurable to support 1 x 2.5" hot-swap drive in each bay	4 x 3.5" hot-swap drive bays Configurable to support 1 x 2.5" hot-swap drive in each bay	2 x fixed 3.5" SATA HDDs Optional slim-line optical drive
Thermal Solution	2 x passive thermal solutions included	2 x passive thermal solutions included	N/A (Uses 1U passive thermal solution: BXSTS100P)
System Cooling	4 x non-redundant fans	4 x non-redundant fans	2 x fixed cooling blowers with duct
Power Supply	High-efficiency 650 W non-redundant power supply with PMBus capability; 80 PLUS* Silver-level efficiency	Up to two high-efficiency 450-watt (AC or DC) power supply modules supporting 1+0 or redundant 1+1 power configurations (Systems ship with 1 power supply; customer required to purchase second PSU module for 1+1 redundancy)	400 W high-efficiency non-redundant power supply, 80 PLUS* Bronze-level efficiency
Dimensions (H x W x D)	1.7" x 17" x 26" (43mm x 432mm x 659mm)	1.7" x 17" x 26" (43mm x 432mm x 659mm)	1.7" x 16.9" x 20" (43mm x 429mm x 508mm)



System	Intel® Server System SR2612UR	Intel® Server System SR1670HV	Intel® Server System SR1680MV
	<i>A rack-optimized, highly-integrated server system designed for applications demanding maximum storage capability, and / or performance</i>	<i>A rack-optimized, high-performance server system providing two dual-socket 12 DIMM nodes in a 1U chassis focused on maximizing compute density for HPC workloads</i>	<i>A cable-free, half-width, server system featuring high memory capacity (36 DDR3 DIMMs) and flexible I/O capability making it ideal for virtualization and a broad range of HPC applications</i>
Order Code <sup>1, 2</sup>	<b>SR2612URR</b>	<b>SR1670HVR</b>	<b>SR1680MVR</b>
Components Included	<ul style="list-style-type: none"> <li>Intel® Server Board S5520UR</li> <li>Intel® Server Chassis with redundant power supply and specific configuration below: Expander midplane, PCI Express* riser with three x8 slots, twelve hard drive carriers</li> </ul>	<ul style="list-style-type: none"> <li>Two Intel® Server Boards S5500HV</li> <li>Intel® Server Chassis SR1670</li> <li>Two 770 W non-redundant power supplies</li> <li>Eight 2.5" hard drive carriers</li> <li>Hot-swap SATA backplane</li> <li>Eight high-speed fans</li> <li>Two PCI Express* 2.0 risers</li> </ul>	Intel® Server System containing two independent compute and I/O board pairs, sharing a single high-efficiency 1100 W non-redundant power supply <ul style="list-style-type: none"> <li>Four 2.5" hard drive carriers (<i>two per node</i>)</li> <li>Two hot-swap SATA backplanes (<i>one per node</i>)</li> <li>Six high-speed fans (<i>three per node</i>)</li> <li>Two PCI Express* 2.0 risers (<i>one per node</i>)</li> </ul>
Number of Processors Supported	1 to 2	1 to 2 per node ( <i>2 to 4 total</i> )	1 to 2 per node ( <i>2 to 4 total</i> )
Processor Support <sup>3</sup>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>6</sup></b>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>6</sup></b>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>6</sup></b>
Intel® QPI (GT/s) <sup>5</sup> / System Bus Speed (MHz)	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s
Chipset	Intel® 5520 Chipset with ICH10R	Intel® 5500 Chipset with ICH10R	Intel® 5500 Chipset with ICH10R
Total Slots	Up to 3 + Intel® I/O Expansion Module	1	Up to 2 + Intel® I/O Expansion Module
Slot Types	1 x PCI Express 2.0 x8 via Intel® I/O Expansion Module 3 x full-height PCI Express 2.0 x8 Optional riser: 2 x low-profile PCI Express 2.0 x8	1 x low profile, half-length PCI Express 2.0 x16	1 x low profile, half-length PCI Express 2.0 x8 1 x PCI Express 2.0 x8 ( <i>10 Gbe or QDR Infiniband* options</i> ) via Intel® I/O Expansion Module
Memory Capacity	12 x DDR3 memory DIMMs	12 x DDR3 memory DIMMs through 6 memory channels on each node	18 x DDR3 memory DIMMs through 6 memory channels on each node
Backplane	Hot-swap SAS / SATA backplane	Hot-swap SATA backplane	Hot-swap SATA backplane
Integrated LAN	Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>7</sup>	Embedded Intel® 82574L PHYs with Intel® I/O Acceleration Technology	Embedded Intel® Dual-Gigabit Controller 82576EB with Intel® Virtualization Technology <sup>7</sup>
Integrated Graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Onboard ASPEED* AST2050 with integrated 2D video controller with 8 MB video memory	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics
Server Management Support	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard with optional Intel® Remote Management Module (AXXRM3)	IPMI 2.0 Management features	IPMI 2.0 Management features Onboard Server Engines* Pilot II* Server Management Controller
Intel® RAID Controller Compatibility <sup>4</sup>	Integrated: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 for internal 2.5" boot drives Also validated with Intel® RAID adapters	Integrated: Four SATA II ports supporting Intel® Matrix RAID Technology with software RAID levels 0, 1, 5, and 10 ( <i>Windows* only</i> ) and LSI* MegaRAID with software RAID levels 0, 1, and 10 ( <i>Windows and Linux*</i> )	Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0 and 1
Form Factor	2U rack	1U rack	1U rack
Drive Bays	12 x 3.5" drive bays 2 x 2.5" fixed drive mounts ( <i>internal</i> )	8 x 2.5" hot-swap drive bays	4 x 2.5" hot-swap drive bays Optional slim-line optical drive
Thermal Solution	2 x passive thermal solutions included	2 x passive thermal solutions per node ( <i>four total</i> ) included	2 x custom passive thermal solutions per node ( <i>four total</i> ) included
System Cooling	4 x non-redundant fans	8 x non-redundant fans ( <i>four per node</i> )	6 x non-redundant dual-rotor fans ( <i>three per node</i> )
Power Supply	Two high-efficiency 760 W power supply modules supporting redundant 1+1 power configurations, 80 PLUS* Silver-level efficiency	High-efficiency 770 W non-redundant power supply per node ( <i>2 total</i> ) 80 PLUS* Silver-level efficiency	High-efficiency 1100 W non-redundant power supply; 80 PLUS* Gold-level efficiency
Dimensions (H x W x D)	3.44" x 17.23" x 30.75" (87mm x 438mm x 781mm)	1.7" x 17.2" x 27" (43mm x 435mm x 685mm)	1.7" x 17.6" x 28" (43mm x 448mm x 714mm)



	Intel® Server System SR2600UR	Intel® Server System SR2625UR
<b>System</b>	<b>Intel® Server System SR2600UR</b>	<b>Intel® Server System SR2625UR</b>
	<i>Highly integrated rack server system with highest I/O expandability options</i>	<i>Highly integrated with highest I/O expandability options using 2.5" HDDs</i>
<b>Order Code<sup>1,2</sup></b>	<b>SR2600URBRPR</b> <b>SR2600URLXR</b> <b>SR2600URSATAR</b>	<b>SR2625URBRPR</b> <b>SR2625URLXR</b> <b>SR2625URLXTR</b> (option with TPM-enabled board S5520URT)
<b>Components Included</b>	<ul style="list-style-type: none"> <li>Intel® Server Board S5520UR</li> <li>Intel® Server Chassis with one power supply and specific configuration below: SR2600URBRPR: Passive midplane, PCI Express* riser with three x8 slots, three system fans, five hard drive carriers SR2600URLXR: Active midplane, PCI Express riser with five x8 slots, six hot-swap and redundant fans, five hard drive carriers SR2600URSATAR: Passive midplane, PCI Express riser with five x8 slots, six hot-swap and redundant fans, five hard drive carriers, two power supplies</li> </ul>	<ul style="list-style-type: none"> <li>Intel® Server Board S5520UR</li> <li>Intel® Server Chassis with one power supply and specific configuration below: SR2625URBRPR: Passive midplane, PCI Express* riser with three x8 slots, six hard drive carriers SR2625URLXR: Active midplane, PCI Express riser with five x8 slots, eight hard drive carriers</li> </ul>
<b>Number of Processors Supported</b>	1 to 2	1 to 2
<b>Processor Support<sup>3</sup></b>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>6</sup></b>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>6</sup></b>
<b>Intel® QPI (GT/s)<sup>5</sup> / System Bus Speed (MHz)</b>	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s
<b>Chipset</b>	Intel® 5520 Chipset with ICH10R	Intel® 5520 Chipset with ICH10R
<b>Total Slots</b>	Up to 5 + Intel® I/O Expansion Module	Up to 5 + Intel® I/O Expansion Module
<b>Slot Types</b>	1 x PCI Express 2.0 x8 via Intel® I/O Expansion Module 1 x PCI Express 1.0 x4 via bridge board connector to hardware SAS RAID controller on Midplane2 SR2600URBRPR: 3 x full-height PCI Express 2.0 x8 SR2600URLX: 3 x full-height PCI Express 2.0 x8, 2 x low-profile PCI Express 2.0 x8 Optional riser: 1 x full-height PCI Express 2.0 x8, 2 x low-profile PCI Express 2.0 x8, 2 x full-height PCI-X 133 MHz, 3 x full-height PCI-X 133 MHz	1 x PCI Express 2.0 x8 via Intel® I/O Expansion Module 1 x PCI Express 1.0 x4 via bridge board connector to hardware SAS RAID controller on Midplane2 SR2625URBRPR: 3 x full-height PCI Express 2.0 x8 SR2625URLX: 3 x full-height PCI Express 2.0 x8, 2 x low-profile PCI Express 2.0 x8 Optional riser: 1 x full-height PCI Express 2.0 x8, 2 x low-profile PCI Express 2.0 x8, 2 x full-height PCI-X 133 MHz, 3 x full-height PCI-X 133 MHz
<b>Memory Capacity</b>	12 x DDR3 memory DIMMs through 6 memory channels	12 x DDR3 memory DIMMs through 6 memory channels
<b>Backplane</b>	Hot-swap SAS / SATA backplane	Hot-swap SAS / SATA backplane
<b>Integrated LAN</b>	Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>7</sup>	Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>7</sup>
<b>Integrated Graphics</b>	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics
<b>Server Management Support</b>	Intel® System Management Software 3.x Intel® Deployment Assistant	Intel® System Management Software 3.x Intel® Deployment Assistant
<b>Intel® RAID Controller Compatibility<sup>4</sup></b>	IPMI 2.0 onboard with optional Intel® Remote Management Module (AXXRM3)	IPMI 2.0 onboard with optional Intel® Remote Management Module (AXXRM3)
	Integrated: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Optional software RAID 5 with activation key Optional SAS: Intel® Integrated Server RAID system boards with RAID 0, 1, 1E, 5, and 6 plus spans (10, 50, and 60) offer value above a traditional add-in card	Integrated: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Optional software RAID 5 with activation key Optional SAS: Intel® Integrated Server RAID system boards with RAID 0, 1, 1E, 5, and 6 plus spans (10, 50, and 60) offer value above a traditional add-in card
<b>Form Factor</b>	2U rack	2U rack
<b>Drive Bays</b>	6 x 3.5" drive bays Optional 2 x 2.5" fixed drive mounts	8 x 2.5" drive bays Optional 2 x 2.5" fixed drive mounts
<b>Thermal Solution</b>	2 x passive thermal solutions included	2 x passive thermal solutions included
<b>System Cooling</b>	SR2600URBRPR: 3 x non-redundant fans SR2600URLX: 6 x redundant and hot-swap standard fans	SR2625URBRPR: 3 x non-redundant fans SR2625URLX: 6 x redundant and hot-swap standard fans
<b>Power Supply</b>	Up to two high-efficiency 750 W power supply modules for 1+1 redundant configurations, 80 PLUS* Gold-level efficiency with Intel® On-Demand Redundant Power Technology	Up to two high-efficiency 750 W power supply modules for 1+1 redundant configurations, 80 PLUS* Gold-level efficiency with Intel® On-Demand Redundant Power Technology
<b>Dimensions (H x W x D)</b>	3.44" x 16.93" x 27.95" (87mm x 430mm x 710mm)	3.44" x 16.93" x 27.95" (87mm x 430mm x 710mm)



System	Intel® Server System SR1600UR	Intel® Server System SR1625UR
	<i>Rack-optimized, highly integrated server systems for high-density, cost-sensitive applications</i>	<i>Highly integrated rack server system with reach storage subsystem for high-density applications</i>
Order Code <sup>1, 2</sup>	<b>SR1600URR</b> <b>SR1600URHSR</b>	<b>SR1625URR</b> <b>SR1625URSASR</b>
Components Included	<ul style="list-style-type: none"> <li>Intel® Server Board S5520UR</li> <li>Intel® Server Chassis with specific configuration below:               <ul style="list-style-type: none"> <li>SR1600URR: Fan board in place of backplane, PCI Express* 2.0 riser with one full-height and full-length x16 slot, three cold-swap hard drive carriers</li> <li>SR1600URHSR: No backplane (<i>must be ordered separately</i>) PCI Express 2.0 riser with one full-height and full-length x16 slot, three hard drive carriers</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Intel® Server Board S5520UR</li> <li>Intel® Server Chassis with one power supply and specific configuration below:               <ul style="list-style-type: none"> <li>SR1625URR: Passive midplane, PCI Express* riser with one full-height and full-length x16 slot, six hard drive carriers</li> <li>SR1625URSASR: Active midplane. PCI Express riser with one full-height and full-length x16 slot, six hard drive carriers</li> </ul> </li> </ul>
Number of Processors Supported	1 to 2	1 to 2
Processor Support <sup>3</sup>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>6</sup></b>	<b>Intel® Xeon® processor 5500 or 5600 series<sup>6</sup></b>
Intel® QPI (GT/s) <sup>5</sup> / System Bus Speed (MHz)	6.40 GT/s / 5.86 GT/s / 4.80 GT/s	6.40 GT/s / 5.86 GT/s / 4.80 GT/s
Chipset	Intel® 5520 Chipset with ICH10R	Intel® 5520 Chipset with ICH10R
Total Slots	1 + Intel® I/O Expansion Module	1 + Intel® I/O Expansion Module
Slot Types	1 x PCI Express 2.0 x16 via riser 1 x PCI Express 2.0 x8 via Intel® I/O Expansion Module 1 x PCI Express x4 cable-less connection to optional SAS backplane	1 x PCI Express 2.0 x16 via riser 1 x PCI Express 2.0 x8 via Intel® I/O Expansion Module 1 x PCI Express 1.0 x4 via bridge board connector to hardware SAS RAID controller on Midplane2
Memory Capacity	12 x DDR3 memory DIMMs through 6 memory channels	12 x DDR3 memory DIMMs through 6 memory channels
Backplane	SR1600URR: Fan board only, HDDs are cabled SR1600URHSR: Active SAS / SATA or Passive SATA hot-swap backplane ( <i>must be ordered separately</i> )	Hot-swap SAS / SATA backplane
Integrated LAN	Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>7</sup>	Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology <sup>7</sup>
Integrated Graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics	Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics
Server Management Support	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard with optional Intel® Remote Management Module (AXXRM3)	Intel® System Management Software 3.x Intel® Deployment Assistant IPMI 2.0 onboard with optional Intel® Remote Management Module (AXXRM3)
Intel® RAID Controller Compatibility <sup>4</sup>	Integrated: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Optional software RAID 5 with activation key Optional SAS: Intel® Integrated Server RAID system boards with software RAID 0, 1, and optional software RAID 5 with activation key	Integrated: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 Optional software RAID 5 with activation key Optional SAS: Intel® Integrated Server RAID system boards with RAID 0, 1, 1E, 5, and 6 plus spans (10, 50, and 60) offer value above a traditional add-in card
Form Factor	1U rack	1U rack
Drive Bays	3 x 3.5" drive bays	8 x 2.5" drive bays
Thermal Solution	2 x passive thermal solutions included	2 x passive thermal solutions included
System Cooling	5 x non-redundant dual-rotor fans	5 x non-redundant dual-rotor fans
Power Supply	600 W high-efficiency power supply, 80 PLUS* Bronze-level efficiency	Up to two 650 W power supply modules for H1 redundant configurations, 80 PLUS* Base-level efficiency
Dimensions (H x W x D)	1.7" x 16.93" x 27.25" (43mm x 430mm x 692mm)	1.7" x 16.93" x 27.95" (43mm x 430mm x 710mm)

<sup>1</sup> North American power cord included in order codes ending in NA, power cord not included in all other order codes.

<sup>2</sup> Out of the box support for the Intel® Xeon® processor 5600 series 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® processor 5500 series, a BIOS update is required before installing the Intel Xeon processor 5600 series. Refer to <http://support.intel.com> for more information.

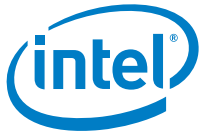
<sup>3</sup> Refer to <http://support.intel.com/support/motherboards/server> for up-to-date details on processors supported by each server board.

<sup>4</sup> Refer to [http://support.intel.com/support/motherboards/server/compat\\_matrix.htm](http://support.intel.com/support/motherboards/server/compat_matrix.htm) for up-to-date details on RAID controllers supported by each server system.

<sup>5</sup> Intel® QPI—Intel® QuickPath Interconnect; GT/s—Gigatransfers per second.

<sup>6</sup> 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.

<sup>7</sup> 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.



# INTEL® SERVER CHASSIS



Chassis

## Intel® Server Chassis SC5600

*An enterprise-level chassis designed with world-class performance and maximum expandability for small and medium business applications*

Configuration	Base	BRP	LX
Chassis Order Code <sup>1</sup>	<b>SC5600BASE</b>	<b>SC5600BRP</b>	<b>SC5600LX</b>
Spares Kit Order Code	Maintenance kit: FRIGTPMKIT	Maintenance kit: FRIGTPMKIT	Maintenance kit: FRIGTPMKIT
Form Factor	Pedestal, convertible to 5U Rack	Pedestal, convertible to 5U Rack	Pedestal, convertible to 5U Rack
Intel® Server Board Support <sup>2</sup>	<b>Intel® Server Boards S5520HC and S5500HCV Intel® Workstation Board S5520SC</b>	<b>Intel® Server Boards S5520HC and S5500HCV</b>	<b>Intel® Server Boards S5520HC and S5500HCV</b>
Drive Bays	Support for up to ten 3.5" fixed or hot-swap SAS/SATA drives	Support for up to ten 3.5" fixed or hot-swap SAS/SATA drives	Support for up to ten 3.5" fixed or hot-swap SAS/SATA drives
Hot-Swap Disk Drive Bay: Order Code	Up to ten hot-swap drive bays are possible with the combination of the following drive bay upgrade kits: 6-drive SAS/SATA—AXX6DRV3GR 6-drive SAS/SATA Expander—AXX6DRV3GEXP 4-drive SAS/SATA—AXX4DRV3GR 4-drive SAS/SATA Expander—AXX4DRV3GEXP	Up to ten hot-swap drive bays are possible with the combination of the following drive bay upgrade kits: 6-drive SAS/SATA—AXX6DRV3GR 6-drive SAS/SATA Expander—AXX6DRV3GEXP 4-drive SAS/SATA—AXX4DRV3GR 4-drive SAS/SATA Expander—AXX4DRV3GEXP	Up to ten hot-swap drive bays are possible with the combination of the following drive bay upgrade kits: 6-drive SAS/SATA—AXX6DRV3GR 6-drive SAS/SATA Expander—AXX6DRV3GEXP 4-drive SAS/SATA—AXX4DRV3GR 4-drive SAS/SATA Expander—AXX4DRV3GEXP
System Cooling	3 x fixed, non-redundant chassis fans (2 x 120mm, 1 x 92mm)	3 x fixed, non-redundant chassis fans (2 x 120mm, 1 x 92mm)	4 x tool-less, hot-swappable and redundant chassis fans with handle-mounted diagnostic failure LEDs (2 x 120mm, 2 x 92mm)
Power Supply	Non-redundant 670 W PFC power supply with integrated cooling fan	Redundant 1+1 high-efficiency 750 W PFC power supply with integrated cooling fan	Redundant 1+1 high-efficiency 750 W PFC power supply with integrated cooling fan
Tool-less Features	Installation and removal of fans, fixed and hot-swap hard drives, fixed and hot-swap drive bays, PCI cards, hot-swap PSU modules, fixed PSU, floppy drives, and CD / DVD ROM drives	Installation and removal of fans, fixed and hot-swap hard drives, fixed and hot-swap drive bays, PCI cards, hot-swap PSU modules, fixed PSU, floppy drives, and CD / DVD ROM drives	Installation and removal of fans, fixed and hot-swap hard drives, fixed and hot-swap drive bays, PCI cards, hot-swap PSU modules, fixed PSU, floppy drives, and CD / DVD ROM drives
Dimensions (H x W x D)	Rack: 8.6" x 16.6" x 27.4" (218mm x 422mm x 696mm) Pedestal: 17" x 8.6" x 28.4" (432mm x 218mm x 721mm)	Rack: 8.6" x 16.6" x 27.4" (218mm x 422mm x 696mm) Pedestal: 17" x 8.6" x 28.4" (432mm x 218mm x 721mm)	Rack: 8.6" x 16.6" x 27.4" (218mm x 422mm x 696mm) Pedestal: 17" x 8.6" x 28.4" (432mm x 218mm x 721mm)
Bezel Features	Black, security lock, control panel controls and indicators, three tool-less 5.25" peripheral drive bays, internal hard drive bay cage ( <i>behind door</i> ), security lock, USB ports	Black, security lock, control panel controls and indicators, three tool-less 5.25" peripheral drive bays, internal hard drive bay cage ( <i>behind door</i> ), security lock, USB ports	Black, security lock, control panel controls and indicators, three tool-less 5.25" peripheral drive bays, internal hard drive bay cage ( <i>behind door</i> ), security lock, USB ports
Front Connectors	2 x USB 1 x Optional front or rear mounted serial port	2 x USB 1 x Optional front or rear mounted serial port	2 x USB 1 x Optional front or rear mounted serial port

Learn more at: [www.intel.com/products/server/chassis](http://www.intel.com/products/server/chassis)



Chassis

Intel® Server Chassis SC5650

A cost-effective entry-level chassis designed for reliable operation for small business servers and workstation environments

Configuration	Base	BRP	WS	UP
Chassis Order Code <sup>1</sup>	SC5650DP	SC5650BRP	SC5650WS	SC5650UP
Spares Kit Order Code	Maintenance kit: FPPTPMKIT	Maintenance kit: FPPTPMKIT	Maintenance kit: FPPTPMKIT	Maintenance kit: FPPTUPPMKIT
Form Factor	Pedestal, convertible to 6U Rack	Pedestal, convertible to 6U Rack	Pedestal, convertible to 6U Rack	Pedestal, convertible to 6U Rack
Intel® Server Board Support <sup>2</sup>	Intel® Server Boards S5500BC, S5520HC, and S5500HCV	Intel® Server Boards S5500BC, S5520HC, and S5500HCV	Intel® Workstation Board S5520SC	Intel® Server Boards S3420GPLX, S3420GPLC, and S3420GPV
Drive Bays	Support for up to six 3.5" fixed or hot-swap SAS/SATA drives	Support for up to six 3.5" fixed or hot-swap SAS/SATA drives	Support for up to six 3.5" fixed or hot-swap SAS/SATA drives	Support for up to six 3.5" fixed or hot-swap SAS/SATA drives
Hot-Swap Disk Drive Bay: Order Code	Up to six hot-swap drive bays via the following hot-swap disk drive bay upgrade kits: 6-drive SAS/SATA—AXX6DRV3GR 6-drive SAS/SATA Expander—AXX6DRV3GEXP	Up to six hot-swap drive bays via the following hot-swap disk drive bay upgrade kits: 6-drive SAS/SATA—AXX6DRV3GR 6-drive SAS/SATA Expander—AXX6DRV3GEXP	Up to six hot-swap drive bays via the following hot-swap disk drive bay upgrade kits: 6-drive SAS/SATA—AXX6DRV3GR 6-drive SAS/SATA Expander—AXX6DRV3GEXP	Up to six hot-swap drive bays via the following hot-swap disk drive bay upgrade kits: 6-drive SAS/SATA—AXX6DRV3GR 6-drive SAS/SATA Expander—AXX6DRV3GEXP
System Cooling	3 x non-redundant cooling fans (1 x 120mm chassis fan, 1 x 120mm PCI fan, 1 x 92mm drive bay fan)	3 x non-redundant cooling fans (1 x 120mm chassis fan, 1 x 120mm PCI fan, 1 x 92mm drive bay fan)	3 x non-redundant cooling fans (1 x 120mm chassis fan, 1 x 120mm PCI fan, 1 x 92mm drive bay fan)	2 x non-redundant cooling fans (1 x 120mm chassis fan, 1 x 92mm drive bay fan)
Power Supply	Non-redundant 600 W PFC power supply with integrated cooling fan	Redundant 1+0 high-efficiency 600 W PFC power supply with integrated cooling fan One additional 600 W PSU can be added for redundancy	Non-redundant 1000 W high-efficiency PFC power supply with integrated cooling fan	Non-redundant 400 W high-efficiency PFC power supply with integrated cooling fan
Tool-less Features	Installation and removal of fans, fixed and hot-swap hard drives, fixed and hot-swap drive bays, PCI cards, hot-swap PSU modules, fixed PSU, floppy drives, and CD / DVD ROM drives	Installation and removal of fans, fixed and hot-swap hard drives, fixed and hot-swap drive bays, PCI cards, hot-swap PSU modules, fixed PSU, floppy drives, and CD / DVD ROM drives	Installation and removal of fans, fixed and hot-swap hard drives, fixed and hot-swap drive bays, PCI cards, hot-swap PSU modules, fixed PSU, floppy drives, and CD / DVD ROM drives	Installation and removal of fans, fixed and hot-swap hard drives, fixed and hot-swap drive bays, PCI cards, fixed PSU, floppy drives, and CD / DVD ROM drives
Dimensions (H x W x D)	Pedestal: 17.8" x 9.256" x 19" (452mm x 235mm x 483mm) Rack: 9.256" x 17.6" x 19" (235mm x 447mm x 483mm)	Pedestal: 17.8" x 9.256" x 19" (452mm x 235mm x 483mm) Rack: 9.256" x 17.6" x 19" (235mm x 447mm x 483mm)	Pedestal: 17.8" x 9.256" x 19" (452mm x 235mm x 483mm) Rack: 9.256" x 17.6" x 19" (235mm x 447mm x 483mm)	Pedestal: 17.8" x 9.256" x 19" (452mm x 235mm x 483mm) Rack: 9.256" x 17.6" x 19" (235mm x 447mm x 483mm)
Bezel Features	Black, control panel controls and indicators, two half-height 5.25" peripheral drive bays, internal hard drive bay cage (behind door), security lock, USB ports	Black, control panel controls and indicators, two half-height 5.25" peripheral drive bays, internal hard drive bay cage (behind door), security lock, USB ports	Black, control panel controls and indicators, two half-height 5.25" peripheral drive bays, internal hard drive bay cage (behind door), security lock, USB ports	Black, control panel controls and indicators, two half-height 5.25" peripheral drive bays, internal hard drive bay cage (behind door), security lock, USB ports
Front Connectors	2 x USB	2 x USB	2 x USB	2 x USB

<sup>1</sup> North American power cord included in order codes ending in NA; power cord not included in all other order codes.

<sup>2</sup> Refer to <http://support.intel.com/support/motherboards/server> for up-to-date details on server boards supported by each chassis.

# Selected Intel® RAID and Hot-Swap Drive Solutions

- Use **AXXRAKSAS2** and **AXXMINIDIMM512** to add SAS/SATA RAID to Intel® Server Rack Systems SR1625URSAS, SR2600URLX and SR2625URLX
- Use **AXXROMBSASMR** to add SAS/SATA RAID to Intel® Server Rack Systems SR1600URHS (requires ASR1500PASBP too), SR1690WB, SR1695WB, SR2612UR
- Use **SRCSATAWB** (8 SATA ports), **SRCSASBB8I** (8 SAS Ports) or **RS2BL080** (8 6Gbs SAS ports) to add RAID to Intel® Server Rack Systems SR2600URSATA, SR2600URBRP or SR2625URBRP

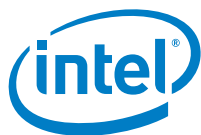
Pedestal systems offer flexibility and can be configured using the guide below.

		Supports 6 Hot-Swap Hard Drives		Supports 10 Hot-Swap Hard Drives
SATA Drives	Third Party SATA RAID card	SC5650 Family (DP, BRP, WS, UP)	SC5600BASE	SC5600BRP, LX
	SRCSATAWB	<b>AXX6DRV3GR</b> and <b>APPTHSDBKIT</b>	<b>AXX6DRV3GR</b>	<b>AXX6DRV3GR</b> and <b>AXX4DRV3GR (Note A)</b>
		<b>AXX6DRV3GR</b> and <b>APPTHSDBKIT</b>	<b>AXX6DRV3GR</b>	<b>AXX6DRV3GEXP</b> and <b>AXX4DRV3GEXP</b>
SAS or SATA Drives	AXXROMBSASMR (Note B)	<b>AXX6DRV3GEXP</b> and <b>APP3HSDBKIT</b>	<b>AXX6DRV3GEXP</b>	<b>AXX6DRV3GEXP</b> and <b>AXX4DRV3GEXP</b>
	SRCSASBB8I	<b>AXX6DRV3GR</b> and <b>APPTHSDBKIT</b>	<b>AXX6DRV3GR</b>	<b>AXX6DRV3GEXP</b> and <b>AXX4DRV3GEXP</b>
	SRCSASJV	<b>AXX6DRV3GR</b> and <b>APPTHSDBKIT</b>	<b>AXX6DRV3GR</b>	<b>AXX6DRV3GEXP</b> and <b>AXX4DRV3GEXP</b>
	<b>RS2BL080</b> Add 6Gb/s RAID Support	<b>AXX6DRV3GR</b> and <b>APPTHSDBKIT</b>	<b>AXX6DRV3GR</b>	<b>AXX6DRV3GR</b> and <b>AXX4DRV3GEXP</b>




Note A: Assumes third-party controller 10 or more ports.

Note B: Only Available on S5520HCR, S5500HCVR, S5520SCR, S5500WBR, and S4320GPLX Boards





## INTEL® RAID





			
<b>Controller</b>	<b>Intel® RAID Controller RS2MB044</b>	<b>Intel® RAID Controller RS2BL080</b>	<b>Intel® RAID Controller RS2PI008</b>
	Mainstream 6G SAS RAID controller with four internal and four external ports for SAS / SATA drives	Mainstream 6G SAS RAID controller with eight internal ports for SAS / SATA drives	Mainstream 6G SAS RAID controller with eight external ports for JBODs with SAS / SATA drives
<b>Order Code</b>	<b>RS2MB044</b> <b>AXXRSBBU7</b> (Optional Intel® RAID Smart Battery)	<b>RS2BL080</b> (Standard) <b>RS2BL080DE</b> (Disk Encryption) <b>AXXRSBBU7</b> (Optional Intel® RAID Smart Battery)	<b>RS2PI008</b> (Standard) <b>RS2PI008DE</b> (Disk Encryption) <b>AXXRSBBU7</b> (Optional Intel® RAID Smart Battery)
<b>Processor / RAID On Chip</b>	<b>LSI* SAS2108</b>	<b>LSI* SAS2108</b>	<b>LSI* SAS2108</b>
<b>Memory</b>	512 MB embedded DDR2 ECC memory	512 MB embedded DDR2 ECC memory	512 MB embedded DDR2 ECC memory
<b>PCI Bus</b>	PCI Express* 2.0 x8	PCI Express* 2.0 x8	PCI Express* 2.0 x8
<b>Channels</b>	4 internal and 4 external SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	8 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	8 external SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates
<b>Form Factor</b>	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)
<b>RAID Levels</b>	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60
<b>Battery Backup</b>	Yes (optional - purchased separately)	Yes (optional - purchased separately)	Yes (optional - purchased separately)
<b>Availability</b>	Now	Now	Now


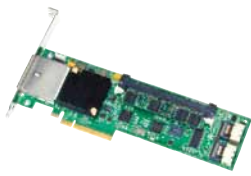


Intel offers three categories of RAID products to protect data, increase performance, and enhance server availability:

- **Good:** Intel® Embedded Server RAID Technology with RAID 0, 1, and 10 is included with most Intel® Server Boards and Systems. RAID 5 is available with optional accessory AXXRAKSW5.
- **Better:** Intel® RAID Controllers are add-in cards designed to enable a wide variety of RAID solutions.
- **Best:** Intel® Integrated Server RAID signifies unique system boards that are designed to add value above that of a standard RAID add-in card to Intel Server Boards and Systems.

Intel also offers Battery Backup Units (BBU) and Premium Feature Keys for many RAID products. Products with BBU options are identified by a "Yes" in the "Battery Backup" row in the product tables. The Premium Feature Keys are described in the last table of this section.

Learn more at: [www.intel.com/go/raid](http://www.intel.com/go/raid)

				
<b>Controller</b>	<b>Intel® RAID Controller RS2BL040</b>	<b>Intel® RAID Controller RS2WC080</b>	<b>Intel® RAID Controller RS2WC040</b>	<b>Intel® Integrated RAID Module SROMBSASMR</b>
	Mainstream 6G SAS RAID controller with four internal ports for SAS / SATA drives	Entry-level 6G SAS RAID controller with eight internal ports for SAS / SATA drives	Entry-level 6G SAS RAID controller with four internal ports for SAS / SATA drives	Four-port internal RAID module for 1U, 2U, and pedestal use with Intel® Server Boards S5520HC and S5500WB
<b>Order Code</b>	<b>RS2BL040</b> AXXRSBBU7 (Optional Intel® RAID Smart Battery)	<b>RS2WC080</b>	<b>RS2WC040</b>	<b>AXXROMBSASMR</b> AXXRSBBU3 (Optional Intel® RAID Smart Battery)
<b>Processor / RAID On Chip</b>	<b>LSI* SAS2108</b>	<b>LSI* SAS2008</b>	<b>LSI* SAS2008</b>	<b>LSI* 1078</b>
<b>Memory</b>	512 MB embedded DDR2 ECC memory	2 MB for entry-level hardware RAID calculations	2 MB for entry-level hardware RAID calculations	Embedded 128 MB ECC DDR2 SDRAM
<b>PCI Bus</b>	PCI Express* 2.0 x8	PCI Express* 2.0 x8	PCI Express* 2.0 x8	PCI Express* x8
<b>Channels</b>	4 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	8 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	4 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	4 internal SAS / SATA ports supporting point-to-point 3.0 Gb/s data-transfer rates
<b>Form Factor</b>	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)	1U capable system board
<b>RAID Levels</b>	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 10, and 50	0, 1, 5, 10, and 50	0, 1, 5, 6, 10, 50, and 60
<b>Battery Backup</b>	Yes (optional - purchased separately)	No	No	Yes (optional - purchased separately)
<b>Availability</b>	Now	Now	Now	Now

				
<b>Controller</b>	<b>Intel® Integrated RAID Module AXX4SASMOD</b>	<b>Intel® RAID Controller SRCASJV</b>	<b>Intel® RAID Controller SRCASBB8I</b>	<b>Intel® RAID Controller SRCATAWB</b>
	<i>Flexible module offering pass-through SAS and multiple entry-level RAID options</i>	<i>Configurable internal/external eight-port SAS / SATA RAID for high-performance flexible solutions</i>	<i>Eight-port internal SAS / SATA RAID in a low-profile, MD2-compliant form factor for mainstream to performance solutions</i>	<i>Eight-port SATA RAID supporting up to 16 HDD through an expander backplane for entry-level to mainstream solutions</i>
<b>Order Code</b>	<b>AXX4SASMOD requires AXXRAKSW5 for RAID 5</b>	<b>SRCASJV</b> <b>AXXRPCM3</b> (Optional Intel® Portable Cache Module) <b>AXXRSBBU3</b> (Optional Intel® RAID Smart Battery)	<b>SRCASBB8I</b> <b>AXXRSBBU6</b> (Optional Intel® RAID Smart Battery)	<b>SRCATAWB</b> <b>AXXRSBBU4</b> (Optional Intel® RAID Smart Battery)
<b>Processor / RAID On Chip</b>	<b>LSI* 1064</b>	<b>LSI* 1078</b>	<b>LSI* 1078</b>	<b>LSI* 1078</b>
<b>Memory</b>	2 MB for entry-level hardware RAID calculations	Ships with 512 MB DIMM (Supports up to 1 GB mini-DIMM ECC DDR2 667 MHz SDRAM)	Embedded 256 MB ECC DDR2 SDRAM	Embedded 128 MB ECC DDR2 SDRAM
<b>PCI Bus</b>	PCI Express* x4	PCI Express* x8	PCI Express* x8	PCI Express* x4
<b>Channels</b>	4 SAS / SATA ports supporting point-to-point 3.0 Gb/s data-transfer rates	8 SAS / SATA ports configurable in groups of 4 for up to 8 internal or 8 external ports supporting point-to-point 3.0 Gb/s data-transfer rates	8 internal SAS / SATA ports supporting point-to-point 3.0 Gb/s data-transfer rates	8 internal SATA ports with 3.0 Gb/s data-transfer rates
<b>Form Factor</b>	1U capable system board	Low-profile, 8.25" length	Low-profile, 6.6" length	Low-profile, 7.75" length
<b>RAID Levels</b>	0, 1, 1E, and optional RAID 5	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60
<b>Battery Backup</b>	N/A	Yes (optional - purchased separately)	Yes (optional - purchased separately)	Yes (optional - purchased separately)
<b>Availability</b>	Now	Now	Now	Now

## INTEL® RAID PREMIUM FEATURES

These features are available as an upgrade for all Intel® RAID products featuring LSI\* SAS2108 processor-based products. To identify products with this processor, please refer to the "Processor" row of the preceding feature tables. The Premium Feature Keys are described below.

Premium Feature	SSD Flash Tiering and Fast-Path I/O	Self-Encrypting Drive Management	Rapid Recovery Snapshot
<b>Key Benefits</b>	<ul style="list-style-type: none"> <li>SSD Cache allows Solid-State Drives to be utilized as additional cache for the RAID controller. Frequently accessed information is stored in the cache, allowing rapid access.</li> <li>Fast-Path I/O accelerates communication with SSD providing up to 150,000 I/O reads per second for small, random block-size I/O activity. This is a dramatic increase over solutions not using Fast-Path.</li> </ul>	<ul style="list-style-type: none"> <li>Encryption Management enables Authentication Key management, auto-lock, and instant erase of Self-Encrypting Drives.</li> <li>All drives eventually leave the data center and the use of SED helps reduce risk of data breaches.</li> <li>Instant erase significantly reduces the cost and time of repurposing or retiring drives.</li> </ul>	<p>Rapid Recovery Snapshot allows users to capture source volume data changes and either restore files or rollback applications to a previous Point in Time (PiT).</p> <ul style="list-style-type: none"> <li>Rapid recovery of lost data from disk can occur within minutes, minimizing the downtime experienced by users and eliminating the lengthy process of restoring data from tape.</li> <li>By isolating a server's boot volume to a separate virtual drive and enabling the auto snapshot feature, users can be guaranteed that bootable snapshots exist, should operating system corruption occur.</li> </ul>
<b>Order Code</b>	AXXRPFKSSD	AXXRPFKDE	AXXRPFKSNSH
<b>Availability</b>	May	May	May

Learn more at: [www.intel.com/go/raid](http://www.intel.com/go/raid)

# Intel® Enabled Server Acceleration Alliance Keeps You Ahead of the Curve



Bolster your product lineup with instant access to pre-verified solution guides (“recipes”) across a range of applications from vendors around the globe with the Intel® Enabled Server Acceleration Alliance (Intel® ESAA). These proven recipes deliver faster time to market and a built-in competitive advantage. Free

for resellers to join, Intel ESAA gives its members comprehensive resources to sell complete solutions and provides pass-through system certification from leading hardware and software vendors at no cost.

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## Benefit from Industry Leading Warranty, Support and Certifications

Intel® Server Products meet the highest standards of quality and reliability with over 10,000+ hours of testing to ensure robustness and compatibility. Reduce development costs, avoid compatibility issues and quickly launch new products by selecting pre-validated components from Intel’s extensive Tested Hardware and OS List. Resellers can leverage this testing to demonstrate compliance with industry requirements such as operating system and regulatory certifications.

In-depth technical specifications, documentation and support information are readily available on the Intel website at [support.intel.com](http://support.intel.com)

Coupled with Intel’s 3-year warranty on server boards, chassis and systems, you and your customers can be confident in an Intel server solution.

# VMware vSphere\* now available with Intel® Server Products

VMware vSphere 4 delivers a powerful virtualization infrastructure dramatically simplifying IT environments to enable the next generation of flexible, reliable IT services. Intel offers a range of server products and VMware vSphere product options enabling businesses of all sizes to match their virtualization solution to their specific needs.

Intel Server Products cover a broad range of customer needs. Paired with the appropriate VMware vSphere product in a pre-validated Intel® ESAA solution recipe, they enable value-added resellers to pass confidence and quality on to their customers. The matrix below shows how VMware and Intel solutions scale to the needs of different businesses.

Customer Type		Small businesses and branch offices (<20 servers)	Small businesses and branch offices (<20 servers)	New companies just starting their adoption of virtualization (>20 servers)	Companies early in their adoption of virtualization but looking to expand (>20 servers)	More mature virtualization customers that are looking to transform internal IT into internal cloud infrastructure
Customer Use Cases	Recommended vSphere Edition	VMware vSphere ESSENTIALS	VMware vSphere ESSENTIALS PLUS	VMware vSphere STANDARD and VMware vCenter Standard	VMware vSphere ADVANCED and VMware vCenter Standard	VMware vSphere ENTERPRISE PLUS and VMware vCenter Standard
	Intel Order Codes for vSphere	VMW4ESS (A)	VMW4ESSPLUS (B)	VMW4STD VMWVCSTD (C)	VMW4ADV VMWVCSTD (D)	VMW4ENTPLUS VMWVCSTD (E)
	Server Consolidation	✓	✓	✓	✓	✓
	Improve application up time		✓		✓	✓
	Running mission critical enterprise applications		✓		✓	✓
	Backing up, restoring and securing business critical data		✓		✓	✓
	Ensuring regulatory and security compliance	✓	✓	✓	✓	✓
	Automating processes to reduce costs and improve application SLAs					✓

Intel® Server Board S3420GP [Essentials, Essentials Plus \(A, B\)](#)

Intel® Server Board S5500BC [Essentials, Essentials Plus \(A, B\)](#)

Intel® Server Board S5520HC [Essentials, Essentials Plus \(A, B\)](#)

Intel® Modular Server S5500VI [Essentials, Essentials Plus, Standard, Advanced \(A, B, C, D\)](#)

Intel® Server Systems SR1600UR, SR1625UR, SR2600UR and SR2625UR families [Essentials, Essentials Plus, Standard, Advanced, Enterprise Plus \(A, B, C, D, E\)](#)

Intel® Server Board S5500WB [Standard, Advanced, Enterprise Plus \(C, D, E\)](#)


Intel® Server Board S5500HV [Standard, Advanced, Enterprise Plus \(C, D, E\)](#)

Intel® Server System SR1680MVNA [Standard, Advanced, Enterprise Plus \(C, D, E\)](#)

# Intel® Solid State Drives

Intel® High Performance SATA Solid-State Drives (SSDs) are designed to deliver outstanding performance and reliability. With no moving parts, Intel SSDs offer a quiet storage solution that responds quickly and uses less power. Compared to traditional hard disk drives, Intel SSDs are significantly more responsive, much more reliable, have lower power consumption and are completely quiet.



New for 2010:  
Intel® X25-V Value  
SATA SSD 

Help remove I/O bottlenecks and lower power consumption in your customers' server and high-end workstation applications by using Intel SSDs. Your customers will get customized solutions that

- Handle more users and respond to them more quickly
- Have higher overall system reliability because of fewer drive failures
- Reduce total cost of ownership (TCO)

Learn more at: [www.intel.com/go/ssd](http://www.intel.com/go/ssd)

## Intel® High Performance Solid-State Drives Product Matrix

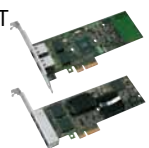






**Intel® X25-E Extreme SATA Solid-State Drives** offer the highest levels of performance and reliability for servers and high-end workstations.

**Intel® X25-M Mainstream SATA Solid-State Drives** offer a good, cost-effective solution for use with read-intensive enterprise applications.

**Intel® X25-V SATA Solid-State Drives** can be used as a fast, reliable boot drive in a multi-drive environment.

Product Code	Capacity	Drive Type	Product Dimensions	Usage Model
SSDSA2SH032G101	32GB	SLC, 50nm	2.5" drive, 7.0mm thick	Server, storage
SSDSA2SH064G101	64GB	SLC, 50nm	2.5" drive, 7.0mm thick	workstation
SSDSA2MH080G201	80GB	MLC, 34nm	2.5" drive, 7.0mm thick	
SSDSA2MH080G2C1	80GB	MLC, 34nm	2.5" drive, 9.5mm thick	
SSDSA2MH080G2R5 (retail box)	80GB	MLC, 34nm	2.5" drive, 9.5mm thick	Read-intensive server applications
SSDSA2MH160G201	160GB	MLC, 34nm	2.5" drive, 7.0mm thick	
SSDSA2MH160G2C1	160GB	MLC, 34nm	2.5" drive, 9.5mm thick	
SSDSA2MH160G2R5 (retail box)	160GB	MLC, 34nm	2.5" drive, 9.5mm thick	
SSDSA2MPO40G2R5 (retail box)	40GB	MLC, 34nm	2.5" drive, 9.5mm thick	Boot Drive

# Intel® Ethernet Server Adapters for Intel® Server Products

Intel® Ethernet Gigabit Products		Intel® Ethernet 10 Gigabit Products		Intel® Ethernet Key Features
<p>Available in single, dual, and quad port for multiport virtualization, redundancy and business continuity. Intel® Ethernet products have been tested and validated on Intel® Xeon® 5400, 5500, 5600-based Intel Server Boards and Systems. Intel® Gigabit family offers both copper and fiber server adapters with virtualization and iSCSI support.</p>		<p>Available for bandwidth-hungry and mission-critical applications. Intel® 82598 and Intel 82599 based adapters have been tested and validated on Intel® Xeon® 5400, 5500, 5600-based Intel Server Boards and Systems. The X520 family has flexibility built in with single and dual port options as well as pluggable optics and fiber and copper SKUs.</p>		<p><b>Intel® Virtualization Technology for Connectivity (VT-c)</b> Is an important component of the Intel® Virtualization Technology IA platform solution across processor, chipset, and networking.</p> <ul style="list-style-type: none"> <li>▪ <b>Intel's Virtualization Machine Device Queues (VMDq)</b> Offloads the data sorting from the hypervisor to the network silicon which improves I/O performance to deliver near line rate throughput and lower CPU utilization.</li> <li>▪ <b>SR-IOV</b> is a PCI SIG standard that creates virtual functions for direct assignment to a virtual machine using VT-d thereby reducing I/O overhead, adding throughput security, and achieving near native performance.</li> </ul> <p><b>Security</b></p> <ul style="list-style-type: none"> <li>▪ <b>LinkSec</b> is a link layer (layer 2) Linux-based protocol and provides hop-by-hop security by providing authentication and encryption of data.</li> <li>▪ <b>IPsec</b> is implemented in the IP stacks of several OSs—Intel is focusing on Windows 2008. It is an IETF standard security framework that prescribes protocols for the protection of IP traffic between two nodes.</li> </ul> <p><b>Unified Networking</b></p> <ul style="list-style-type: none"> <li>▪ <b>iSCSI Acceleration</b> uses native OS iSCSI which requires no proprietary hardware or software for iSCSI LAN and SAN connections</li> <li>▪ <b>iSCSI Remote Boot</b> allows administrators to configure servers to use a boot image rather than re-imaging these servers</li> <li>▪ <b>Open FCoE</b> supports iSCSI, NAS and LAN traffic across a single 10 Gigabit connection reducing management and infrastructure costs. Intel's FCoE initiators available early Q2'2010.</li> </ul>
Part Numbers	Intel® Gigabit ET Dual and Quad Port Server Adapters	Part Number	Intel® Server Adapter X520-DA2	
E1G42ET E1G44ET 	Dual speed: 1000BASE-T and 100BASE-T at a distance up to 100m with security features on the highest performing 1GbE Server Adapters Intel offers today.	E10G42BTDA 	SFP+ Direct Attach copper twin axial connections up to 10m, ideal for connections between servers and top-of-rack switches. SFP+ SR and LR optics can be purchased separately and plugged in as well.	
Part Number	Intel® Gigabit EF Server Adapter	Part Numbers	Intel® Server Adapter X520-SR1, SR2	
E1G42EF 	Dual Port Fiber with optimized virtualization and security features for fiber connections up to 275m.	E10G41BFSR E10G42BFSR 	These 10GbE fiber adapters consolidate network infrastructure in unified LAN and storage networks, while offering pluggable optics and new lower pricing.	
Part Number	Intel® Ethernet Server Adapter I340-T4	Part Number	Intel® 10 Gigabit AT2 Server Adapter	
E1G44HT 	Intel's first halogen-free adapter provides the lowest cost and power of the Gigabit adapters, while supporting virtualization and iSCSI in unified networking environments.	E10G41AT2 	Designed for multi-core processors and optimized for virtualization, this 10GbE copper adapter is ideal for backbone connections using standards-based 10GBase-T for up to 100m.	
		Part Numbers	Intel® Ethernet SFP+ SR & LR Optics	
		E10GSFPSR E10GSFPLR 	<ul style="list-style-type: none"> <li>▪ Hot-pluggable SFP+ footprint</li> <li>▪ Supports rate selectable 1.25 Gb/s or 9.95 to 10.3 Gb/3 bit rates</li> </ul>	

Learn more at: [www.intel.com/go/ethernet](http://www.intel.com/go/ethernet)



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