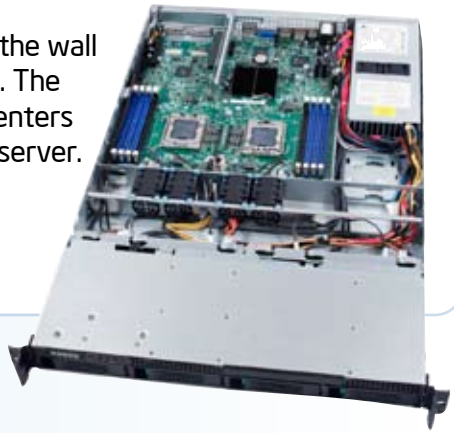

# Intel® Server Boards, Chassis, and Systems Catalog

**Intel® Xeon® Processor 3400, 3500 and 5500 Series Server Products**

# 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). The system is ideal for businesses or datacenters looking for a capable, efficient 1U rack server.



### Key features include:

- Support for two Intel® Xeon® 5500 series processors
- One PCIe x8 (gen 2) riser slot
- I/O Expansion Module support
- Four hot-swap 3.5" SAS or SATA drives with optional upgrade to hardware RAID 0/1/5/6/10/50/60
- High-efficiency power supply

Optional RAID IO Module (AXXROMBSASMR)

**System:** Intel® Server System SR1690WB

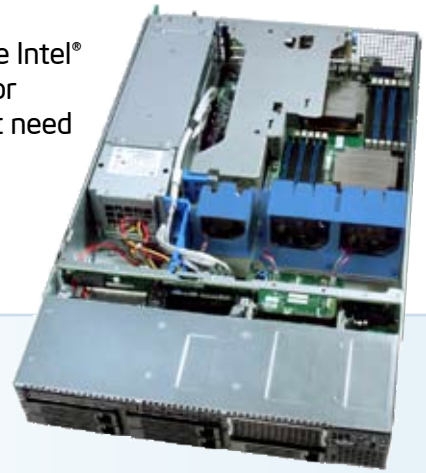
**RAID Upgrade or I/O expansion module (choose 1):** Intel® RAID Controller (AXXROMBSASMR), Quad-port GbE (AXX4GBIOMOD2), Dual CX4-port 10GbE (AXX10GBIOMOD)

**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.



### Key features include:

- Support for two Intel® Xeon® 5500 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:** Intel® Server System SR2600URLX

**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 AXX750WPS

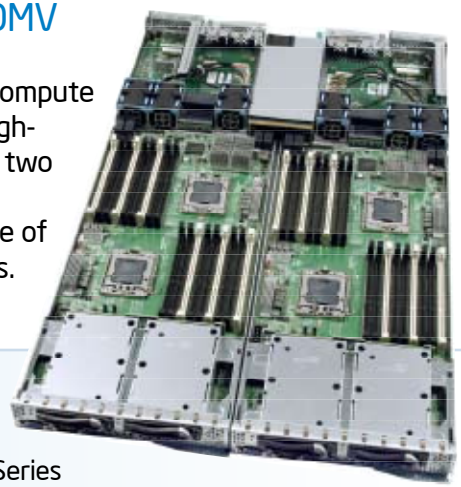
**Management:** IPMI 2.0 is integrated. Remote management requires Intel® Remote Management Module 3 (AXXRMM3).

**Rail Kit:** AXXHERAIL2

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

## Intel® Server System SR1680MV

A 1U system that is ideal for dense compute environments with 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® 5500 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

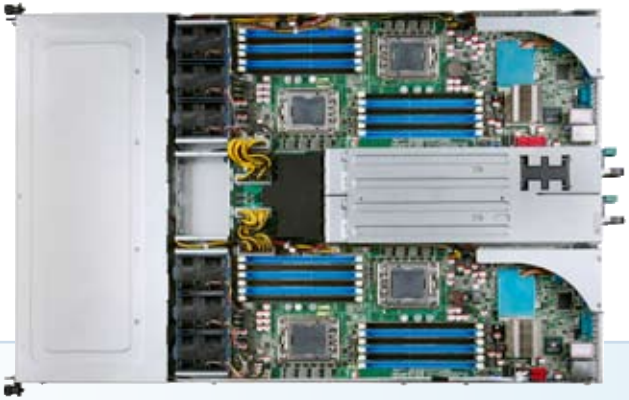
**System:** SR1680MV (includes power supply, two server nodes, hot-swap drive carriers)

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

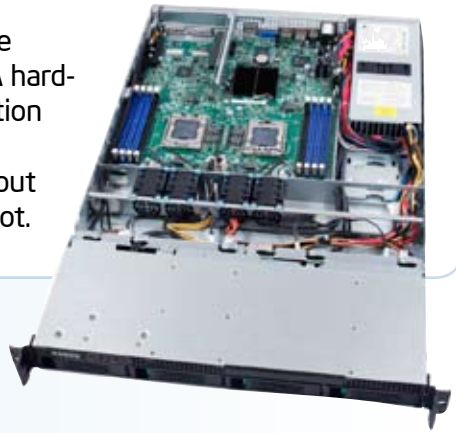
- Support for two Intel® Xeon® 5500 Series Processors on each node
- Support for 12 DDR3 ECC UDIMMS or RDIMMs on each node
- One PCIe x16 (gen 2) riser slot on each node
- Four hot-swap 2.5" SATA drives for each node (8 total in the system)
- Two 770W high-efficiency (one for each node) power supplies

**System:** SR1670HV (includes 2 power supplies, two server nodes, hot-swap drive carriers)

# 1U Four-Drive Systems

## 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 PCI Express* 2.0 riser slot.



### Key features include:

- Support for two Intel® Xeon® 5500 series processors
- One PCIe x8 (gen 2) riser slot
- I/O Expansion Module support
- Four hot-swap 3.5" SAS or SATA drives with optional upgrade to hardware RAID 0/1/5/6/10/50/60
- High-efficiency power supply

Optional RAID IO Module (AXXROMBSASMR)

**System:** Intel® Server System SR1690WB

**I/O expansion module (choose 1):** Add Hardware RAID 5 with the Intel® RAID Controller (AXXROMBSASMR)

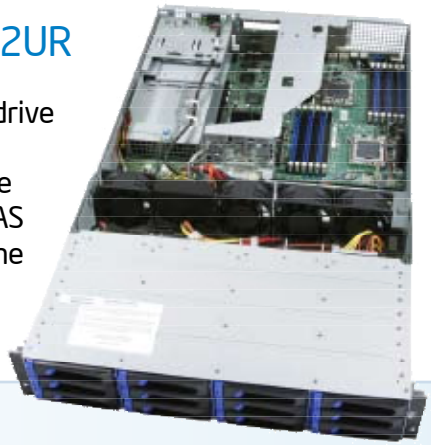
**Remote Management Card:** IPMI 2.0 is integrated. Remote management requires Intel® Remote Management Module 3 (AXXRMM3).

*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® 5500 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 IO Module (AXXROMBSASMR)

**System:** SR2612UR (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 hardware RAID 0/1/5/6/10/50/60. Optional battery backup with AXXBBU3

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

# High-Reliability and Expandable Dual-Socket Pedestal Server

## Intel® Server System SC5650HCBRP

Designed for maximum performance, reliability and expandability, Intel® Server Board S5520HC and SC5600LX is ideal for applications such as database, e-mail, storage, and virtualization.

### Key features include:

- Support for two Intel® Xeon® 5500 series processors
- 6 PCIe and PCI expansion slots
- Mezzanine module upgrades for SAS or SATA RAID
- Six 3.5" hot-swap SAS/SATA drives
- Hot-swap, redundant, high-efficiency power supplies
- Hot-swap, redundant fans

**System Includes:** Intel® Server Board S5520HC
Intel® Server Chassis SC5650BRP
Six hot-swap SAS/SATA drive bays (AXX6DRV3GEXP & APP3HSDBKIT)

**System Upgrades:** Intel® RAID Controller AXXROMBSASMR for hardware RAID 0, 1, 5, 6, 10, 50 and 60. Battery backup with AXXBBU3.

**Remote Management Card:** IPMI 2.0 is integrated. Remote management requires Intel® Remote Management Module 3 (AXXRMM3). Battery backup with AXXBBU3.

# Cost-Effective Dual-Socket Pedestal Server

## Intel® Server System SC5650BCDP

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® 5500 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

**System Includes:** Intel® Server Board S5500BC
Intel® Server Chassis SC5650DP

**Storage Upgrades:** Six hot-swap SAS/SATA drive bays with (AXX6DRV3GR and APPTHSDBKIT) and Intel® RAID Controller SRCSASBB8I with 8 SAS ports for hardware RAID 0, 1, 5, 6, 10, 50 and 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.

## 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:** Intel® Server Board S3420GPLC

**Chassis:** Intel® Server Chassis SC5650UP

**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 and 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:** Intel® Server System SR1630GP

# High-Performance, Dual-Socket Workstation for Demanding Applications

## Intel® Workstation SC5650SCWS

When maximum compute performance, support for high-end graphics and audio are required, Intel® Workstation SC5650SCWS 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® 5500 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
- 1000W Power supply for dual graphics cards

**System Includes:** Intel® Workstation Board S5520SC
Intel® Server Chassis SC5650WS

**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 and 60

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

# Entry, Single-Socket Workstation Board

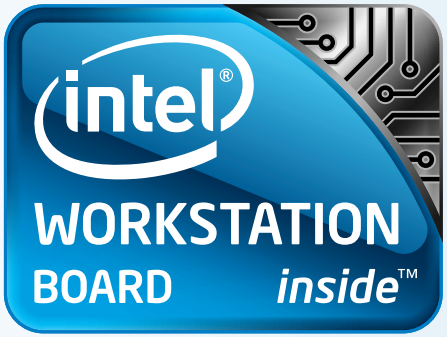
## Intel® Workstation Board WX58BP

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:** Intel® Workstation 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

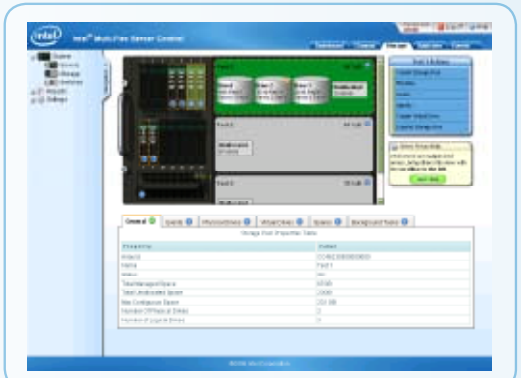
**Flexible** – simple configuration, capacity on demand and easy reallocation of resources

**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® 5500 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 (MFS5520VI)
  - One or two Intel® Xeon® 5500 series processors
  - DDR3 ECC Unbuffered DIMMS or DDR3 Registered DIMMS

NEW

Intel® LUN Copier

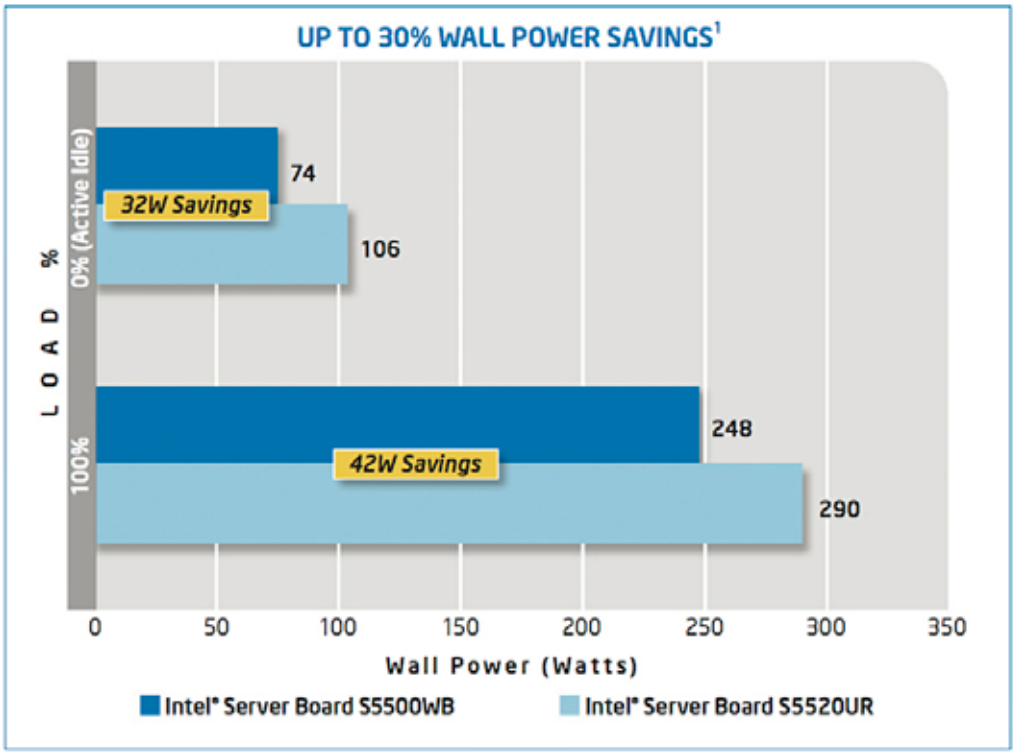
## Optional Accessories

- Quickly deploy and provision OSes or do backups with Intel® LUN Copier (MFSLUNCOPY)
- 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 (MFSLUNKEY)

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

Intel® server boards and systems are designed to deliver leading energy efficiency for reduced power and cooling costs. These benefits are due to optimized server board designs, high-efficiency power supplies and the implementation of software control to optimize performance and performance per watt. The Intel® Server Board S5500WB delivers uncompromising performance and up to 30% power reductions compared to other solutions and can save up to $224 over the life of the server.[1]

The newly available Intel® SR1690WB Server System supports four 3.5" drives, a high-efficiency power supply 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)[2] 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.[3]*

*1 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.*

*2 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*

*3 Calculation backup: 32W x 3 years x 365 days x 24 hours/1000 = 1,121 Kilo Watt Hours (KWh). At a PUE of 2.0, that becomes 2,241 KWh x $0.10/ KWh = $224.*

# Intel® RAID Products Protect Business Continuity

The new Intel® RAID Controller RS2BL080, a 6Gb/s SAS adapter incorporating LSI MegaRAID* technology, offers unprecedented performance with exceptional data protection and design flexibility. Features include LSI's SAS2108 6Gb/s RAID on Chip (ROC) silicon and a native PCI Express* 2.0 architecture allowing for significant performance gains for both 3Gb/s and 6Gb/s drive-based solutions.


Intel® RAID Controller RS2BL080

# 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® 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.

Hundreds of pre-validated recipes are available for: Application and Web Server applications, Backup, Database, Managed Services, Security, Server Management and Virtualization.

When your customers see the Intel® ESAA badge, they know they can count on a solution that's backed by Intel and industry-leading equipment and software providers. Learn more at www.intel.com/go/esaa.

# 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

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.

# INTEL® SERVER SYSTEMS

| System | Intel® Server System SR2612UR | Intel® Server System SR1670HV | Intel® Server System SR1690WB | Intel® Server System SR1680MV |
|---|---|---|---|---|
| | NEW  | NEW  | NEW  | NEW  |
| | *A rack-optimized, highly-integrated server system designed for applications demanding maximum storage capability, and / or performance* | *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* | *A 1U rack server system designed and optimized to be energy efficient and to meet the needs of large data center customers* | *A cable-free, half-width, server system featuring high memory capacity (36 DDR3 DIMMs) and flexible I/O capability making it ideal for virtual-ization and a broad range of HPC applications* |
| Order Code[1] | SR2612UR | SR1670HV | SR1690WB | SR1680MV |
| Components Included | • Intel® Server Board S5520UR<br>• Intel® Server Chassis with redundant power supply and specific configuration below: SR2612U: Expander midplane, PCI Express* riser with three x8 slots, twelve hard drive carriers | • Two Intel® Server Boards S5500HV<br>• Intel® Server Chassis SR1670<br>• Two 770 W non-redundant power supplies<br>• Eight 2.5" hard drive carriers<br>• Hot-swap SATA backplane<br>• Eight high-speed fans<br>• Two PCI Express* 2.0 risers | • Intel® Server Board S5500WB<br>• Intel® Server Chassis SR1690<br>• 650 W non-redundant power supply<br>• Four 3.5" hard drive carriers<br>• Hot-swap SAS / SATA backplane<br>• Four high-speed fans<br>• One PCI Express* 2.0 riser | Intel® Server System containing two independent compute and I/O board pairs, sharing a single high-efficiency 1100 W non-redundant power supply<br>• Four 2.5" hard drive carriers *(two per node)*<br>• Two hot-swop SATA backplanes *(one per node)*<br>• Six high-speed fans *(three per node)*<br>• Two PCI Express* 2.0 risers *(one per node)* |
| Number of Processors Supported | 1 to 2 | 1 to 2 | 1 to 2 | 1 to 2 per node *(2 to 4 total)* |
| Processor Support[2] | Intel® Xeon® processor 5500 series | Intel® Xeon® processor 5500 series | Intel® Xeon® processor 5500 series | Intel® Xeon® processor 5500 series |
| Intel® QPI (GT/s)[3] / 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 | 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 | Intel® 5500 Chipset with ICH10R |
| Total Slots | 3 slots plus IO Expansion Module | 1 | 1 plus 1 via Intel® I/O Expansion Module | Up to 2+ Intel® I/O Expansion Module |
| Slot Types | 1 x PCI Express 2.0 x8 via Intel® I/O Expansion Module<br>3 x full-height PCI Express 2.0 x8<br>Optional riser: 2 x low-profile PCI Express 2.0 x8 | 1 x low profile, half-length PCI Express 2.0 x16 | 1 x full-height PCI Express 2.0 x16<br>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<br>1 x PCI Express 2.0 x8 (10 Gbe or QDR Infiniband* options) 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 | 8 x DDR3 memory DIMM slots through 6 memory channels | 18 x DDR3 memory DIMMs through 6 memorychan-nels on each node |
| Backplane | Hot-swap SAS / SATA backplane | Hot-swap SATA backplane | Hot-swap SAS / SATA backplane | Hot-swap SATA backplane |
| Integrated LAN | Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology[5] | Embedded Intel® 82574L PHYs with Intel® I/O Acceleration Technology | Embedded Intel® Dual-Gigabit Controller 82576EB with Intel® Virtualization Technology[5] | Embedded Intel® Dual-Gigabit Controllers 82576EB with Intel® Virtualization Technology |
| 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 Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics |
| Server Management Support | Intel® System Management Software 3.x | IPMI 2.0 Management features | Intel® System Management Software 3.x | IPMI 2.0 Management features Onboard Server Engines* Pilot II* Server Management Controller |
| Intel® RAID Controller Compatibility[4] | Integrated: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10 for internal 2.5" boot drives<br>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 *(Windows* only)* and LSI* MegaRAID with software RAID levels 0, 1, and 10 *(Windows and Linux*)* | Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10<br>Optional software RAID 5 with activation key | Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0 and 1 |
| Form Factor | 2U rack | 1U rack | 1U rack | 1U rack |
| Drive Bays | 12 x 3.5" drive bays<br>2 x 2.5" fixed drive mounts | 8 x 2.5" hot-swap drive bays | 4 x 3.5" hot-swap drive bays<br>Configurable to support 1 x 2.5" hot-swap drive in each bay | 4 x 2.5" hot-swap drive bays<br>Optional slim-line optical drive |
| Thermal Solution | 2 x passive thermal solutions included | 2 x passive thermal solutions per node *(four total)* included | 2 x passive thermal solutions included | 2 x custom passive thermal solutions per node (four total) included |
| System Cooling | 3+1 fans with Active Airflow Control | 8 x non-redundant fans *(four per node)* | 4 x non-redundant fans | 6 x non-redundant dual-rotor fans (three per node) |
| Power Supply | Two high-efficiency 750 W power supply modules supporting redundant 1+1 power configurations | High-efficiency 770 W non-redundant power supply per node *(2 total)* 80 PLUS* Silver efficiency | High-efficiency 650 W non-redundant power supply with PMBus capability; 80 PLUS* Gold efficiency | High-efficiency 1100 W non-redundant power sup-ply; 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" x 26" *(43mm x 432mm x 659mm)* | 1.7" x 17.6" x 28" *(43mm x 448mm x 714mm)* |

| | NEW  | NEW  |
|---|---|---|
| **System** | **Intel® Server System SR1630GP** | **Intel® Server System SR1630HGP** |
| **Order Code[1]** | **SR1630GP** | **SR1630HGP** |
| **Components Included** | ▪ Intel® Server Board S3420GPLC<br>▪ Intel® Server Chassis with 350 W power supply<br>▪ One low-profile PCI Express* riser card<br>▪ Slim-line DVD-ROM bay<br>▪ Black rail kit<br>▪ Pre-routed cables | ▪ Intel® Server Board S3420GPLC<br>▪ Intel® Server Chassis with 350 W power supply<br>▪ One low-profile PCI Express* riser card<br>▪ Slim-line DVD-ROM bay<br>▪ Black rail kit<br>▪ Pre-routed cables |
| **Number of Processors Supported** | 1 | 1 |
| **Processor Support[2]** | **Intel® Xeon® processor 3400 series** | **Intel® Xeon® processor 3400 series** |
| **Chipset** | Intel® 3420 Server Chipset | Intel® 3420 Server Chipset |
| **Total Slots** | 1 | 1 |
| **Slot Types** | 1 x PCI Express 2.0 x8 | 1 x PCI Express 2.0 x8 |
| **Memory Capacity** | 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** | None | Hot-swap SAS / SATA backplane |
| **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 |
| **Server Management Support** | Intel® System Management Software 3.x | Intel® System Management Software 3.x |
| **Intel® RAID Controller Compatibility[4]** | Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10<br>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<br>Integrated SATA: Intel® Matrix Storage Technology with host-based software RAID levels 0, 1, 5, and 10 |
| **Form Factor** | 1U Rack | 1U Rack |
| **Drive Bays** | 2 x fixed 3.5" SATA (3.0 Gb/s) HDDs<br>1 x fixed slim-line DVD-ROM | 3 x hot-swap 3.5" SATA (3.0 Gb/s) HDDs<br>1 x fixed slim-line DVD-ROM |
| **Thermal Solution** | 1 x UP passive thermal solution included | 1 x UP passive thermal solution included |
| **System Cooling** | 2 x fixed cooling blowers with duct | 2 x fixed cooling blowers with duct |
| **Power Supply** | 350 W non-redundant | 350 W non-redundant |
| **Dimensions (H x W x D)** | 1.70" x 16.9" x 20" *(43mm x 430mm x 508mm)* | 1.70" x 16.9" x 25.51" *(43mm x 430mm x 648mm)* |

| | | | |
|---|---|---|---|
| |  |  |  |
| **System** | **Intel® Server System SR2625UR** | **Intel® Server System SR1625UR** | **Intel® Server System SR1630BC** |
| | *Rack-optimized, highly integrated server systems for high-density, energy-efficient applications* | *Rack-optimized, highly integrated server systems for high-density, energy-efficient applications* | *An entry-level family of rack-optimized server products designed for business-class performance and quality for small- to medium-sized business applications* |
| **Order Code[1]** | **SR2625URBRP<br>SR2625URLX** | **SR1625UR<br>SR1625URSAS** | **SR1630BC** |
| **Components Included** | ▪ Intel® Server Board S5520UR<br>▪ Intel® Server Chassis with one power supply and specific configuration below:<br>SR2625URBRP: Passive midplane, PCI Express* riser with three x8 slots, six hard drive carriers<br>SR2625URLX: Active midplane, PCI Express riser with five x8 slots, six hard drive carriers | ▪ Intel® Server Board S5520UR<br>▪ Intel® Server Chassis with one power supply and specific configuration below:<br>SR1625UR—Passive midplane, PCI Express* riser with one full-height and full-length x16 slot, six hard drive bays<br>SR1625URSAS—Active midplane. PCI Express riser with one full-height and full-length x16 slot, six hard drive bays | ▪ Intel® Server Board S5500BC *(SATA)*<br>▪ Intel® Server Chassis SR1630<br>▪ 400 W non-redundant high-efficiency power supply<br>▪ One low-profile PCI Express* riser card<br>▪ Slim-line CD-ROM bay<br>▪ Basic rail kit<br>▪ Pre-routed cables |
| **Number of Processors Supported** | 1 to 2 | 1 to 2 | 1 to 2 |
| **Processor Support[2]** | **Intel® Xeon® processor 5500 series** | **Intel® Xeon® processor 5500 series** | **Intel® Xeon® processor 5500 series** |
| **Intel® QPI (GT/s)[3] / 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® 5520 Chipset with ICH10R | Intel® 5500 Chipset with ICH10R |
| **Total Slots** | Up to 5 + modules | 1 + modules | 1 |
| **Slot Types** | 1 x PCI Express 2.0 x8 via Intel® I/O Expansion Module<br>1 x PCI Express 1.0 x4 via bridge board connector to HW SAS RAID controller on Midplane 2<br>SR2625URBRP: 3 x full-height PCI Express 2.0 x8 slots<br>Optional riser: 1 x full-height PCI Express 2.0 x8, 2 x low-profile PCI Express 2.0 x8 slots, and 2 x full-height PCI-X 133 MHz<br>SR2625URLX: 3 x full-height PCI Express 2.0 x8 slots and 2 x low-profile PCI Express 2.0 x8 slots via riser | 1 x PCI Express 2.0 x16 slot via riser<br>1 x PCI Express 2.0 x8 bus via Intel® I/O Expansion Module<br>1 x PCI Express 1.0 x4 via bridge board connector to HW SAS RAID controller on Midplane 2 | 1 x low-profile, half-length PCI Express 2.0 x8 through riser card in slot 6 |
| **Memory Capacity** | 12 x DDR3 memory DIMMs through 6 memory channels | 12 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 | None |
| **Integrated LAN** | Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology | Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology | Embedded Intel® Dual-Gigabit Controllers 82574L and 82567LM |
| **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® System Management Software 3.x | Intel® System Management Software 3.x |
| **Intel® RAID Controller Compatibility[4]** | Integrated: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10<br>Optional software RAID 5 with activation key<br>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<br>Optional software RAID 5 with activation key<br>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 software RAID levels 0, 1, and 10<br>Optional support for software RAID 5 with activation key |
| **Form Factor** | 2U Rack | 1U Rack | 1U Rack |
| **Drive Bays** | 8 x 2.5" drive bays<br>Optional 2 x 2.5" fixed drive mounts | 8 x 2.5" drive bays | 2 x fixed 3.5" SATA HDDs<br>Optional slim-line optical drive |
| **Thermal Solution** | 2 x passive thermal solutions included | 2 x passive thermal solutions included | None *(Uses 1U passive thermal solution: BXSTS100P)* |
| **System Cooling** | SR2625URBRP—3 x non-redundant fans<br>SR2625URLX—6 x redundant and hot-swap standard fans | 5 x non-redundant dual-rotor fans | 2 x fixed cooling blowers with duct |
| **Power Supply** | Up to two high-efficiency 750 W power supply modules supporting 1+0 or redundant 1+1 power configurations | Up to two 650 W power supply modules supporting 1+0 or redundant 1+1 power configurations | 400 W high-efficiency non-redundant power supply |
| **Dimensions (H x W x D)** | 3.44" *(87mm)* x 16.93" *(430mm)* x 27.95" *(710mm)* | 1.70" *(43mm)* x 16.93" *(430mm)* x 27.95" *(710mm)* | 1.70" *(43mm)* x 16.90" *(429mm)* x 20.0" *(508mm)* |

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| **System** | **Intel® Server System SR1600UR** | **Intel® Server System SR2600UR** |
| | *Rack-optimized, highly integrated server systems for high-density, energy-efficient applications* | *Rack-optimized, highly integrated server systems for high-density, energy-efficient applications* |
| **Order Code[1]** | **SR1600UR**<br>**SR1600URSHS** | **SR2600URBRP**<br>**SR2600URLX** |
| **Components Included** | ▪ Intel® Server Board S5520UR<br>▪ Intel® Server Chassis with specific configuration below:<br>SR1600UR: 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<br>SR1600URSHS: No backplane *(must be ordered separately)* PCI Express 2.0 riser with one full-height and full-length x16 slot, three hard drive carriers | ▪ Intel® Server Board S5520UR<br>▪ Intel® Server Chassis with one power supply and specific configuration below:<br>SR2600URBRP: Passive midplane, PCI Express* riser with three x8 slots, three system fans, five hard drive carriers<br>SR2600URLX: Active midplane, PCI Express riser with five x8 slots, six hot-swat and redundant fans, five hard drive carriers |
| **Number of Processors Supported** | 1 to 2 | 1 to 2 |
| **Processor Support[2]** | **Intel® Xeon® processor 5500 series** | **Intel® Xeon® processor 5500 series** |
| **Intel® QPI (GT/s)[3] / 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 + modules | Up to 5 + modules |
| **Slot Types** | 1 x PCI Express 2.0 x16 slot via riser<br>1 x PCI Express 2.0 x8 bus via Intel® I/O Expansion Module | 1 x PCI Express 2.0 x8 via Intel® I/O Expansion Module<br>1 x PCI Express 1.0 x4 via bridge board connector to HW SAS RAID controller on Midplane 2<br>SR2600URBRP: 3 x full-height PCI Express 2.0 x8 slots<br>Optional riser: 1 x full-height PCI Express 2.0 x8, 2 x low-profile PCI Express 2.0 x8 slots, and 2 x full-height PCI-X 133 MHz<br>SR2600URLX: 3 x full-height PCI Express 2.0 x8 slots and 2 x low-profile PCI Express 2.0 x8 slots via riser |
| **Memory Capacity** | 12 x DDR3 memory DIMMs through 6 memory channels | 12 x DDR3 memory DIMMs through 6 memory channels |
| **Backplane** | SR1600UR: Fan board only, HDDs are cabled<br>SR1600URSHS: Active SAS/SATA or Passive SATA hot-swap backplane *(must be ordered separately)* | Hot-swap SAS/SATA backplane |
| **Integrated LAN** | Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology | Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology |
| **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® System Management Software 3.x |
| **Intel® RAID Controller Compatibility[4]** | Integrated: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10<br>Optional software RAID 5 with activation key<br>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<br>Optional software RAID 5 with activation key<br>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 | 2U Rack |
| **Drive Bays** | 3 x 3.5" drive bays | 6 x 3.5" drive bays<br>Optional 2 x 2.5" fixed drive mounts |
| **Thermal Solution** | 2 x passive thermal solutions included | 2 x passive thermal solutions included |
| **System Cooling** | 5 x non-redundant dual-rotor fans | SR2600URBRP—3 x non-redundant fans<br>SR2600URLX—6 x redundant and hot-swap standard fans |
| **Power Supply** | 600 W high-efficiency power supply | Up to two high-efficiency 750 W power supply modules supporting 1+0 or redundant 1+1 power configurations |
| **Dimensions (H x W x D)** | 1.70" *(43mm)* x 16.93" *(430mm)* x 27.25" *(692mm)* | 3.44" *(87mm)* x 16.93" *(430mm)* x 27.95" *(710mm)* |

# INTEL® SERVER BOARDS

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| |  |  |
| **Boards** | **Intel® Entry Server Board S3420GPLX** | **Intel® Entry Server Board S3420GPLC** |
| | *Entry server board with essential server-class features* | *Essential server features for entry-level applications* |
| **Order Code** | **S3420GPLX** | **S3420GPLC** |
| **Intel® Server Chassis Support** | Intel® Server Chassis SC5650UP | Intel® Server Chassis SC5650UP<br>Intel® Server System SR1630GP<br>Intel® Server System SR1630HGP |
| **Processor Support[1]** | **Intel® Xeon® processor 3400 series** | **Intel® Xeon® processor 3400 series** |
| **Number of Processors Supported** | 1 | 1 |
| **Chipset** | Intel® 3420 Server Chipset | Intel® 3420 Server Chipset |
| **Total Slots** | 6 | 4 |
| **Slot Types** | 1 x PCI Express* 2.0 x8 *(x16 mechanical)*<br>1 x PCI Express 2.0 x8 *(x8 mechanical)*<br>1 x PCI Express 2.0 x4 *(x8 mechanical)*<br>1 x PCI Express x4 *(x8 mechanical)*<br>1 x PCI Express x1 *(x1 mechanical)*<br>1 x PCI 32-bit / 33 MHz *(5 V)* | 1 x PCI Express* 2.0 x8 *(x16 mechanical)*<br>1 x PCI Express 2.0 x8 *(x8 mechanical)*<br>1 x PCI Express x4 *(x8 mechanical)*<br>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® System Management Software 3.x |
| **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 *(AXXRMM3)* | Integrated baseboard management controller with IPMI 2.0 support |
| **Intel® RAID Support** | Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10<br>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<br>Integrated SATA: Intel® Matrix Storage Technology with host-based software RAID levels 0, 1, 5, and 10 |
| **Warranty** | 3 year limited warranty | 3 year limited warranty |

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|---|---|---|---|
| **Boards** | **Intel® Server Board S5520HC** | **Intel® Server Board S5500HCV** | **Intel® Server Board S5500BC** |
| | *A pedestal-optimized server product family designed with world-class performance, scalable management, and maximum expandability for small and medium business applications* | *A pedestal-optimized server product family designed with enterprise-class performance, scalable management, and good expandability for small and medium business applications* | *An entry-level family of rack- and pedestal-optimized server products designed for business-class performance and quality for small and medium business applications* |
| **Order Code** | S5520HC | S5500HCV | S5500BC |
| **Intel® Server Chassis Support** | Intel® Server Chassis SC5600 Family<br>Intel® Server Chassis SC5650 Family | Intel® Server Chassis SC5600 Family<br>Intel® Server Chassis SC5650 Family | Pedestal: Intel® Server Chassis SC5650 Family<br>1U Rack: Intel® Server System SR1630BC |
| **Processor Support[1]** | **Intel® Xeon® processor 5500 series** | **Intel® Xeon® processor 5500 series** | **Intel® Xeon® processor 5500 series** |
| **Number of Processors Supported** | 1 or 2 | 1 or 2 | 1 or 2 |
| **Intel® QPI (GT/s)[2] / 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** | 6 | 5 | 5 |
| **Slot Types** | 1 x PCI Express* 2.0 x8 *(x16 mechanical)*<br>3 x PCI Express 2.0 *(x8 mechanical)*<br>1 x PCI Express 2.0 x4 *(x8 mechanical shared with Intel® 4-port SAS I/O module)*<br>1 x PCI 32/33 5V | 2 x PCI Express* 2.0 x8 *(x8 mechanical)*<br>1 x PCI Express 2.0 x4 *(x8 mechanical)*<br>1 x PCI Express x4 *(x8 mechanical shared with Intel® 4-port SAS I/O module)*<br>1 x PCI 32/33 5V | Pedestal:<br>2 x half-length PCI Express* 2.0 x8 *(x8 mechanical)*<br>1 x half-length PCI Express 2.0 x4 *(x8 mechanical)*<br>1 x half-length PCI Express x4<br>1 x half-length PCI 32/33 5V<br>Rack:<br>1 x low-profile, half-length PCI Express 2.0 x8 riser in slot 6 |
| **Memory Capacity** | 12 x DDR3 memory DIMMs through 6 memory channels | 9 x DDR3 memory DIMMs through 6 memory channels | 8 x DDR3 memory DIMMs through 4 memory channels |
| **Integrated Serial ATA** | 6-port SATA *(3.0 Gb/s)* via ICH10R | 6-port SATA *(3.0 Gb/s)* via ICH10R | 6-port SATA ports *(3.0 Gb/s)* via ICH10R |
| **SAS Option** | Optional SAS or SAS RAID solutions via Intel® I/O Expansion Modules | Optional SAS or SAS RAID solutions via Intel® I/O Expansion Modules | Not available |
| **Integrated LAN** | Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology | Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology | Embedded Intel® Dual-Gigabit Controllers 82574L and 82567LM |
| **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® System Management Software 3.x | Intel® System Management Software 3.x |
| **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 *(RMM3)* | 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 *(RMM3)* | 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 *(RMM3)* |
| **Intel® RAID Support** | Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10<br>Optional software RAID 5 with activation key | Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10<br>Optional software RAID 5 with activation key | Integrated SATA: Intel® Embedded Server RAID Technology with software RAID levels 0, 1, and 10<br>Optional software RAID 5 with activation key |

For more information, visit the Intel Web site at: **www.intel.com/go/serverboards**

| Boards |  Intel® Workstation Board SC5520SC |  Intel® Server Board S5520UR |  Intel® Server Board S5500WB |
|---|---|---|---|
| | *A workstation-optimized product family designed with world-class performance and flexible expandability for graphics-intensive applications* | *Rack-optimized, highly integrated server systems for high-density, energy-efficient applications* | *A rack-optimized server board, purpose-built for high energy efficiency and lowest total cost of ownership in dense computing applications* |
| **Order Code** | **S5520SC** | **S5520UR** | **S5500WB** |
| **Intel® Server Chassis Support** | Intel® Server Chassis SC5600BASE<br>Intel® Server Chassis SC5650WS | Intel® Server System SR1600UR<br>Intel® Server System SR1625UR<br>Intel® Server System SR2600UR<br>Intel® Server System SR2625UR | Third-party |
| **Processor Support[1]** | **Intel® Xeon® processor 5500 series** | **Intel® Xeon® processor 5500 series** | **Intel® Xeon® processor 5500 series** |
| **Number of Processors Supported** | 1 or 2 | 1 or 2 | 1 or 2 |
| **Intel® QPI (GT/s)[2] / 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® 5520 Chipset with ICH10R | Intel® 5500 Chipset with ICH10R |
| **Total Slots** | 5 | 1U: 1<br>2U: Up to 5 | Up to 2, plus 1 via Intel® I/O Expansion Module *(chassis dependent)* |
| **Slot Types** | 2 x PCI Express* 2.0 x16 *(x16 mechanical)*<br>1 x PCI Express 2.0 x4 *(x8 mechanical shared with Intel® 4-port SAS I/O module)*<br>1 x PCI Express x1 *(x4 mechanical)*<br>1 x PCI 32/33 5V | 1 x PCI Express* 2.0 x8 via Intel® I/O Expansion Module<br>1 x PCI Express x4 via bridge board connector to HW SAS RAID controller on Midplane 2<br>1U: 1 x PCI Express 2.0 x16 *(x16 mechanical via riser)*<br>2U: Three riser options available:<br>3 x full-height PCI Express 2.0 x8 and 2 x low-profile PCI Express 2.0 x8<br>3 x full-height PCI Express 2.0 x8<br>3 x full-height PCI Express 2.0 x8, 2 x low-profile PCI Express 2.0 x8 and 2 x full-height PCI-X 133 MHz | 1 x PCI Express* 2.0 x8 in slot 6 *(x16 mechanical)*<br>1 x PCI Express 2.0 x4 in slot 1 *(x8 mechanical)*<br>Intel® I/O Expansion Module—PCI Express 2.0 x8 *(GbE, 10 GbE, SAS, and InfiniBand* options)* |
| **Memory Capacity** | 12 x DDR3 memory DIMMs through 6 memory channels | 12 x DDR3 memory DIMM slots through 6 memory channels | 8 x DDR3 memory DIMM slots through 6 memory channels |
| **Integrated Serial ATA** | 6-port SATA *(3.0 Gb/s)* via ICH10R | 6-port SATA *(3.0 Gb/s)* via ICH10R | 6-ports SATA *(3.0 Gb/s)* via ICH10R |
| **SAS Option** | Optional SAS or SAS RAID solutions via Intel® I/O Expansion Modules | 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 HW RAID |
| **Integrated LAN** | Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology | Embedded Intel® Dual-Gigabit Controller 82575EB with Intel® Virtualization Technology | Embedded Intel® Dual-Gigabit Controller 82576EB with Intel® Virtualization Technology |
| **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® System Management Software 3.x | Intel® System Management Software 3.x |
| **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 *(RMM3)* | 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 *(RMM3)* | Support for the new simplified Data Center Management Interface *(DCMI)*, IPMI 2.0, and Intel® Intelligent Power Node Manager<br>Optional Intel® Remote Management Module *(RMM3)* |
| **Intel® RAID Support** | Integrated SATA: Intel® Embedded Server RAID Technology with software RAID levels 0, 1, and 10<br>Optional software RAID 5 with activation key | Integrated SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10<br>Optional software RAID 5 with activation key<br>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 SATA: Intel® Embedded Server RAID Technology with host-based software RAID levels 0, 1, and 10<br>Optional software RAID 5 with activation key |

# INTEL® SERVER / WORKSTATION PROCESSORS

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

| NEW | LONG LIFE | PROCESSOR NAME | PRODUCT CODE | CLOCK SPEED | INTEL® QPI[1] SPEED | SHARED L3 CACHE | MAX. MEMORY SPEED | NO. OF CORES / THREADS | INTEL® HYPER-THREADING TECHNOLOGY[2] | INTEL® TURBO BOOST TECHNOLOGY[3] | 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 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)*

| NEW | LONG LIFE | PROCESSOR NAME | PRODUCT CODE | CLOCK SPEED | SHARED L3 CACHE | MAX. MEMORY SPEED | NO. OF CORES / THREADS | INTEL® HYPER-THREADING TECHNOLOGY[2] | INTEL® TURBO BOOST TECHNOLOGY[3] | 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® processors are the preferred choice for demanding server applications. Intel Xeon processor 5000 and 3000 sequence help to significantly improve compute power and response times for Internet applications, mail servers, small databases, and general purpose and technical computing applications, while the Intel Xeon processor 7000 sequence provides world-class performance for demanding enterprise-level applications.**

For more information, visit the Intel Web site at: **www.intel.com/go/serverprocessors**

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

| NEW | LONG LIFE | PROCESSOR NAME | PRODUCT CODE | CLOCK SPEED | INTEL® QPI[1] SPEED | SHARED L3 CACHE | MAX. MEMORY SPEED | NO. OF CORES / THREADS | INTEL® HYPER-THREADING TECHNOLOGY[2] | INTEL® TURBO BOOST TECHNOLOGY[3] | 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 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 E5502 | BX80602E5502 | 1.86 GHz | 4.80 GT/s | 4 MB | 800 MHz | 2 / 2 | | | 80 W | 7 35858 20578 8 |

# Recommended Intel® Xeon® 5500 Series Processor Memory Configurations

## Intel® Server Boards S5520HC, S5520SC, S5520UR, S5500WB, S5500HV, Intel® Server Systems in the SR1670HV, SR1680MV, SR1690WB, SR1600UR, SR1625UR, SR2600UR, SR2612UR and SR2625UR families, and compute modules (MFS5520VI)[1]

DPC = DIMMs Per Channel

| Processor\Memory Capacity (Note 2) | 6GB | 12GB | 24GB | 48GB |
|---|---|---|---|---|
| Intel® Xeon® Processor W5590, W5580, X5570, X5560, X5550<br>(Max memory speed: 1333MHz) (Note 4) | 6x 1GB DDR3 Unbuffered ECC<br>1333, 1066, or 800MHz - 1DPC | 6x 2GB DDR3 Unbuffered ECC<br>1 DPC<br>1333, 1066 or 800MHz | For 1333 MHz support:<br>6x 4GB DDR3 Registered ECC - 1DPC<br>1333 MHz, Single- or Dual-Rank<br>For lower cost:<br>12x 2GB DDR3 Unbuffered ECC - 2DPC<br>1066 or 800MHz (Note 3) | For 1333 MHz support:<br>6x 8GB DDR3 Registered ECC - 1DPC<br>1333 MHz, Single- or Dual-Rank<br>For lower cost:<br>12x 4GB DDR3 Registered ECC - 2DPC<br>1066 or 800MHz (Note 3) |
| Intel® Xeon® Processor E5540, E5530, L5530, L5520, E5520<br>(Max memory speed: 1066 MHz) | 6x 1GB DDR3 Unbuffered ECC<br>1066 or 800MHz - 1DPC | 6x 2GB DDR3 Unbuffered ECC<br>1066 or 800MHz - 1DPC<br>or<br>12x 1GB DDR3 Unbuffered ECC<br>1066 or 800MHz - 2DPC | 12x 2GB DDR3 Unbuffered ECC<br>1066 or 800MHz - 2DPC (Note 3) | 12x 4GB DDR3 Registered ECC<br>1066 or 800MHz - 2DPC (Note 3) |
| Intel® Xeon® Processor L5506, E5506, E5504, E5502<br>(Max memory speed: 800MHz) | 6x 1GB DDR3 Unbuffered ECC<br>1066 or 800MHz - 1DPC<br>(1066MHz may be installed, but will run at 800MHz based on CPU) | 6x 2GB DDR3 Unbuffered ECC<br>1066 or 800MHz - 1DPC<br>or<br>12x 1GB DDR3 Unbuffered ECC<br>1066 or 800MHz - 2DPC (Note 3)<br>(1066MHz may be installed, but will run at 800MHz based on CPU) | 12x 2GB DDR3 Unbuffered ECC<br>1066 or 800MHz - 2DPC<br>(1066MHz may be installed, but will run at 800MHz based on CPU) | 12x 4GB DDR3 Registered ECC<br>1066 or 800MHz - 2DPC<br>(1066MHz may be installed, but will run at 800MHz based on CPU) |

## Intel® Server Board S5500BC

| Processor\Memory Capacity (Note 2) | 4GB | 8GB | 16GB | 32GB |
|---|---|---|---|---|
| Intel® Xeon® Processor X5570, X5560, X5550<br>(Max memory speed: 1333MHz) | 4x 1GB Unbuffered DDR3 ECC<br>1333, 1066 or 800MHz - 1DPC | 6x 2GB DDR3 Unbuffered ECC<br>1 DPC<br>1333, 1066 or 800MHz | For 1333 support:<br>4x 4GB DDR3 Registered ECC - 1DPC<br>1333MHz, Single- or Dual-Rank<br>For lower cost:<br>8x 2GB DDR3 Unbuffered ECC - 2DPC<br>1066 or 800MHz | For 1333 support:<br>4x 8GB DDR3 Registered ECC - 1DPC<br>1333MHz - Single- or Dual-Rank<br>For lower cost:<br>8x 4GB DDR3 Registered ECC - 2DPC<br>1066 or 800MHz |
| Intel® Xeon® Processor E5540, E5530, L5530, L5520, E5520<br>(Max memory speed: 1066 MHz) | 4x 1GB Unbuffered DDR3 ECC<br>1066 or 800MHz - 1DPC | 4x 2GB Unbuffered DDR3 ECC<br>1066 or 800MHz - 1DPC | 8x 2GB DDR3 Unbuffered ECC<br>1066 or 800MHz - 2DPC | 8x 4GB DDR3 Registered ECC<br>1066, or 800MHz - 2DPC |
| Intel® Xeon® Processor L5506, E5506, E5504, E5502<br>(Max memory speed: 800MHz) | 4x 1GB Unbuffered DDR3 ECC<br>1066 or 800MHz - 1DPC<br>(1066MHz may be installed, but will run at 800MHz based on CPU) | 4x 2GB Unbuffered DDR3 ECC<br>1066 or 800MHz - 1DPC<br>(1066MHz may be installed, but will run at 800MHz based on CPU) | 8x 2GB DDR3 Unbuffered ECC<br>1066 or 800MHz - 2DPC<br>(1066MHz may be installed, but will run at 800MHz based on CPU) | 8x 4GB DDR3 Registered ECC<br>1066 or 800MHz - 2DPC<br>(1066MHz may be installed, but will run at 800MHz based on CPU) |

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

Note 2: Assumes a system with both processors populated

Note 3: Intel® Server System SR1690WB 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 Series Processor Servers

| One heat sink required for each processor | SC5650 (DP, BRP, WS) and SC5600 (BASE, BRP) Families | SC5600LXNA | SR1600UR, SR1625UR, SR1670HV, SR1680MV, SR1690WB, SR2600UR, SR2625UR and compute modules MFS5520VI | S5500WB Server Board and SR1630BCNA Servers |
|---|---|---|---|---|
| Intel® Xeon® Processor W5590, W5580 | BXSTS100C (Note 1) | Not Supported | Not Supported | Not Supported |
| Intel® Xeon® Processor X5570, X5560, X5550 | BXSTS100C | FXXRGTHS or FXXRGTHSINK | System includes BXSTS100P heat sinks | BXSTS100P |
| Intel® Xeon® Processor E5540, E5530, L5530 ,L5520, E5520, L5506, E5506, E5504, E5502 | BXSTS100A or BXSTS100C | FXXRGTHS or FXXRGTHSINK | System includes BXSTS100P heat sinks. | BXSTS100P |

Note 1: Intel® Xeon® Processor W5590 and W5580 are only supported in Intel® Workstation System SC5650SCWS, and in Intel® Workstation Board SC5520 in Intel® Server Chassis SC5650WS.

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

# 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, SR2612UR**

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

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

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

Note B: Only Available on S5520HC, S5500HCV, S5520SC, S5500WB and S4320GPLX Boards

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Learn about Intel® RAID at: www.intel.com/go/RAID
Learn about Intel® Enabled Server Acceleration Alliance (Intel® ESAA) recipes at: www.intel.com/go/ESAA
Configure your ideal server at: http://serverconfigurator.intel.com