Intel® Server Board S2600BP Product Family
Featuring the 2nd Generation Intel® Xeon® Scalable Processor Family
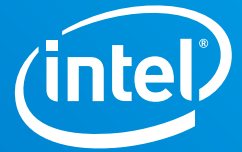
Density Optimized System Enabling Next-Gen Performance
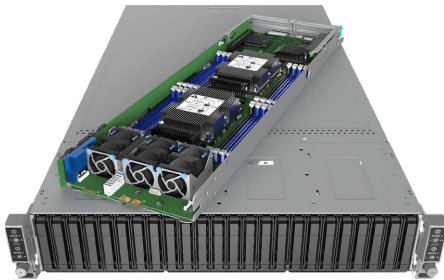
Performance Optimized for Compute Density

The Intel® Server Board S2600BP product family is a purpose built, rack-optimized server board ideal for use in hyper-converged, data analytics, storage, cloud and high performance computing applications. Designed to support the 2nd Generation Intel® Xeon® Scalable processor family and up to 16 DDR4 DIMM slots per server board (eight DIMMs per processor), the S2600BP product family maximizes memory and processor bandwidth to meet demanding compute use requirements.

Density Optimized 2U Rack Server with High Speed Networking and I/O

- Up to four compute modules per 2U chassis with support for up to two 2nd Generation Intel® Xeon® Scalable processors per module

- Up to 165 W processor TDP for high performance workloads in a 2U air-cooled chassis. Liquid-cooling compatible options also available

- Networking flexibility with dual 10GBase-T or 10G SFP+ modules

- x16 PCIe* slot per module enabling additional network options

- Support for up to two NVMe* SSDs per node in a 24 drive chassis

- Hot-swappable compute modules, storage, and power supplies

Future-Ready Platform for the Multi-Cloud, Data-Fueled Enterprise

The S2600BP product family is built with the latest 2nd Generation Intel® Xeon® Scalable processor family. This latest generation processor is designed for performance with high scalability and resiliency with no I/O compromise, and supports a wide range of existing and emerging workloads. The S2600BP product family uses a number of key processor advancements:

- **2nd Generation Intel® Xeon® Scalable processor with drop-in compatibility**

- **Support for Intel® Optane™ DC Persistent Memory**

- **Memory speeds up to 2933 MT/s**

- **Intel® Deep Learning Boost (Vector Neural Network Instruction)**

- **Support for Intel® Speed Select‡** enables the optimization of processing resources to enhance workload performance, increase utilization, and optimize TCO.

- **Integrated 10G Ethernet with RDMA** eliminates TCP/IP overhead by offloading transport to NIC for faster switching and packet filtering.

- **Intel® AVX-512** enables tiering, de-dup, thin provisioning, and exceptional processing of compute-intensive tasks.

- **Integrated Intel® QuickAssist Technology (Intel® QAT)** enables hardware- assisted acceleration for critical workloads such as authentication, public key functions, and compression/decompression, while freeing up CPU cycles and reducing demands on the server.

- **Intel® Omni-Path Architecture** integration, delivering 100Gbps port bandwidth for improved performance and lower latency in medium to large clusters.

‡ On supported 2nd Generation Intel® Xeon® Scalable processors

Built with Intel® Quality, Reliability and Performance

Intel® Server Products are backed by Intel's design excellence and manufacturing expertise to deliver processing power with high levels of flexibility, manageability, and reliability. Product and design quality is paired with a 3-year standard or 5-year extended warranty and robust technical and incident resolution support to ensure customer satisfaction.

Accelerating Time to Market with Innovative Data Center Solutions

The S2600BP product family is a foundational component of Intel® Data Center Blocks. These fully validated, unbranded server systems include Intel's latest data center technology—already optimized to work better together—allowing partners to accelerate time to market with reliable data center solutions. The process of configuring and validating the components of solutions that are tuned to meet specific customer requirements is a complex and resource intensive process. Intel Data Center Blocks based on the S2600BP product family can help reduce this complexity, making it easier to build innovative server solutions that can support the demands of today's data center workloads.

Purpose Built for Outstanding Compute Density

Purpose built for breakthrough performance, compute density, high-speed networking and I/O with stability and increased uptime.

Common use cases:

- HPC with real-time compute requirements
- HCI for scale out using network for agility and flexibility
- Data analytics requiring high compute power
- Storage for warm tier data
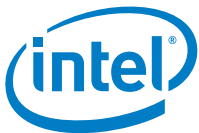- Cloud Infrastructure with compute intense requirements

HPC Workloads:

- Genomic sequencing
- Seismic modeling
- Computational fluid dynamics
- High frequency trading

Storage Workloads:

- Scale-up high performance storage
- Scale-out storage for HCI

Cloud Workloads:

- Telco datacenter
- Public and hybrid cloud infrastructure

INTEL® SERVER BOARD S2600BP FAMILY

SERVER BOARD SPECIFICATION	DETAILS
Board SKUs	**S2600BPBR, S2600BPSR, S2600BPQR**
Board Dimensions	6.8" x 19.1"
Processor	2nd Generation Intel® Xeon® Scalable processor family (Platinum, Gold, Silver, and Bronze)
Processor Socket Type	Two Socket-P LGA3647
Maximum Processor TDP	165 W – board 140 W/165 W‡ – chassis
Chipset	• Intel® C621 Chipset – S2600BPBR • Intel® C622 Chipset – S2600BPSR • Intel® C628 Chipset – S2600BPQR
Max DIMM Slots	16 DIMMs total – 2-1-1 configuration
Memory Type	DDR4 RDIMMs or LRDIMMs and Intel® Optane™ DC Persistent Memory
Memory Capacity	Up to 1.5 TB for Gold/Platinum CPUs or 768 GB for Silver/Bronze CPUs with DDR4 DIMMs Up to 2 TB for Intel® Optane™ DC Persistent Memory
Memory Speed[1]	2933‡ MT/s @ 1 DPC and 2666 MT/s @ 2 DPC (DPC = DIMMs per channel)
Memory Voltage	1.2 V, DDR4 standard I/O voltage
Networking	• Dual 10GBase-T ports– S2600BPBR and S2600BPQR • Dual 10GbE SFP+ ports – S2600BPSR
Intel® QuickAssist Technology	Supported on S2600BPQR
Board Weight	1.5 kg, 1.6 kg
Packaging Dimensions	578 x 438 x 301 mm, 10 boards per box
Packaging Weight	20.7 kg, 21.4 kg
Warranty	3-year limited warranty, 5-year extended option available

‡Note: 165 W TDP supported in enhanced air-cooled Intel® Server Chassis H2204XXLRE only.

INPUT/OUTPUT	DETAILS
USB	Dual stacked rear panel USB 3.0 ports
IPMB	One 1x4 pin IPMB header
Serial	One DH-10 serial port A connector
Video	One 1x12 pin video header, 16 MB of DDR4 video memory
Control Panel	One 1x12 pin control panel header
SATA	Four SATA 6 Gbps ports via mini-SAS HD connector – S2600BPBR and S2600BPSR
System Fan Support	One managed 2x7 pin header for system fan module (Intel® Chassis)
Power	One 1x8 pin backup power connector

EXPANSION OPTIONS	DETAILS
Bridge Board Slot	See supported Bridge Board Options under Compute Module Specs
Riser Slot 1 (CPU1)	x16 PCIe* 3.0 lanes (Riser slot 1 not available on S2600BPQR)
Riser Slot 2 (CPU1)	x24 PCIe 3.0 lanes
Riser Slot 3 (CPU2)	x24 PCIe 3.0 lanes
Riser Slot 4 (CPU2)	x16 PCIe 3.0 lanes

SERVER MANAGEMENT	DETAIL
Embedded Server Management Features	• Integrated Baseboard Management Controller, IPMI 2.0 compliant • One dedicated RJ45 1GbE server management port • One 2x4 pin header for optional Intel® Remote Management Module 4 Lite (Intel® RMM4 Lite 2) with support for remote KVM • Onboard LEDs: system status, system ID, POST code diagnostic, BMC error code
BIOS	uEFI based BIOS

(intel®)

INTEL® COMPUTE MODULE HNS2600BP FAMILY

COMPUTE MODULE SPECIFICATION	DETAIL
Form Factor	1U module
Module Weight	~ 3.6 kg
Packaging Dimensions	716 x 269 x 158 mm
Packaging Weight	~ 4.8 kg
Warranty	3-year limited warranty or optional, 5-year extended warranty

COMPUTE MODULE FEATURE	HNS2600BPBR HNS2600BPB24R	HNS2600BPBLCR HNS2600BPBLC24R	HNS2600BPSR HNS2600BPS24R	HNS2600BPQR HNS2600BPQ24R
Processor	Up to two 2nd Generation Intel® Xeon® Scalable processor family			
Maximum Processor TDP	Board and compute module: 165 W Intel® Chassis: 140 W/165 W[†]	Board and compute module: 165 W Intel Chassis: 165 W	Board and compute module: 165 W Intel Chassis: 140 W/ 165 W[†]	Board and compute module: 165 W Intel Chassis: 140 W/ 165 W[†]
Liquid Cooling Compatible	No	Yes[¥]	No	No
Chipset	Intel® C621 chipset	Intel® C621 chipset	Intel® C622 chipset	Intel® C628 chipset
Memory	16 DIMM slots (eight per CPU) – DDR4 RDIMM/LRDIMM, Up to 2933[1] MT/s, 1.2V and Intel® Optane™ DC Persistent Memory			
Storage Support	Dependent on optional Bridge Board accessory. See supported Bridge Board Options.			
M.2	One onboard 42-mm M.2 SATA/PCIe* x4 and one Riser 2 80-mm M.2 SATA/PCIe* x4			
Networking	Dual 10GBase-T ports	Dual 10GBase-T ports	Dual 10GbE SFP+ ports support	Dual 10GBase-T ports
Intel® QuickAssist Technology	No	No	No	Yes
USB	Dual stacked rear panel USB 3.0 ports			
Video	DB-15 rear panel VGA video connector on Riser 1, 16 MB of DDR4 video memory	Optional	DB-15 rear Panel VGA video connector on Riser 1, 16 MB of DDR4 video memory	DB-15 rear panel VGA video connector on Riser 1, 16 MB of DDR4 video memory
Expansion Options				
Bridge Board Slot	See supported Bridge Board Options			
Riser Slot 1 (CPU1)	**Default:** Video adapter **Optional:** One PCIe* Slot x16 elec/x16 mech low-profile cards only	Not Available with AXXBPLCKIT installed (required accessory)	**Default:** Video adapter **Optional:** Support for Intel® Omni-Path fabric through carrier card option only— no PCIe* slot support	**Default:** Video adapter **Optional:** Support for Intel® Omni-Path fabric through carrier card option only— no PCIe* slot support
Riser Slot 2 (CPU1)	One PCIe* slot x16 elec/x16 mech low-profile cards only			
Riser Slot 3	Not available with Bridge Board installed			
Riser Slot 4	Not available with Bridge Board installed			
Server Management	• Integrated Baseboard Management Controller, IPMI 2.0 compliant • One Dedicated RJ45 Management Port • One 2x4 pin header for optional Intel® Remote Management Module 4 Lite (Intel® RMM4 Lite 2) with support for Remote KVM and • Onboard LEDs: system status, system ID, POST code diagnostic, BMC error code			
Fans	Three 40x56 mm dual rotor system fans			

† 165 W TDP supported in enhanced air cooled Intel® Server Chassis H2204XXLRE only.

¥ Liquid-cooling compute modules require Asetek* DQC-05F connection with Asetek* PGW-236 Coolant for compatibility

COMPUTE MODULE SKUS	DETAIL
HNS2600BPBR	Module integrated with an Intel® Server Board S2600BPBR Compatible with Intel® Server Chassis H2312XXLR3 and H2204XXLRE
HNS2600BPSR	Module integrated with an Intel® Server Board S2600BPSR Compatible with Intel® Server Chassis H2312XXLR3 and H2204XXLRE
HNS2600BPQR	Module integrated with an Intel® Server Board S2600BPQR Compatible with Intel® Server Chassis H2312XXLR3 and H2204XXLRE
HNS2600BPB24R	Module integrated with an Intel® Server Board S2600BPBR Compatible with Intel® Server Chassis H2224XXLR3
HNS2600BPQ24R	Module integrated with an Intel® Server Board S2600BPQR Compatible with Intel® Server Chassis H2224XXLR3
HNS2600BPBLCR	Module integrated with an Intel® Server Board S2600BPBR with Asetek D2C* liquid-cooling (AXXBPLCKIT accessory required¥) Compatible with Intel® Server Chassis H2312XXLR3 and H2204XXLRE
HNS2600BPBLC24R	Module integrated with an Intel® Server Board S2600BPBR with Asetek D2C* liquid-cooling (AXXBPLCKIT accessory required¥) Compatible with Intel® Server Chassis H2224XXLR3

¥ Liquid-cooling compute modules require Asetek* DQC-05F connection with Asetek* PGW-236 Coolant for compatibility.

EXPANSION OPTIONS	DETAIL	
Intel® Compute Module Bridge Board Option Compatibility	HNS2600BPBR HNS2600BPSR HNS2600BPQR HNS2600BPBLCR	HNS2600BPB24R HNS2600BPS24R HNS2600BPQ24R HNS2600BPBLC24R

	• AHWBPBGB
	  Four-port SATA software RAID bridge board, 6 Gbps SATA only (No RAID)
	• AHWBP12GBGB
	  Four-port bridge board w/ LSI* 3008 IOC, 6 Gbps SATA / 12 Gbps SAS (RAID 0/1/10)
	• AHWBP12GBGBR5
	  Four-port iMR bridge board w/ LSI 3008 IOC, 6 Gbps SATA / 12 Gbps SAS (RAID 0/1/5/10)
		• AHWBPBGB24
		  Six-port IT bridge board w/ LSI* 3008 IOC, 6 Gbps SATA/12 Gbps SAS, two NVMe* drives (Pass-through)
		• AHWBPBGB24R
		  Six-port iMR bridge board w/ LSI* 3408 IOC, 6 Gbps SATA/12 Gbps SAS, two NVMe* drives (Pass-through) (RAID 0/1/10)
		• AHWBPBGB24P
		  Six-port Add-in-Card (AIC) Pass-Through bridge board
		  Must be used in combination with an add-in RAID card to be fuctional

INTEL® SERVER CHASSIS H2000P FAMILY

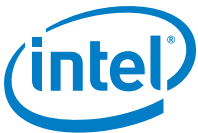| SPECIFICATION	H2312XXLR3	H2224XXLR3	H2204XXLRE
Intel® Compute Module Support	HNS2600BPBR HNS2600BPSR HNS2600BPQR HNS2600BPBLCR	HNS2600BPB24R HNS2600BPS24R HNS2600BPQ24R HNS2600BPBLC24R	HNS2600BPBR HNS2600BPSR HNS2600BPQR HNS2600BPBLCR
Number of Modules	Up to four	Up to four	Up to four
Chassis Dimensions	3.46" x 17.24" x 30.35" 87.9 x 438 x 771 mm	3.46" x 17.24" x 28.86" 87.9 x 438 x 733 mm	3.46" x 17.24" x 30.35" 87.9 x 438 x 771 mm
Package Dimensions	983 x 577 x 260 mm	983 x 577 x 260 mm	983 x 577 x 260 mm
Chassis Weight	21.5 kg	20.6 kg	20.6 kg
Package Weight	29.5 kg	28.9 kg	28.9 kg
Power Supply	Two x 2130 W AC common redundant power supply (CRPS)	Two x 2130 W AC common redundant power supply (CRPS)	Two x 2130 W AC common redundant power supply (CRPS)
Power Supply Efficiency Rating	80 PLUS* Platinum	80 PLUS* Platinum	80 PLUS* Platinum
Power Configurations	1+0 – No power redundancy 1+1 – Redundant power 2+0 – Combined power, no redundancy	1+0 – No power redundancy 1+1 – Redundant power 2+0 – Combined power, no redundancy	1+0 – No power redundancy 1+1 – Redundant power 2+0 – Combined power, no redundancy
Fans	• Three system fans per module • One fan per power supply	• Three system fans per module • One fan per power supply	• Three system fans per module • One fan per power supply
2.5" PCIe* NVMe* SSD Support	None	Eight total (max two per module)	None
Hot-Swap Drive Bays (with optional bridge board)	• 12 x 3.5" bays • 6 Gbps SATA/12 Gbps SAS • With optional Bridge Board	• 24 x 2.5" bays • 6 Gbps SATA/12 Gbps SAS/PCIe* NVMe • With optional Bridge Board	• 4 x 2.5" bays • 6 Gbps SATA/12 Gbps SAS • With optional Bridge Board

SERVER BOARD, COMPUTE MODULE AND CHASSIS ORDER CODES

ORDER CODE	TYPE	DESCRIPTION
BBS2600BPBR	Server Board	Intel® Server Board S2600BPBR, dual 10GBaseT Support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs
BBS2600BPSR	Server Board	Intel® Server Board S2600BPSR, dual 10 GbE SFP+ Support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs
BBS2600BPQR	Server Board	Intel® Server Board S2600BPQR, dual 10GBaseT, Intel® QuickAssist Technology Support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs
HNS2600BPBR	Compute Module	Intel® Compute Module HNS2600BPBR, 1U, includes Intel® Server Board S2600BPBR Support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs
HNS2600BPSR	Compute Module	Intel® Compute Module HNS2600BPSR, 1U, includes Intel® Server Board S2600BPSR Support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs
HNS2600BPQR	Compute Module	Intel® Compute Module HNS2600BPQR, 1U, includes Intel® Server Board S2600BPQR Support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs
HNS2600BPB24R	Compute Module	Intel® Compute Module HNS2600BPB24R, 1U, includes Intel® Server Board S2600BPBR, dual 10GBaseT Support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs
HNS2600BPS24R	Compute Module	Intel® Compute Module HNS2600BPS24R, 1U, includes Intel® Server Board S2600BPSR, dual 10 GbE SFP+. Support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs
HNS2600BPQ24R	Compute Module	Intel® Compute Module HNS2600BPS24R, 1U, includes Intel® Server Board S2600BPQR, dual 10GBaseT, Intel® QuickAssist Technology support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs
HNS2600BPBLCR	Compute Module	Intel® Compute Module HNS2600BPBR, 1U, includes Intel® Server Board S2600BPBR with D2C liquid-cooling. Support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs. AXXBPLCKIT
HNS2600BPBLC24R	Compute Module	Intel® Compute Module HNS2600BPB24, 1U, includes Intel® Server Board S2600BPB, dual 10GBaseT with D2C liquid-cooling. Support for 2nd Generation Intel® Xeon® Scalable processor family and 16 DIMMs. AXXBPLCKIT accessory required¥
H2312XXLR3	2U Chassis	Intel® Server Chassis H2312XXLR3 includes dual 2130-W PSUs. Supports 12x 3.5" 6 Gb SAS/SATA drives
H2224XXLR3	2U Chassis	Intel® Server Chassis H2224XXLR3 includes dual 2130-W PSUs. Supports 24 x 2.5" 12 Gb SAS drives and SATA-based Intel SSD²
H2204XXLRE	Enhanced Air-Cooled 2U Chassis	Intel® Server Chassis H2204XXLRE includes dual 2130-W PSUs. Supports 4 x 2.5" 12 Gb SAS drives and SATA-based Intel® SSD²

¥ Liquid-cooling compute modules require Asetek* DQC-05F connection with Asetek* PGW-236 Coolant for compatibility

SAS INTEL® INTEGRATED RAID CONTROLLERS

SAS ORDER CODE	DESCRIPTION
RS25SB008	Intel® RAID Controller, 6 Gbps, 8P external, LSI* 2208, DDR3 1 GB
RS3GC008	Intel RAID Controller, 12 Gbps, 8P external, LSI 3108, DDR3 1 GB
RS3SC008	Intel RAID Controller, 12 Gbps, 8P external, LSI 3108, DDR3 1 GB