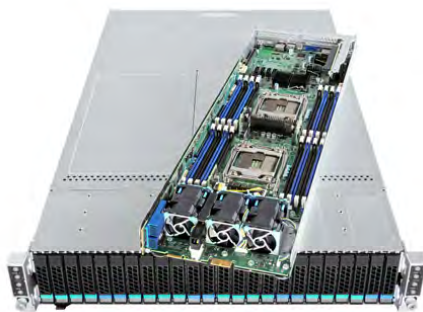


# Intel® Server Board S2600TP Family

**Two-socket, high-density, half-width server board with 16 DIMMs per board for hyper-converged infrastructure and high performance computing**



The Intel® Server Board S2600TP family is a purpose built, rack optimized server board ideal for use in hyper-converged, data analytics, storage, cloud, and high-performance computing (HPC) applications. Designed to support 16 DIMM slots per server board at 2 DIMMs per channel and the Intel® Xeon® processor E5-2600 v3 product family, the Intel Server Board S2600TP family maximizes memory and processor bandwidth to meet demanding compute use requirements. Integrated features such as 56 Gb/s FDR InfiniBand\*, dual 10GBaseT Ethernet, PCIe\* expandability with up to 2TB memory per system enable optimal performance configuration per installation.

**Performance optimized for processor and memory capacity**

- Dual Intel Xeon processor E5-2600 v3 product family per board
- High memory capacity with 16 DDR4 DIMMs per board
- 2 DIMMs per channel

**High Density 2U Rack Server ideal for cloud, HPC and data analytics**

- 2U Chassis supporting four Intel Server Board S2600TP family
- Eight Intel Xeon processor E5-2600 v3 product family
- Up to 2TB memory in a 2U system using 32GB DIMMs
- Dual 1GbE ports per compute module, additional dual 10GbE ports on cloud focused configurations
- Hot-swappable compute modules, storage, and power supplies
- Liquid cooling friendly for highest performing processors

**High speed networking and I/O**

- Dual 10GBaseT or 10G SFP+ node configurations on the I/O module site for hyper-converged infrastructure and cloud applications
- Dual 1GbE integrated LAN ports and 1GbE dedicated management port per board
- Optional on-board FDR InfiniBand\* port per board at up to 56 Gb/s
- x16 PCIe\* slot for additional network options

## SERVER BOARD SPECIFICATIONS

SERVER BOARD SPECIFICATION	DETAILS	
Board Options	BBS2600TPR	BBS2600TPFR
<b>On-board InfiniBand*</b>	None	56Gb/s, 1 rear QSFP+ port
Board Dimensions	6.8" x 18.9"	6.8" x 18.9"
Quantity per Box	10	10
Packaging Dimensions	578 x 438 x 301mm, 10 per box	578 x 438 x 301mm, 10 per box
Board Weight	15.2 kg	15.9 kg
Packaging Weight	20.7 kg	21.4 kg
CPU	Dual socket Intel® Xeon® processor E5-2600 v3	
Maximum TDP	Board only: 160W Compute Module or System: 145W	
Socket	Socket-R3 LGA2011-3	
Chipset	Intel® C612 chipset	
Memory Type	DDR4 RDIMMs or LRDIMMs at 2133MT/s maximum	
Memory Capacity	Up to 512GB using 32GB DIMMs	
Max DIMM slots	16 DIMMs, 2 DIMMs per channel, 4 channels per processor	
Memory Speed	1600MT/s, 1866MT/s, 2133MT/s	
Memory Voltage	1.2V, DDR4 Standard I/O voltage	

EXTERNAL I/O CONNECTORS	DETAILS
USB	One stacked two-port USB 2.0 connector
Networking	Two RJ-45 1GbE Network Interface Controller ports One dedicated RJ-45 port for server management One InfiniBand* FDR QSFP+ port (S2600TPFR only)
Video	DB-15 VGA connector

INTERNAL I/O CONNECTORS AND HEADERS	DETAILS
USB	One USB 2.0 Connector
Serial	One DH-10 Serial Port A connector
Control Panel	One 1x12 pin control panel header
Fan Module	One 2x7 pin header for system fan module
SATA DOM	One 6Gb/s SATA DOM port
SATA	Four 6Gb/s SATA connectors
Intel® Remote Management Module 4 Lite (Intel® RMM4 Lite)	One 2x4 pin header for Intel® RMM4 Lite
Storage Upgrade Key	One 1x4 pin header for Storage Upgrade Key
Power	One 1x8 pin backup power connector

EXPANSION	DETAILS	
Riser Slots	Riser Slot 1 (CPU1)	x16 PCIe* 3.0 Lanes
	Riser Slot 2 (CPU1)	x8 IOM support or custom development access to x24 PCIe* 3.0 lanes (S2600TPR) or x16 PCIe* 3.0 lanes (S2600TPFR)
	Riser Slot 3 (CPU2)+	Bridge board for Extended I/O or custom development access to x24 PCIe* 3.0 lane Custom development access to x16 PCIe* 3.0 lanes
	Riser Slot 4 (CPU2)+	Custom development access to x16 PCIe* 3.0 lanes
Bridge board for Extended I/O	Four SATA 6Gb/s signals Front control panel signals One 6Gb/s signal for SATA DOM One USB 2.0 signal	
I/O Module	Single I/O module option via Riser 2, requires AXXKPTPIOM/ AXXKTPM2IOM	

Note: All board features are not accessible in Intel® Compute Module or Intel® Server System form factor

## COMPUTE MODULE SPECIFICATIONS

COMPUTE MODULE SPECIFICATION	DETAILS			
Compute Module	HNS2600TPR	HNS2600TPFR	HNS2600TP24R	HNS2600TP24SR
Form Factor	1U	1U	1U	1U
<b>Key features</b>	No InfiniBand*	On-board InfiniBand*	dual 10GbBaseT	Dual 10G SFP+
Packaging Dimensions	716 x 269 x 158mm	716 x 269 x 158mm	716 x 269 x 158mm	716 x 269 x 158mm
Module Weight	3.5kg	3.6kg	3.56kg	3.56kg
Packaging Weight	4.7kg	4.8kg	4.78kg	4.78kg
Integrated Bridge Board	6G SATA	6G SATA	12G SAS/NVMe* Combo	12G SAS/NVMe* Combo
Optional Bridge Boards	12G SAS 12G SAS w/ RAID 5	12G SAS 12G SAS w/ RAID 5	None	None
Riser 1 Support	x16 PCIe* 3.0	x16 PCIe* 3.0	x16 PCIe* 3.0	x16 PCIe* 3.0
Riser 2 Support	Optional I/O module requires AXXKPTPIOM or AXXKTPM2IOM	Optional I/O module requires AXXKPTPIOM	Integrated 10GbE Network module	
Maximum Processor TDP	145W			
Heat Sink	One Cu/Al 84mm x106mm heat sink for CPU 1 One Ex-Al 84mm x106mm heat sink for CPU 2			
Fans	Three 40mm x 56mm dual rotor system fans			
Air Duct	One transparent air duct			
Server Management	Integrated Baseboard Management Controller, IPMI 2.0 compliant Dedicated RJ45 management port Remote KVM Management and device mapping available via Intel® RMM4-Lite accessory			
BMC Management	IPMI 2.0 compliant			
BIOS Type	UEFI BIOS			
Warranty	3-year limited warranty			

## CHASSIS SPECIFICATIONS

SPECIFICATION	H2312XXXKR2	H2216XXXKR2	H2224XXXKR2	H2224XXLR2
Chassis Dimensions	3.42" x 17.24" x 30.35"	3.42"s x 17.24" x 28.86"	3.42"s x 17.24" x 28.86"	3.42"s x 17.24" x 28.86"
Dimensions	86.9 x 438 x 771mm	86.9 x 438 x 733mm	86.9 x 438 x 733mm	86.9 x 438 x 733mm
Package Dimensions	983 x 577 x 260mm	983 x 577 x 260mm	983 x 577 x 260mm	983 x 577 x 260mm
Chassis Weight	21.5kg	20.5kg	20.6kg	20.6kg
Package Weight	29.5kg	28.4kg	28.9kg	28.9kg
<b>Compute Module support</b>	HNS2600TPR HNS2600TPFR	HNS2600TPR HNS2600TPFR	HNS2600TP24R HNS2600TP24SR	HNS2600TP24R HNS2600TP24SR
<b>PSU (W)</b>	1600W AC CRPS	1600W AC CRPS	1600W AC CRPS	2130W AC CRPS
<b>PSU Rating</b>	80 Plus* Platinum	80 Plus* Platinum	80 Plus* Platinum	80 Plus* Platinum
<b>PSU Configuration</b>	Two, supporting 1+0, 1+1	Two, supporting 1+0, 1+1	Two, supporting 1+0, 1+1	Two, supporting 1+0, 1+1
<b>Fans</b>	One per PSU	One per PSU	One per PSU	One per PSU
<b>Drive Bays SATA/SAS</b>	12 x 3.5"	16 x 2.5"	24 x 2.5"	24 x 2.5"
<b>NVMe* options</b>	None	None	8 total, 2 per module	8 total, 2 per module

STORAGE OPTIONS	SIZE	# OF DRIVES	TYPE
Hot-Swap Drive Bays	3.5"	Twelve (12)	6Gbps SATA drives -or- 12Gbps SAS drives with optional SAS bridge board
	2.5"	Sixteen (16)	6Gbps SATA drives -or- 12Gbps SAS drives with optional SAS bridge board
		Twenty-four (24)	12Gbps SAS drives and select SATA-based Intel® SSD <sup>1</sup>
PCIe* SFF (NVMe*) SSD Support	2.5"	Eight (8)	2 PCIe* SFF (NVMe*) SSD per module (H2224XXXKR2/H2224XXLR2 only)



## ORDER CODES

### SERVER BOARD, COMPUTE MODULE AND CHASSIS ORDER CODES

ORDER CODE	TYPE	DESCRIPTION
BBS2600TPR	Server Board	Intel® Server Board S2600TPR, no on-board InfiniBand* Support for Intel® Xeon® processor E5-2600 v3 family and 16 DIMMs
BBS2600TPFR	Server Board	Intel® Server Board S2600TPFR on-board InfiniBand* (56Gb/s) Support for Intel® Xeon® processor E5-2600 v3 family and 16 DIMMs
HNS2600TPR	Compute Module	Intel® Compute Module HNS2600TPR, 1U, includes Intel® Server Board S2600TPR, 6G SATA bridge board. Support for Intel® Xeon® processor E5-2600 v3 family and 16 DIMMs
HNS2600TPFR	Compute Module	Intel® Compute Module HNS2600TPFR, 1U, includes Intel® Server Board S2600TPFR, 6G SATA bridge board. Support for Intel® Xeon® processor E5-2600 v3 family and 16 DIMMs
HNS2600TP24R	Compute Module	Intel® Compute Module HNS2600TP24R, 1U, includes Intel® Server Board S2600TPR, 12G SAS/NVMe* combo bridge board, dual 10GBaseT. Support for Intel® Xeon® processor E5-2600 v3 family and 16 DIMMs
HNS2600TP24SR	Compute Module	Intel® Compute Module HNS2600TP24R, 1U, includes Intel® Server Board S2600TPR, 12G SAS/NVMe* combo bridge board, dual 10G SFP+. Support for Intel® Xeon® processor E5-2600 v3 family and 16 DIMMs
H2216XXKR2	2U Chassis	Intel® Server Chassis H2216XXKR2 includes dual 1600W PSUs. Supports 16x 2.5" 6Gb SAS/SATA drives
H2312XXKR2	2U Chassis	Intel® Server Chassis H2312XXKR2 includes dual 1600W PSUs. Supports 12x 3.5" 6Gb SAS/SATA drives
H2224XXKR2	2U Chassis	Intel® Server Chassis H2224XXKR2 includes dual 1600W PSUs. Supports 24 x 2.5" 12Gb SAS drives
H2224XXLR2	2U Chassis	Intel® Server Chassis H2224XXLR2 includes dual 2130W PSUs. Supports 24 x 2.5" 12Gb SAS drives

See Configuration Guide for Accessory Kit and Spare Order Codes

### INTEL® I/O MODULES

I/O MODULE ORDER CODE	DESCRIPTION
AXX4P1GBPWL1OM	Quad RJ45 1GbE: Intel® I350-AE4 GbE I/O module
AXX10GBNIAIOM	Dual SFP+ 10GbE: Intel® 82599EB 10 GbE I/O module
AXX10GBTWLHW3	Dual RJ45 10GbE: Dual Port 10GBaseT I/O module, based on Intel® Ethernet Controller X540
AXX1FDRIBIOM	Single Port QSFP FDR - InfiniBand* ConnectX-3* I/O Module

### SAS INTEL® INTEGRATED RAID CONTROLLERS

SAS ORDER CODE	DESCRIPTION
RS25GB008	Intel® RAID Controller, 6Gbps, 8P External
RS25NB008	Intel® RAID Controller, 6Gbps, 8P External, LSI* 2208, DDR3 1GB
RS25SB008	Intel® RAID Controller, 6Gbps, 8P External, LSI 2208, DDR3 1GB
RS3GC008	Intel® RAID Controller, 12Gbps, 8P External, LSI3108, DDR3 1GB
RS3SC008	Intel® RAID Controller, 12Gbps, 8P External, LSI3108, DDR3 1GB

For additional RAID modules and add-in-cards, visit [www.intel.com/go/RAID](http://www.intel.com/go/RAID)





For more information on Intel® Server Solutions visit: [intelserveredge.com](http://intelserveredge.com)

For more information on Intel® Server Products visit: [intel.com/intelserverystems](http://intel.com/intelserverystems)

For more information on Intel® RAID visit: [intel.com/go/raid](http://intel.com/go/raid)

For product specifications visit: [ark.intel.com](http://ark.intel.com)

Product does not include memory, processors, or hard drives. For compatibility information please refer to the configuration guide at [www.intel.com/support](http://www.intel.com/support).



<sup>1</sup> Refer to Intel® Server Configurator Tool (<https://serverconfigurator.intel.com>)

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS OTHERWISE AGREED IN WRITING BY INTEL, THE INTEL PRODUCTS ARE NOT DESIGNED NOR INTENDED FOR ANY APPLICATION IN WHICH THE FAILURE OF THE INTEL PRODUCT COULD CREATE A SITUATION WHERE PERSONAL INJURY OR DEATH MAY OCCUR.

Tests document performance of components on a particular test, in specific systems. Differences in hardware, software, or configuration will affect actual performance. Consult other sources of information to evaluate performance as you consider your purchase. For more complete information about performance and benchmark results, visit <http://www.intel.com/performance>.

Intel may make changes to specifications and product descriptions at any time, without notice. Designers must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Intel reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The information here is subject to change without notice. Do not finalize a design with this information.

The products described in this document may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Contact your local Intel sales office or your distributor to obtain the latest specifications and before placing your product order.

Intel, the Intel logo, and Intel Xeon are trademarks of Intel Corporation in the U.S. and/or other countries

Copyright © 2015 Intel Corporation. All rights reserved.

1215/MS/CC/XX/PDF

330795-005US