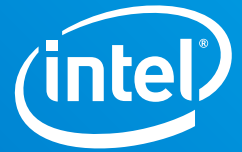


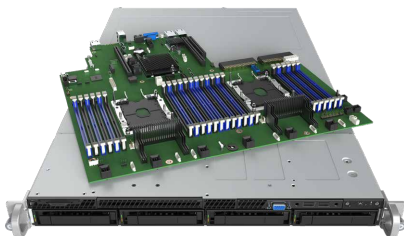
PRODUCT BRIEF

Data Center, Cloud, High Performance Computing



Intel® Server Board S2600WF Product Family Featuring
the 2nd Generation Intel® Xeon® Processor Scalable Family

Full Featured with Maximum Flexibility for Expansion



Compute Performance, Large Memory Capacity and High Efficiency

Intel® Server Board S2600WF product family delivers power and performance at peak efficiency in a 1U and 2U rack mount server form factor that features the energy-efficient dual 2nd Generation Intel® Xeon® Scalable processor family. High memory capacity, networking, storage, and I/O flexibility combine with innovative design to provide an exceptional and reliable server for business IT, appliance, data center, cloud, and high performance computing applications.

Powerful Compute Combined with Flexible I/O, Storage, and Networking Capacity

- Dual CPU sockets with support for the 2nd Generation Intel® Xeon Scalable processor family
- Up to 24 DDR4 DIMMs
- Up to 12 Intel® Optane™ DC Persistent Memory modules (six per CPU)
- Three riser card slots with support for up to eight PCIe* 3.0 add-in cards for high configuration flexibility
- Four onboard PCIe OCuLink connectors for direct attach NVMe* 2.5" SSD support
- Networking flexibility via 10G SFP+ and 10GBase-T OCP mezzanine modules
- Available in 1U and 2U systems with support for up to 24 NVMe* drives in a 2U chassis
- Support for the full line of Intel® RAID Modules

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

The S2600WF 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 S2600WF product family uses a number of key processor advancements:

- **2nd Generation Intel® Xeon® Scalable processor**
- **Support for Intel® Optane DC Persistent Memory**
- **Intel® Deep Learning Boost (Vector Neural Network Instruction)**
- **Intel® Omni-Path Architecture** integration delivering 100Gb/s port bandwidth for improved performance and lower latency in medium to large clusters.
- **Intel® QuickAssist Technology (Intel® QAT)** delivers up to 100Gbps performance for authentication, public key functions, and compression/decompression workloads, while freeing up CPU cycles and reducing demands on the server.
- **Intel® Virtual RAID on CPU (Intel® VROC)** enables high-performance, highly scalable CPU-based RAID with NVMe with high IOPS and low latency.

Accelerating Time to Market with Innovative Data Center Solutions

The S2600WF 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 S2600WF 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.

Verify Authenticity with Intel® Transparent Supply Chain

To address customer security concerns and guard against counterfeiting and malware, the S2600WF family features the Intel® Transparent Supply Chain which enables the ability to verify the authenticity of board components and firmware.

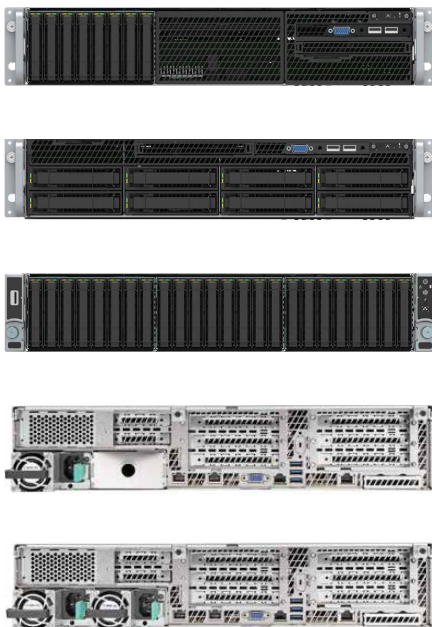


Fig. 2. Compatible 2U Intel® Server Chassis in 8, 12, and 24 drive configurations.



Features include:

- Digitally signed statement of conformance
- Platform Certificates provided with a secured Firmware Trusted Platform Module (TPM)
- Server component data tracked and saved for 20 years
- Firmware load verification

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 three-year standard warranties and robust technical and incident resolution support to ensure customer satisfaction.

Full-Featured and Versatile with Power and Performance at Peak Efficiency

Intel® Server Board S2600WF is available in three feature-optimized family SKUs for maximum flexibility in configuration:

- S2600WFTR – Dual 10GbE integrated LAN ports, no integrated QAT support
- S2600WFQR – Integrated Intel® QAT support, no integrated LAN Ports, reduced SATA/NVMe ports
- S2600WF0R – No integrated LAN ports, no integrated Intel QAT support

Common use cases:

- HPC service node and burst buffer node
- HCI for scale out using network for agility and flexibility
- Databases requiring optimal compute to storage ratio
- Storage for NVMe* hot and warm tier data
- Cloud Infrastructure at scale

HPC Service Node 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:

- Virtualization and multi-tenancy
- Private and hybrid cloud

INTEL® SERVER BOARD S2600WF PRODUCT FAMILY SPECIFICATIONS

SERVER BOARD SPECIFICATION	DETAILS
Board SKUs	S2600WF0R, S2600WFTR, S2600WFQR
Board Dimensions	16.7" W x 17" L
Intel Processor	2 nd Generation Intel® Xeon® Scalable processor family (Platinum, Gold, Silver, and Bronze)
Processor Socket Type	Two Socket-P LGA3647
Maximum Processor TDP	205 W
Intel Chipset	- Intel® C624 Chipset – S2600WFTR and S2600WF0R - Intel® C628 Chipset – S2600WFQR
Max DIMM slots	24 DIMMs total - six channels per processor, two DIMMs per channel
Memory Type	DDR4 RDIMMs or LRDIMMs
Memory Capacity	Up to 4.5 TB for select Gold/Platinum CPUs, 1 TB for Silver/Bronze CPUs
Memory Speed ²	2933 MT/s @ 1 DPC, 2667 MT/s @ 1 DPC and 2 DPC (DPC = DIMMs per channel)
Memory Voltage	1.2V, DDR4 standard I/O voltage
Networking	Dual 10GBase-T ports – S2600WFTR OCP® Mezzanine Modules (10GBase-T, SFP+ and 1GBase-T options) – S2600WF0R and S2600WFQR
Intel® Quick Assist Technology	Supported on S2600WFQR
TPM Support	One connector for optional TPM 2.0 module
Board Weight	1.7 kg
Packaging Dimensions	561 x 489 x 108 mm
Packaging Weight	3.3 kg
Warranty	3-year limited warranty

INPUT/OUTPUT	DETAILS
USB	Three external USB 3.0 ports One internal Type-A USB 2.0 port One internal 20-pin connector for optional 2x USB 3.0 port Front Panel support One Internal 10-pin connector for optional 2x USB 2.0 port Front Panel support
Serial	One external RJ45 Serial Port A connector One internal DH-10 Serial-B port header for optional rear serial port support
Video	One DB-15 External connector One 14-Pin Internal connector for optional Front Panel Video support
Front Panel SSI-EEB	One 2x15 pin SSI-EEB compliant front panel header
Storage	Two single port 7-pin SATA 6 Gbps connectors Two 4-port SATA mini-SAS HD connectors – S2600WFT and S2600WF0 only Two 80-mm M.2 connectors (x2 and x4 PCIe* and SATA) PCIe* OCuLink Connectors for direct attach NVMe* 2.5" SSDs 4 connectors – S2600WFTR and S2600WF0R 2 connectors – S2600WFQR
Network	Two integrated 10GbE Ports – S2600WFTR only

EXPANSION OPTIONS	DETAILS
PCIe* Add-In Card Support	Three riser card slots supporting up to eight PCIe 3.0 add-in cards
OCP® Module Support	Support for one of several available PCIe x2 OCP KR - based mezzanine module options - 1GbE Cu, 10GbE Cu/SFP+
SAS RAID Support	Support for one of several available 12 GB/s Intel® Integrated RAID Module options



SERVER MANAGEMENT & SECURITY	DETAILS
Embedded Server Management Features	Integrated Baseboard Management Controller, IPMI 2.0 compliant Dedicated RJ45 1GbE server management port Includes Standard Server Management Features – See product TPS Support for Intel® Server Management Software
Advanced Server Management Features	Support for Intel® Remote Management Module 4 Lite accessory option enabling Integrated KVM and Remote Media Redirection
Intel® Transparent Supply Chain	Includes Statement of Conformance and Platform Certificate

1U INTEL® SERVER SYSTEM R1000WF PRODUCT FAMILY SPECIFICATIONS

SPECIFICATIONS	DETAILS
Chassis Form Factor	1U
1U Rack Dimensions	17.25" width x 28" length x 1.72" height
1U Packaging Dimensions	22.7" width x 38.7" length x 10.2" height
Server Board	Intel® Server Board S2600WF Product Family
Max. Processor TDP	165 W for select SKUs - See product TPS
Power Supply Support	Dual power supply module bays Supported power configurations : 1+0, 1+1 redundant, and 2+0 combined (non-redundant) Hot Swap capable in Redundant 1+1 power configuration
1U Power Supply Options	1300 W AC 80 PLUS* Titanium, 1100 W AC 80 PLUS* Platinum (standard), 750W DC 80 PLUS* Gold (available option)
System Fan Support	Six managed 40-mm system fans Integrated fan included with each installed power supply module

EXPANSION OPTIONS	PCIe* SOURCE	SLOT	DETAILS
Riser Card 1	CPU1	One PCIe* 3.0 Slot	x16 electrical, x16 mechanical
Riser Card 2 †	CPU2	One PCIe 3.0 Slot	x16 electrical, x16 mechanical
OCP* Mezzanine Module	Chipset	One mezzanine card	Support for one of several available PCIe x2 OCP KR-based mezzanine module options - 1GbE Cu, 10GbE Cu/SFP+
Intel® Integrated SAS RAID Module	CPU1	One Mezzanine card	x8 Electrical, proprietary connection

† Requires dual processor configuration.

STORAGE OPTIONS	DRIVE CONFIG.	DRIVE TYPE	DETAILS
Front Hot-Swap Drive Bay Options	4 x 3.5"	SAS/SATA	6 Gbps SATA or 12 Gbps SAS w/ SAS controller 3.5" drive trays compatible with 2.5" SSDs
	8 x 2.5"	NVMe*/SAS/SATA	Up to eight 6 Gbps SATA or 12 Gbps SAS w/ SAS controller Up to eight 2.5" PCIe* NVMe SSDs Drive population rules apply when mixing drive types See product TPS
Internal M.2	2 x 80 mm	PCIe*/SATA	Two 80 mm M.2 (x2 and x4 PCIe* & SATA)

INPUT/OUTPUT	DETAILS
USB	Three external USB 3.0 ports (rear panel) Two external USB 3.0 ports (front panel) One internal Type-A USB 2.0 port
Serial	One external RJ45 Serial Port A connector (rear panel)
Video	One DB-15 external connector (rear panel) One DB-15 external connector (front panel)
Network	Two 10GbE ports (rear panel) – Intel® Server Board S2600WFTR only
Management Port	One RJ45 dedicated management port (rear panel)



INTEL® SERVER SYSTEM R2000WF PRODUCT FAMILY SPECIFICATIONS

2U SPECIFICATIONS	DETAILS
Chassis Form Factor	2U
2U Rack Dimensions	17.25" width x 28" length x 3.44" height
2U Packaging Dimensions	22.7" width x 38.7" length x 10.2" height
Server Board	Intel® Server Board S2600WF Product Family
Max. Processor TDP	205 W for select SKUs – See product TPS
Power Supply Support	Dual power supply module bays Supported power configurations : 1+0, 1+1 redundant, and 2+0 combined (non-redundant) Hot-swap capable in redundant 1+1 power configuration
Power Supply Options	1300 W AC 80 PLUS® Titanium, 1100 W AC 80 PLUS Platinum, 750 W DC 80 PLUS® Gold
System Fan Support	Six managed 60-mm hot-swap capable system fans Integrated fan included with each installed power supply module

2U EXPANSION	PCIe® SOURCE	PCIe® 3.0 RISER CARD OPTIONS	
Riser Slot 1		3-Slot Riser Card	2-Slot Riser Card
	Top Slot – CPU 1	x8 electrical, x16 mechanical	x16 electrical, x16 mechanical
	Middle Slot – CPU 1	x8 electrical, x16 mechanical	N/A
	Bottom Slot – CPU 2	x8 electrical, x8 mechanical	x8 electrical, x8 mechanical
Riser Slot 2		3-Slot Riser Card	2-Slot Riser Card
	Top Slot – CPU 2	x8 electrical, x16 mechanical	x16 electrical, x16 mechanical
	Middle Slot – CPU 2	x8 electrical, x16 mechanical	N/A
	Bottom Slot – CPU 2	x8 electrical, x8 mechanical	x8 electrical, x8 mechanical
Riser Slot 3 (low profile)		Low profile riser:	
	Top Slot – CPU 2	x4 electrical, x8 mechanical	
	Bottom Slot – CPU 2	x8 electrical, x8 mechanical	
OCP® Mezzanine Module	Chipset	Onboard KR-based OCP connector x2 or x4 electrical depending on board	
Intel® Integrated SAS RAID Module	CPU 1	Onboard proprietary connector - x8 electrical	

Note: The population of two or three riser cards requires dual processors populated.

2U STORAGE OPTIONS	DRIVE CONFIG.	DRIVE TYPE	DETAILS
Front Hot-Swap Drive Bays Options	8 x 3.5"	SAS/SATA	Up to eight 6 Gbps SATA or 12 Gbps SAS w/ SAS controller 3.5" drive trays compatible with 2.5" SSDs
	12 x 3.5"	NVMe®/SAS/SATA	Up to twelve 6 Gbps SATA or 12 Gbps SAS w/ SAS controller Up to two PCIe® NVMe 2.5" SSDs (drive bays 10 and 11 only) 3.5" drive trays compatible with 2.5" SSDs
	8 x 2.5"	NVMe/SAS/SATA	Up to eight 6 Gbps SATA or 12 Gbps SAS drives with SAS controller Up to eight PCIe NVMe 2.5" SSDs Drive population rules apply when mixing drive types.
	16 x 2.5"	NVMe/SAS/SATA	Up to sixteen 6 Gbps SATA or 12 Gbps SAS drives with SAS controller Up to sixteen PCIe NVMe 2.5" SSDs Drive population rules apply when mixing drive types
	24 x 2.5"	NVMe/SAS/SATA	Up to twenty four 6 Gbps SATA or 12 Gbps SAS drives with SAS controller Up to twenty four PCIe NVMe 2.5" SSDs Drive population rules apply when mixing drive types.
Rear SSD, Hot-Swap	2 x 2.5"	SATA SSD	2.5" rear mount 6 Gbps SATA hot-swap bay accessory option
Internal SSD	2 x 2.5"	SATA	Two fixed mount 6 Gbps SATA SSDs mounted on air
Internal M.2	2 x 80 mm	SATA/PCIe®	Two 80 mm M.2 (x2 and x4 PCIe/SATA)



INPUT/OUTPUT	DETAILS
USB	Three external USB 3.0 ports (rear panel) Two external USB 3.0 ports (front panel) – R2308, R2208, and R2216 SKUs only One external USB 2.0 port (front rack handle) – R2312 and R2224 SKUs only One internal Type-A USB 2.0 port
Serial	One external RJ45 Serial Port A connector (rear panel) One external Serial B port connector (rear panel) – accessory option
Video	One DB-15 external connector (rear panel) One DB-15 external connector (front panel) – R2308, R2208, and R2216 SKUs only
Network	Two 10GbE ports (rear panel) – Intel® Server Board S2600WFTR only
Management Port	One RJ45 dedicated management port (rear panel)

SERVER BOARD AND 1U/2U SYSTEM ORDER CODES

INTEL PRODUCT CODE	TYPE	DESCRIPTION
S2600WFTR	Server Board Only	Server board supports two 2 nd Generation Intel® Xeon® Scalable processor family up to 205W TDP each, 24 DIMMs (including up to 12 Intel® DC Persistent Memory Modules), two 10Gb Ethernet ports
S2600WF0R	Server Board Only	Server board supports two 2 nd Generation Intel® Xeon® Scalable processor family up to 205W TDP each, 24 DIMMs (including up to 12 Intel® DC Persistent Memory Modules), no onboard LAN
S2600WFQR	Server Board Only	Server board supports two 2 nd Generation Intel® Xeon® Scalable processor family up to 205W TDP each, 24 DIMMs (including up to 12 Intel® DC Persistent Memory Modules), no onboard LAN, Intel® QuickAssist Technology (Intel® QAT).
R1208WFXML	1U Chassis Only	1U chassis with support for eight 2.5" drives, no server board, no PSU, includes riser
R1304WFXML	1U Chassis Only	1U chassis with support for four 3.5" drives, no server board, no PSU, includes riser
R2000WFXML	2U Chassis Only	2U chassis, no drive bays, no server board, no PSU, no risers, no drive backplane
R2312WFXML	2U Chassis Only	2U chassis with support for twelve 3.5" drives, no server board, no PSU, no risers
R1208WFTYSR	1U System	System includes: Intel® Server Board S2600WFTR, dual 10GbE ports, single 1100-W PSU, backplane with support for 8x 2.5" drives
R1208WFQYSR	1U System	System includes: Intel® Server Board S2600WFQR, no onboard LAN, single 1100-W PSU, backplane with support for 8x 2.5" drives, Intel® QuickAssist Technology (Intel® QAT)
R1304WFOYSR	1U System	System includes: Intel Server Board S2600WF0R, no onboard LAN, single 1100-W PSU, backplane with support for 4x 3.5" drives
R1304WFTYSR	1U System	System includes: Intel Server Board S2600WFTR, Dual 10GbE ports, single 1100-W PSU, backplane with support for 4x 3.5" drives
R2208WFTZSR	2U System	System includes: Intel Server Board S2600WFTR, Dual 10GbE ports, single 1300-W PSU, backplane with support for 8x 2.5" drives
R2208WF0ZSR	2U System	System includes: Intel Server Board S2600WF0R, no onboard LAN, single 1300-W PSU, backplane with support for 8x 2.5" drives
R22208WFQZSR	2U System	System includes: Intel Server Board S2600WFQR, no onboard LAN, single 1300-W PSU, backplane with support for 8x 2.5" drives, Intel® QuickAssist Technology (Intel® QAT)
R2224WFTZSR	2U System	System includes: Intel Server Board S2600WFTR, dual 10GbE ports, Single 1300W PSU, Backplane with support for 24x 2.5" drives
R2308WFTZSR	2U System	System includes: Intel Server Board S2600WFTR, dual 10GbE ports, Single 1300W PSU, Backplane with support for 8x 3.5" drives
R2312WFTZSR	2U System	System includes: Intel Server Board S2600WFTR, dual 10GbE ports, Single 1300W PSU, Backplane with support for 12x 3.5" driveS
R2312WF0NPR	2U System	System includes: Intel Server Board S2600WF0R, no onboard LAN, no PSU, backplane with support for 12x 3.5" drives

Note: 1U/2U system SKUs do not include processors, memory, drives, rack mount kits, and other optional peripherals and accessories. See the *Intel® Server S2600WF Product Family Configuration Guide* for all available accessory kit and spare part order codes.



INTEL® RAID MODULE ORDER CODES

12GBPS SAS ORDER CODE	DESCRIPTION
RMS3HC080	12 Gb/s SAS/SATA entry-level RAID mezzanine module with 8 internal ports
RMSP3HD080E	Tri-mode SAS/SATA/PCIe* entry-level RAID mezzanine module with 8 internal ports
RMS3JC080	12 Gb/s SAS/SATA entry-level RAID mezzanine module with 8 internal ports
RMS3AC160	12 Gb/s SAS/SATA full-featured RAID mezzanine module with 16 internal ports
RMS3CC040	12 Gb/s SAS/SATA full-featured RAID mezzanine module with 4 internal ports
RMS3CC080	12 Gb/s SAS/SATA full-featured RAID mezzanine module with 8 internal ports
RMSP3AD160F	Tri-mode SAS/SATA/PCIe full-featured RAID mezzanine module with 16 internal ports
RMSP3CD080F	Tri-mode SAS/SATA/PCIe full-featured RAID mezzanine module with 8 internal ports
RMS3VC160	12 Gb/s SAS/SATA JBOD mezzanine module with 16 internal ports
RMSP3JD160J	Tri-Mode SAS/SATA/PCIe JBOD mezzanine module with 16 internal ports



¹ Intel technologies may require enabled hardware, specific software, or services activation. Check with your system manufacturer or retailer.

² The maximum memory speed supported depends on the processor used.

For compatibility information please visit www.intel.com/support.

Intel may make changes to specifications and product descriptions at any time, without notice. For additional RAID modules and add-in-cards, visit: intel.com/RAID

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

For product specifications visit: ark.intel.com

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software, or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at intel.com.

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