

PRODUCT BRIEF

High Performance Computing (HPC) and Artificial Intelligence (AI)
Intel® Server System S9200WK Product Family Featuring Intel® Xeon®
Platinum 9200 Processors



Density Optimized System Solution Providing Leadership Performance for HPC and AI



Performance Optimized for Compute Density

The Intel® Server System S9200WK product family is a purpose built, performance-optimized data center block ideal for use in High Performance Computing and Artificial Intelligence applications. Designed for Intel® Xeon® Platinum 9200 series processors, with up to 24 DDR4 DIMM slots per compute module, the S9200WK family maximizes processor and memory bandwidth to provide leadership performance for the most demanding compute use requirements.

Intel® Xeon® Platinum 9200 Processors Advanced Performance

- Leadership CPU performance per socket with Intel's highest core count, Intel® Xeon® Platinum 9200 processors
- Double the memory bandwidth for memory-intensive workloads with 12 memory channels per CPU, 24 memory channels per compute module
- New Intel® Deep Learning Boost Instructions for data analytics greatly accelerates inference performance
- Multi-Chip packaging optimized for density and performance

Density Optimized 2U Rack Server with Air-Cooled and Liquid-Cooled Options

- Up to 4 compute modules per 2U chassis which can support multiple compute module types in a single chassis
- 2 CPU compute module design with advanced cooling technology for high flow rate air or liquid cooled for CPUs, VRs, DIMMs, and memory VRs for high heat capture ratio
- Up to 350W processor TDP for high performance workloads in a 2U air-cooled chassis
- Up to 2 x16 PCIe slots in 1U compute modules, up to 4 x16 PCIe slots in 2U compute modules for network expansion options
- Support for 2x M.2 SATA/NVMe storage devices per 1U compute module, up to 2x M.2 SATA/NVMe and 2x U.2 NVMe storage devices per 2U compute module
- Hot-swappable compute modules, storage¹, fans, and power supplies

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

Accelerating Time to Market with Innovative Data Center Solutions

The S9200WK product family is the highest performance member 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 hardware 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 S9200WK product family reduce this complexity, making it easier to build innovative server solutions that can support the demands of today's data center workloads.

Highly Integrated, High Density Compute Solution

The Intel® Server System S9200WK Data Center Block can be configured to support a wide range of memory, storage, and I/O options. Solutions are configured using Intel® Xeon® Platinum 9200 processors, Intel® Server System S9200WK Compute Modules, and Intel® Server Chassis FC2000. The Intel® Server Chassis FC2000 family allows flexible configuration of different functionality compute modules in a single chassis further extending the benefits of Intel® Server System S9200WK Data Center Blocks. This allows a single data center block to address both compute and service node functionality simultaneously, reducing cost and increasing functionality.



Intel® Server System S9200WK Data Center Block Technical Specifications	
Form Factor	2U rack enclosure; Up to 4 independent warm-swap compute modules
CPU	Intel® Xeon® Platinum 9200 Processors
Memory	DDR4 2933 MT/s DIMMs, up to 96x DIMMs per DCB (24 DIMMs per compute module) @ 1DPC Supports 8GB to 128GB DIMM options, number and capacity configurable
Storage	Up to 8x M.2 SSDs per DCB with 1U compute modules; Up to 4x M.2 SSDs & 4x hot-swap U.2 NVMe SSDs with 2U Compute Modules M.2 and U.2 number and capacity configurable
Power Supply	3x hot-swap CRPS 2100W (Platinum) or 1600W (Titanium) PSUs
Ethernet	Integrated 1Gbase-T RJ45 (two ports per compute module), Optional shared 1Gbase-T RJ45 management port chassis card
Cooling	Available with high flow rate air-cooling or integrated liquid-cooling options
I/O	2 x16 Gen3 PCIe* slots per 1U compute module; 4 x16 Gen3 PCIe slots per 2U compute module for high-speed networking support
Manageability	Dedicated, consolidated Management Module
Security & Serviceability	TPM 2.0 (optional); Hot-swap/redundant fans, and PSUs; light path diagnostic LEDs





Intel® Xeon® Platinum 9200 Processors (Data Center Block Component)

	Cores	Base Frequency	Max Turbo Frequency	L3 Cache	# of UPI Links	Power
9242	48	2.3 GHz	3.8 GHz	71.5 MB	4	350W
9222†	32	2.3 GHz	3.7 GHz	71.5 MB	4	250W
9221†	32	2.3 GHz	3.7 GHz	71.5 MB	4	250W

† This information is preliminary.



Intel® Server System S9200WK Compute Modules (Data Center Block Component)

Component	1U Half-Width Liquid-Cooled Compute Module	2U Half-Width Air-Cooled Compute Module	2U Half-Width Liquid-Cooled Compute Module
CPU	Intel® Xeon® Platinum 9200 processors with up to 48 cores 350W TDP		
Memory	DDR4 2933 MT/s DIMMs, up to 24 DIMMs per compute module @ 1DPC; Supports 8GB to 128GB DIMM options, number and capacity configurable		
Storage	2x M.2 SATA/NVMe SSDs 80 or 110mm	2x M.2 SATA/NVMe SSDs 80 or 110mm & 2x U.2 NVMe hot-swap SSDs, optional RAID 0 & 1 support available on U.2 SSDs	
DCB Configuration	2U/4N liquid-cooled	2U/2N air-cooled	2U/2N liquid-cooled
I/O	2x Integrated 1Gbase-T RJ45 & 2 x16 Gen3 PCIe slots		2x Integrated 1Gbase-T RJ45 & 4 x16 Gen3 PCIe slots
Debug Support	Dedicated port for VGA, serial, & 2 USB 2.0 port connectivity		
Cooling	Direct-to-Chip Liquid-Cooling for CPUs, VRs, DIMMs, and Memory VRs	High-Flow Air-Cooling	Direct-to-Chip Liquid-Cooling for CPUs, VRs, DIMMs, and Memory VRs



Intel® Server Chassis FC2000 (Intel® Data Center Block Component)

Component	2U Front I/O standard-width air-cooled chassis with included rail-kit	2U Front I/O standard-width liquid-cooled chassis with included rail-kit
Supported Configurations	4x 1U Half-Width Compute Modules; 2x 2U Half-Width Compute Modules; 2x 1U Half-Width Compute Modules & 1x 2U Half-Width Compute Modules	
Cooling	3x 60mm fans & 2x 80mm fans	3x 60mm fans & integrated liquid-cooling manifold (SCG06 external connectors, CGD03 internal connectors)
Power Supplies	3x hot-swap CRPS 1600W (Titanium) or 2100W (Platinum) PSUs	3x hot-swap CRPS 2100W (Platinum) PSUs
Options	Optional shared 1Gbase-T RJ45 management port chassis card	



Intel® Server System S9200WK Early Availability	
Product Code	Description
LWK2LC3U4880A	Intel® Server System S9200WK Early Availability Liquid-Cooled 48 Core Data Center Block
LWK2AC3P4880A	Intel® Server System S9200WK Early Availability Air-Cooled 48 Core Data Center Block

Intel® Server System S9200WK Production Components	
Product Code	Description
S9248WK1HLC ³	Intel® Compute Module S9200WK 1U Half-Width Compute Node Liquid-Cooled CPU 48C
S9232WK1HLC ³	Intel® Compute Module S9200WK 1U Half-Width Compute Node Liquid-Cooled CPU 32C
S9248WK2HLC ³	Intel® Compute Module S9200WK 2U Half-Width Service Node Liquid-Cooled CPU 48C
S9232WK2HLC ³	Intel® Compute Module S9200WK 2U Half-Width Service Node Liquid-Cooled CPU 32C
S9248WK2HAC ³	Intel® Compute Module S9200WK 2U Half-Width Service Node Air-Cooled CPU 48C
S9232WK2HAC ³	Intel® Compute Module S9200WK 2U Half-Width Service Node Air-Cooled CPU 32C
FC2HLC21W3 ³	Intel® Server Chassis FC2000 Half-Width Configuration Liquid-Cooled (2100W)
FC2HAC16W3 ³	Intel® Server Chassis FC2000 Half-Width Configuration Air-Cooled (1600W)

³ These systems and system components can only be purchased as part of an Intel® Data Center Block or as spare components.

Intel® Server System S9200WK Spares and Accessories	
Product Code	Description
AXXCONNTDBG	Intel® Compute Module S9200WK Multi-connector debug dongle
AXXFCEMP	Intel® Server Chassis FC2000 EMP Module
AXXFC1UBLANK	Intel® Server Chassis FC2000 1U Compute Module Blank
FXXWK1URISER	Intel® Compute Module S9200WK 1U PCIe Riser Card
FXXWK2URISER	Intel® Compute Module S9200WK 2U PCIe Riser Card
FXXWKHS	Intel® Compute Module S9200WK Air-Cooled Heat Sink, Single
FXXWKLCLP	Intel® Compute Module S9200WK Liquid-Cooling Loop
FXXWKM2HS	Intel® Compute Module S9200WK M.2 Heatsink Assembly
FXXWKLCDMCLP	Intel® Compute Module Walker Pass Liquid-Cooling Loop DIMM Clip
FXXWKLCDMTM	Intel® Compute Module S9200WK Liquid-Cooling Loop DIMM TIMM
FCXX2100CRPS	Intel® Server Chassis FC2000 2100W PSU
FCXX60MMFAN	Intel® Server Chassis FC2000 60mm Fan
FCXX80MMFAN	Intel® Server Chassis FC2000 80mm Fan
FCXXLCMANFLD	Intel® Server Chassis FC2000 liquid-cooling manifold
FCXXPDBASSMBL	Intel® Server Chassis FC2000 PDB Assembly
FCXX1USPPRT	Intel® Server Chassis FC2000 1U Internal Rail Kit
FCXXRAILKIT	Intel® Server Chassis FC2000 External Rail Kit



Footnotes:

1: 2U compute modules include hot-swap U.2 SSDs. M.2 storage in all compute modules does not support hot-swap.

2: Available Q4 2019

Include: Source materials and/or links for benchmarks

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 www.intel.com.

Cost reduction scenarios described are intended as examples of how a given Intel-based product, in the specified circumstances and configurations, may affect future costs and provide cost savings. Circumstances will vary. Intel does not guarantee any costs or cost reduction.

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Printed in USA

032219/MBR/VDI/PDF

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