HITACHI
Inspire the Next

Hitachi Advanced Server DS7000 series scalable servers are optimized to tackle the most demanding IT challenges. They deliver the highest levels of scalability, availability, reliability and performance, to power business-critical applications such as in-memory database environments, artificial intelligence and machine learning.

DATASHEET

Hitachi Advanced Server DS7000 Series Scalable Servers

The Power Behind Your Digital Transformation

To take advantage of the latest developments in artificial intelligence (AI), data analytics and machine learning, organizations require an infrastructure with high reliability, extreme performance and agile scalability. Hitachi Advanced Server DS7000 series servers deliver on those requirements with a unique modular architecture. This architecture allows systems to be configured and scaled to meet the needs of a wide variety of application workloads, from in-memory data analytics processing to virtualization and hybrid cloud.

Hitachi Advanced Server DS7000 series servers are built on a common compute module, based on two Intel Xeon Scalable processors per module. Because of this, each DS7000 model can be smoothly upgraded to the next, preserving your investment in hardware and software as you grow, and making reconfiguration and scaling simple. Compute modules can be individually configured to support a variety of internal compute and storage options.

The DS7000 server family is the ideal platform to deliver the high availability and scalability needed for Hitachi's solutions for business-critical applications.

- Hitachi Solution for the SAP HANA Platform makes full use of the huge memory capacity of DS7000 to deliver real-world business benefits from data analytics.
- Hitachi Solution for Databases relies on the powerful performance and massive I/O capacity of the DS7000 series. Meet demanding service level agreements (SLAs) and support rapidly changing workloads, including Oracle Database, and enable your business to thrive and grow.

Hitachi Advanced Server DS7080

Rely on the DS7000 series to power your business-critical applications, including in-memory database environments, artificial intelligence and machine learning. Hitachi Advanced Server DS7000 systems provide a flexible foundation that not only meets existing requirements but also scales to meet future needs of your IT department.

TABLE 1. HITACHI ADVANCED SERVER DS7000 SERIES TECHNICAL SPECIFICATIONS

	DS7020	DS7040	DS7080
Form Factor	19" 2U	19" 4U	19" 8U
Processors	2	Up to 4	Up to 8
Maximum (max) Cores	48	96	192
Processor Type	Intel Xeon C627 Chipset		
Hardware Partitioning	No	Yes	Yes
Memory Slots	24	48	96
Max Memory	3TB	6TB	12TB
Network Interface Controller (NIC)	4x 10Gb Ethernet over copper (EoC) ports	8x 10Gb EoC ports	16x10Gb EoC ports
I/O Slots	Up to 7 PCIe Gen3 slots: 5x PCIe modules x8 (4+1 dedicated for SAS controller per 2 CPUs)	Up to 14 PCIe Gen3 slots: 10x PCIe modules x8 (4+1 dedicated for SAS controller per 2 CPUs) + 4x internal PCIe Gen3 x16 (including GPUs post RTS)	Up to 28 PCIe Gen3 slots: 20x PCIe modules x8 (4+1 dedicated for SAS controller per 2 CPUs) + 8x internal PCIe Gen3 x16 (including GPUs post RTS)
I/O Availability	Hot-swap PCIe modules depending on OS or hypervisor		
NIC PCIe Module	1GbE: 2 or 4 ports per PCIe module; 10GbE: 2 ports per PCIe module		
HBA PCIe Module	8Gb/s: 2 ports per PCIe module; 16Gb/s: 2 or 4 ports per PCIe module		
SAS PCIe Module	12Gb/s: 2 ext. ports per PCIe module		
Storage (lower unit)	Up to 8x 2.5" SSD/HDDs	Up to 16x 2.5" SSD/HDDs	Up to 32x 2.5" SSD/HDDs
Storage (upper unit option)	Up to 12x 2.5" SSDs/HDDs or up to 4x 3.5" HDDs	Up to 24x 2.5" SSDs/HDDs or up to 8x 3.5" HDDs	Up to 48x 2.5" SSDs/HDDs or up to 16x 3.5" HDDs
GPUs (upper GPU unit option)	Up to 2 GPUs	Up to 4 GPUs	Up to 8 GPUs
Security Features	TPM 2.0, secure boot, 2-level password		
Hot-Swap PSU	1 + 1 per compute module		
Power Supply Number	2, redundant	Up to 4, redundant	Up to 8, redundant
Power Supply Type	2000 watts auto-sensing 220V 60/50Hz, label 80+ titanium and platinum, 96% efficient		
Fan Specifications	Up to 14 hot swap, N+1 redundant	Up to 28 hot swap, N+1 redundant	Up to 56 hot swap, N+1 redundant
Dimensions (HxLxW) (max)	89 (2U) x 446 mm (19") x 850 mm	175 (4U) x 446 mm (19") x 850 mm	352 (8U) x 446 mm (19") x 850 mm
Weight (max)	Up to 43 kg	Up to 81 kg	Up to 160 kg
Operating Constraints	10°C at 35°C, gradient 20°C/h, 20% at 60%, gradient 5%/h		
Operating System	VMware vSphere (ESXi), Red Hat Enterprise Linux, SUSE Linux Enterprise Server, Microsoft Windows Server, Oracle Linux, Oracle VM Server		
RAS Features	Advanced error detection and correction (AEDC), viral mode of error containment, PCI Express (PCIe) "stop and scream," virtual (soft) partitioning, PCIe ECRC, PCIe corrupt data containment (data poisoning), PCIe link CRC error check and retry, PCIe link retraining and recovery, PCIe live error recovery, DDR4 Wr data CRC check/retry, DDR4 command/address parity check and retry, Intel UltraPath Interconnect (UPI) link-level retry, Intel UPI protocol protection via 16-bit rolling CRC, Intel UPI dynamic link width reduction, core disable for fault resilient boot, power up, post package repair, failed DIMM isolation, PCIe card hot plug (add/remove/swap), PIROM for system information storage		
Serviceability	Hot-swap devices: PCIe modules (depending on OS), disks, power supplies, fans, front access disks, compute box design		
Redundancy	Power supplies, fans, disks with RAID		
	DS7160		
Form Factor	19" 21U		
Processors	Up to 16		
Maximum (max) Cores	448		
Processor Type	Intel Xeon C627 Chipset		
Hardware Partitioning	Yes		
Memory Slots	192		
Max Memory	24TB		
Network Interface Controller (NIC)	32x10Gb EoC ports		

TABLE 1. HITACHI ADVANCED SERVER DS7000 SERIES TECHNICAL SPECIFICATIONS (CONTINUED)

I/O Slots	Up to 40 PCIe Gen3 slots 40x PCIe modules x8 (4+1 dedicated for SAS controller per 2 CPUs) + 16x internal PCIe Gen3 x16 (including GPUs post RTS)
I/O Availability	Hot-swap PCIe modules depending on OS or hypervisor
NIC PCIe Module	1GbE: 2 or 4 ports per PCIe module; 10GbE: 2 ports per PCIe module
HBA PCIe Module	8Gb/s: 2 ports per PCIe module; 16Gb/s: 2 or 4 ports per PCIe module
SAS PCIe Module	12Gb/s: 2 ext. ports per PCIe module
Storage (lower unit)	Up to 64x 2.5" SSD/HDDs
Storage (upper unit option)	Up to 96x 2.5" SSDs/HDDs or up to 32x 3.5" HDDs
GPUs (upper GPU unit option)	Up to 16 GPUs
Security Features	TPM 2.0, secure boot, 2-level password
Hot-Swap PSU	1 + 1 per compute module
Power Supply Number	Up to 16, redundant
Power Supply Type	2000 watts auto-sensing 220V 60/50Hz, label 80+ titanium and platinum, 96% efficient
Fan Specifications	Up to 112 hot swap, N+1 redundant
Dimensions (HxLxW) (max)	352 (8U) x 446 mm (19") x 850 mm
Weight	Up to 347 kg
Operating Constraints	10°C at 35°C, gradient 20°C/h, 20% at 60%, gradient 5%/h
Operating System	VMware vSphere (ESXi), Red Hat Enterprise Linux, SUSE Linux Enterprise Server, Microsoft Windows Server, Oracle Linux, Oracle VM Server
RAS Features	Advanced error detection and correction (AEDC), viral mode of error containment, PCI Express (PCIe) "stop and scream," virtual (soft) partitioning, PCIe ECRC, PCIe corrupt data containment (data poisoning), PCIe link CRC error check and retry, PCIe link retraining and recovery, PCIe live error recovery, DDR4 Wr data CRC check/retry, DDR4 command/address parity check and retry, Intel UltraPath Interconnect (UPI) link-level retry, Intel UPI protocol protection via 16-bit rolling CRC, Intel UPI dynamic link width reduction, core disable for fault resilient boot, power up, post package repair, failed DIMM isolation, PCIe card hot plug (add/remove/swap), PIROM for system information storage
Serviceability	Hot-swap devices: PCIe modules (depending on OS), disks, power supplies, fans, front access disks, compute box design
Redundancy	Power supplies, fans, disks with RAID

SAS = serial-attached SCSI, OS = operating system, HBA = host bus adapter, PCI= peripheral component interconnect express, NVMe = nonvolatile memory express, GPU = graphical processing unit, HDD = hard disk drives, RTS = real-time system, EoC = Ethernet over copper

Learn about about the ways that Hitachi solutions can deliver performance and scalability, and power your digital transformation.

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