

Hitachi Advanced Server HA820 G6

v9.1

TechSpecs

This document provides at-a-glance information about the Hitachi Advanced Server HA820 G6. It includes platform information, standard and optional features, core options, and technical specifications.

MK-26HAS8061-00

March 2026

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Preface

About this document

This document describes the Hitachi Advanced Server HA820 G6. It includes platform information, standard and optional features, core options, and technical specifications.

Document conventions

This document uses the following typographic convention:

| Convention | Description |
|---------------|--|
| Bold | <ul style="list-style-type: none">Indicates text in a window, including window titles, menus, menu options, buttons, fields, and labels. Example: Click OK.Indicates emphasized words in list items. |
| <i>Italic</i> | Indicates a document title or emphasized words in text. |
| Monospace | Indicates text that is displayed on screen or entered by the user. Example: <code>pairdisplay -g oradb</code> |

Intended audience

This document is intended for the person who installs, administers, and troubleshoots servers and storage systems. Hitachi Vantara assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.

Accessing product downloads

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Chapter 1: Overview

Hitachi Advanced Server HA820 G6

The Hitachi Advanced Server HA820 G6 is built with a focus on reliability, security, and ease of management. The Hitachi Advanced Server HA820 G6 comes equipped with advanced features such as silicon root of trust technology to safeguard your critical data against cyber threats. It offers a comprehensive suite of management tools, including Compute Ops Management and iLO 7, which provide remote management capabilities, enabling IT administrators to manage and troubleshoot the server from anywhere, thereby reducing downtime and operational costs.

Whether you are a small business looking to scale, or a large enterprise managing complex workloads in the data center, the Hitachi Advanced Server HA820 G6 delivers unparalleled performance, flexibility, and resilience to support your business-critical applications and drive your IT initiatives forward.



Front View – 8SFF CTO Server

| Item | Description | Item | Description |
|------|--|------|---------------------------------|
| 1 | Box 1 for 8SFF drives or Optional Universal Media Bay (ODD, DisplayPort and 2 USB 3.2 Gen 1 Ports) with 2SFF drives, shown empty | 9 | NIC status ¹ |
| 2 | Box 2 for 8SFF drives or optional multi-purpose cage (shown) | 10 | Health LED |
| | | 11 | Power on / standby button / LED |
| 4 | Optional front NS204i-u (shown in multipurpose cage in Box2) | 12 | USB-C iLO service port |
| 5 | Quick-removal access panel | 13 | USB 3.2 Gen 1 Port |
| 6 | Optional front Primary OCP Slot (shown in multi-purpose cage in Box 2) | 14 | Box 3 for 8SFF drives (shown) |

| Item | Description | Item | Description |
|------|--|------|------------------------------|
| 7 | Optional front Secondary OCP Slot (shown in multi-purpose cage in Box 2) | 15 | Drive support label |
| 8 | Unit identification button / LED | 16 | Serial number label pull tab |

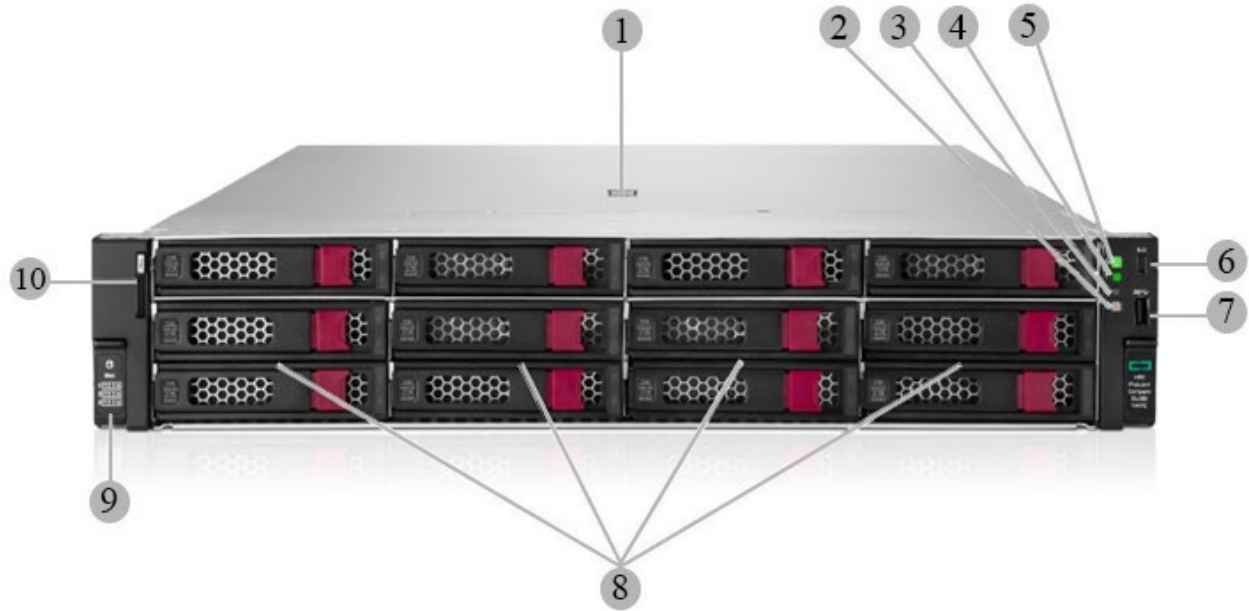
Notes:

- ¹ Front NIC LED display doesn't support NIC LED ACT/LINK indication from PCIe NICs



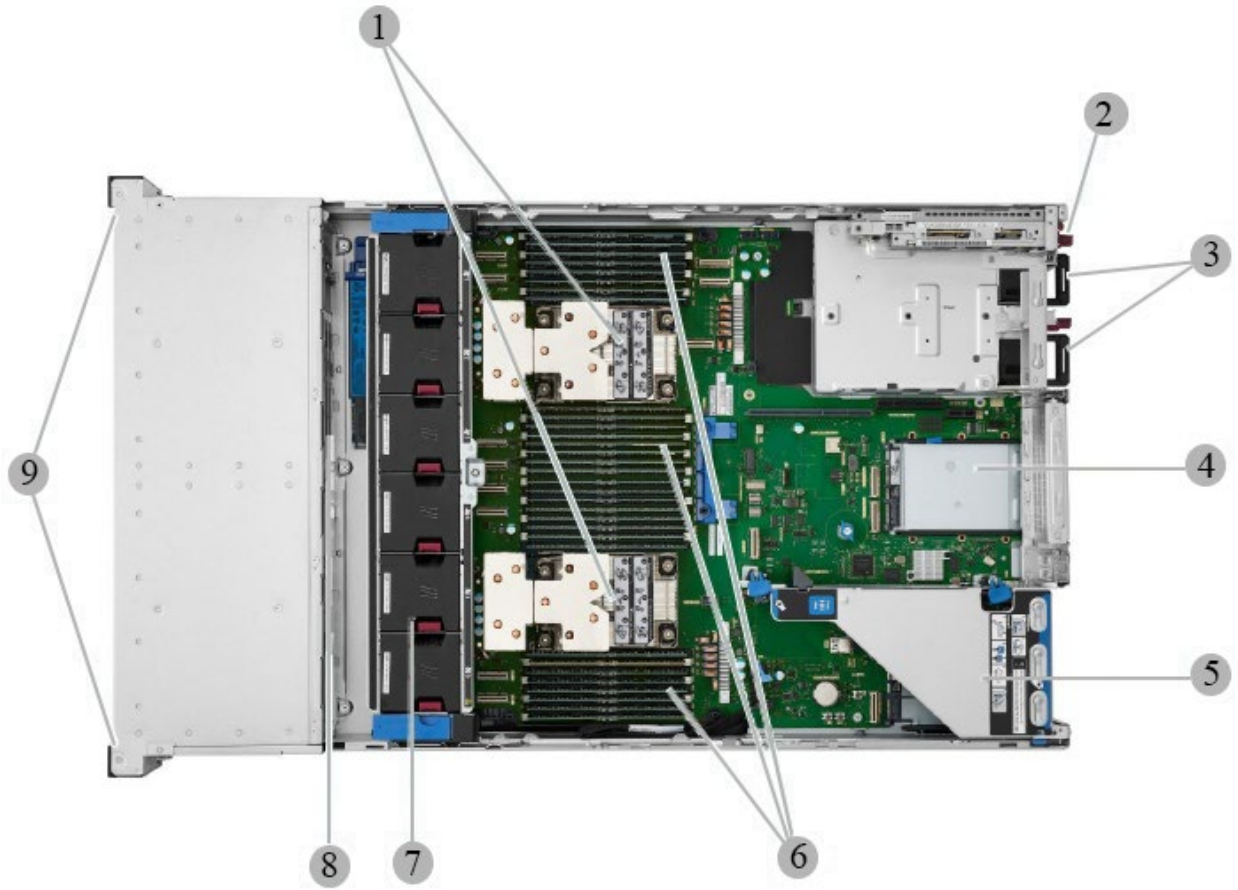
Front View – 24 SFF CTO Server

| Item | Description | Item | Description |
|------|----------------------------------|------|---------------------------------|
| 1 | Box 1 for 8 SFF drives (shown) | 7 | Health LED |
| 2 | Box 2 for 8 SFF drives (shown) | 8 | Power on / standby button / LED |
| 3 | Quick-removal access panel | 9 | USB-C iLO service port |
| 4 | Box 3 for 8 SFF drives (shown) | 10 | USB 3.2 Gen 1 port |
| 5 | Unit identification button / LED | 11 | Drive support label |
| 6 | NIC status | 12 | Serial number label pull tab |



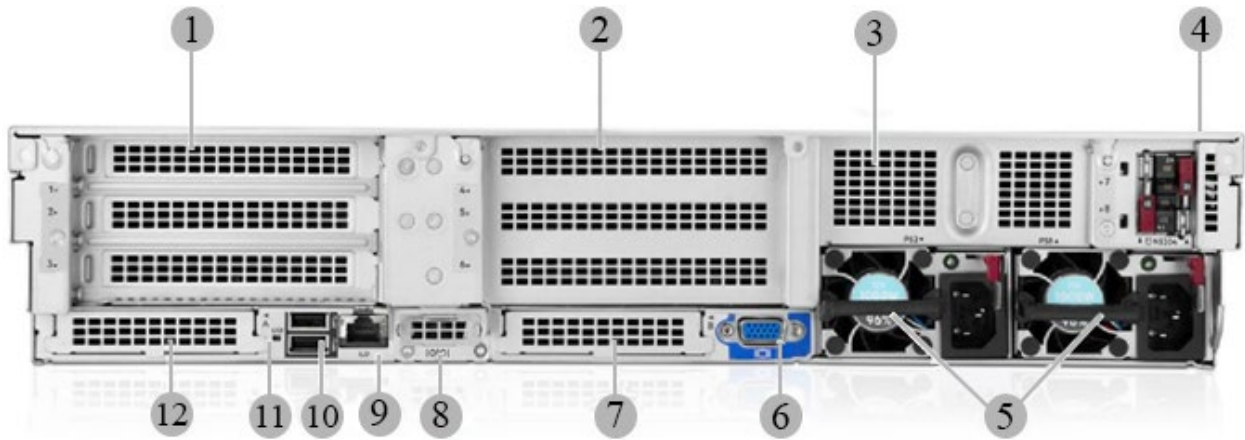
Front View – 12 LFF CTO Server

| Item | Description | Item | Description |
|------|----------------------------------|------|---|
| 1 | Quick-removal access panel | 6 | USB-C iLO service port |
| 2 | Unit identification button / LED | 7 | USB 3.2 Gen1 port |
| 3 | NIC status | 8 | Box 1, 2 and 3 for 4 LFF drives in each box (shown) |
| 4 | Health LED | 9 | Drive support label |
| 5 | Power on / standby button / LED | 10 | Serial number label pull tab |



Internal View SFF chassis– Air Cooled

| Item | Description | Item | Description |
|------|---|------|---|
| 1 | Processors, heatsinks (shown) | 6 | DIMM slots, shown fully populated in 32 slots |
| 2 | Optional NS204i-u Boot Device | 7 | Hot Plug Fans |
| 3 | Hot Plug redundant Flexible Slot Power Supplies | 8 | Drive Backplanes |
| 4 | Secondary Riser (Optional-not shown, Requires second processor) | 9 | Drive Cages |
| 5 | Primary Riser | | |



Rear View – Air Cooled

| Item | Description | Item | Description |
|------|--|------|-------------------------------|
| 1 | Box 4 for Primary Riser (Default PCIe 5.0 Slots 1, 2 & 3) or optional 2 SFF drive & slot 3 or Optional 2 LFF | 7 | OCP 3.0 Slot-B |
| 2 | Box 5 for Secondary Riser (Optional PCIe 5.0 Slots 4, 5 & 6) or optional 2 SFF drives & slot 6 or Optional 2 LFF | 8 | Serial Port (Optional) |
| 3 | Box 6 for Tertiary riser (slots 7 & 8) or optional 2 SFF | 9 | Dedicated iLO Management Port |
| 4 | NS204i-u Boot Device (Optional) | 10 | USB 3.2 Gen 1 Connectors (2) |
| 5 | Power Supply 1 & 2 | 11 | UID Indicator LED |
| 6 | VGA Connector | 12 | OCP 3.0 Slot-A |

What's new

- Intel® Xeon® 6 Processors.
- Up to two front OCP NIC.
- NS204i-u front install option.
- DDR5 with 6400 MT/s memory at 1DPC.
- GPU performance Kit for improved thermals (post launch support).

Platform information

Form factor

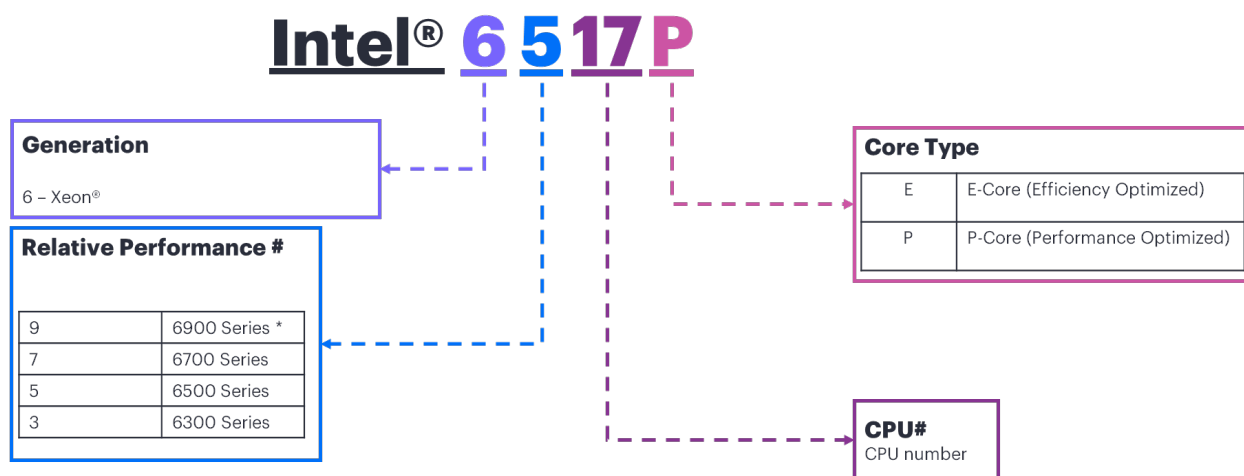
- 2U rack

Chassis types

- 10 SFF Basic Carriers (BC) drive cages:
 - 24G x2/x4 TriMode U.3, or
 - 32G x2/x4 NVMe (can be mixed)
- (8+2) SFF BC drive cages:
 - 8SFF 24G x1 TriMode U.3, and
 - Optional: 2SFF BC drive cage: 24G x4 TriMode U.3
- 4 LFF Low Profile (LP) drive bays: 12G x1 TriMode U.3
Optional:
 - Optical drive
 - 1x USB3.2 Gen1 and 1x DisplayPort

Chapter 2: Standard features

Processors



Intel® Xeon® 6 processor naming convention

For more information regarding Intel® Xeon® processors, see the following <https://www.intel.com/xeon>.

The Hitachi Advanced Server HA820 G6 server supports Intel® Xeon® 6 Efficient Core (E-Core) and Performance Core (P-Core) processors. The following processors are publicly supported on the Hitachi Advanced Server HA820 G6 server.

Intel® Xeon 6® processors with performance-cores (P-Cores)

Performance General Purpose Processors

| Intel® Xeon® Models | Base Speed (GHz) | Cores | L3 Cache (MB) | Power (W) | UPI | DDR5 (MT/s)* | SGX Enclave size (GB) | Die** |
|---------------------|------------------|-------|---------------|-----------|-----|--------------|-----------------------|-------|
| 6507P | 3.5 | 8 | 48 | 150 | 3 | 6400 | 512 | LCC |
| 6517P | 3.2 | 16 | 72 | 190 | 3 | 6400 | 512 | LCC |
| 6527P | 3.0 | 24 | 144 | 255 | 4 | 6400 | 512 | HCC |
| 6725P | 3.7 | 16 | 192 | 235 | 4 | 6400 | 512 | HCC |
| 6730P | 2.5 | 32 | 288 | 250 | 4 | 6400 | 512 | XCC |
| 6736P | 2.0 | 36 | 144 | 205 | 4 | 6400 | 512 | HCC |
| 6737P | 2.9 | 32 | 144 | 270 | 4 | 6400 | 512 | HCC |
| 6745P | 3.1 | 32 | 336 | 300 | 4 | 6400 | 512 | XCC |

| Intel® Xeon® Models | Base Speed (GHz) | Cores | L3 Cache (MB) | Power (W) | UPI | DDR5 (MT/s)* | SGX Enclave size (GB) | Die** |
|---------------------|------------------|-------|---------------|-----------|-----|--------------|-----------------------|-------|
| 6747P | 2.7 | 48 | 288 | 330 | 4 | 6400 | 512 | XCC |
| 6767P | 2.4 | 64 | 336 | 350 | 4 | 6400 | 512 | XCC |
| 6787P | 2.0 | 86 | 336 | 350 | 4 | 6400 | 512 | XCC |

Mainline Processors

| Intel® Xeon® Models | Base Speed (GHz) | Cores | L3 Cache (MB) | Power (W) | UPI | DDR5 (MT/s)* | SGX Enclave size (GB) | Die** |
|---------------------|------------------|-------|---------------|-----------|-----|--------------|-----------------------|-------|
| 6505P | 2.2 | 12 | 48 | 150 | 3 | 6400 | 128 | LCC |
| 6515P | 2.3 | 16 | 72 | 150 | 3 | 6400 | 128 | LCC |
| 6520P | 2.4 | 24 | 144 | 210 | 4 | 6400 | 128 | HCC |
| 6530P | 2.3 | 32 | 144 | 225 | 4 | 6400 | 128 | HCC |
| 6740P | 2.1 | 48 | 288 | 270 | 4 | 6400 | 128 | XCC |
| 6760P | 2.2 | 64 | 320 | 330 | 4 | 6400 | 128 | XCC |

Socket Scalable (4S) Processors**

| Intel® Xeon® Models | Base Speed (GHz) | Cores | L3 Cache (MB) | Power (W) | UPI | DDR5 (MT/s)* | SGX Enclave size (GB) | Die** |
|---------------------|------------------|-------|---------------|-----------|-----|--------------|-----------------------|-------|
| 6714P | 4.0 | 8 | 48 | 195 | 3 | 6400 | 512 | LCC |
| 6724P | 3.6 | 16 | 72 | 210 | 3 | 6400 | 512 | LCC |

Socket Scalable (8S) Processors**

| Intel® Xeon® Models | Base Speed (GHz) | Cores | L3 Cache (MB) | Power (W) | UPI | DDR5 (MT/s)* | SGX Enclave size (GB) | Die** |
|---------------------|------------------|-------|---------------|-----------|-----|--------------|-----------------------|-------|
| 6728P | 2.7 | 24 | 144 | 210 | 4 | 6400 | 512 | HCC |
| 6738P | 2.9 | 32 | 144 | 270 | 4 | 6400 | 512 | HCC |
| 6748P | 2.5 | 48 | 192 | 300 | 4 | 6400 | 512 | HCC |
| 6768P | 2.4 | 64 | 336 | 330 | 4 | 6400 | 512 | XCC |
| 6788P | 2.0 | 86 | 336 | 350 | 4 | 6400 | 512 | XCC |

Notes:

- *Intel® Xeon 6® Processors support DDR5 support maximum memory speed of 6400 MT/s @ 1 DIMMs per channel (DPC) and 6000 MT/s @ 2DPC.
- **Intel® HCC & LCC die and Socket Scalable (4S, 8S) processors have delayed availability.

ILO

iLO 7 ASIC

Memory

| Type | DDR5 Smart Memory | Registered (RDIMM) |
|----------------------|-------------------|--|
| DIMM Slots Available | 32 Slots | 16 DIMM slots per processor, 8 channels per processor, 2 DIMMs per channel |
| Maximum capacity | 8.0 TB | 32 x 256 GB RDIMM 6400 MT/s @ 1DPC and 5200MT/s @ 2DPC |

Notes:

- The maximum memory speed is limited by the processor selection.
- To realize the performance memory capabilities listed in this document, DDR5 Smart Memory is required.

Memory protection advanced ECC

Advanced ECC uses single device data correction to detect and correct single and all multi-bit errors that occur within a single DRAM chip.

Adaptive double DRAM device correction (ADDDC)

Advanced Double DRAM Device Correction enables the server to dynamically map out a failing DRAM device. Enabling it can have some impact on system performance under certain workloads. This is set to be enabled by default.

Mirroring

Memory Mirroring enables full memory redundancy.

Network controller

There is no default network controller included. The Hitachi Advanced Server HA820 G6 server offers the customer a variety of networking options which are outlined in the Core Options selection in this document.

PCIe expansion slots

Notes:

- Bus width indicates the number of physical electrical lanes running to the connector.
- x16 cards installed on x8 slots could observe sub-optimal performance.
- If Secondary OR Tertiary Riser is selected, then Second Processor must be selected.
- Tertiary Riser and Secondary 3 x16 Riser cannot be selected together.

Primary riser

There are 2 types of risers supported on Primary Slot.

Primary riser option 1 (default)

| Slots # | Technology | Bus Width | Connector Width | Slot Form Factor | Notes: |
|---------|------------|-----------|-----------------|-------------------------------|--------|
| 1 | PCIe 5.0 | X8 | x16 | Full-height, full-length slot | Proc 1 |
| 2 | PCIe 5.0 | x16 | x16 | Full-height, full-length slot | Proc 1 |
| 3 | PCIe 5.0 | X8 | x16 | Full-height, half-length slot | Proc 1 |

Primary riser option 2 (P48803-B21)

| Slots # | Technology | Bus Width | Connector Width | Slot Form Factor | Notes: |
|----------------|------------|-----------|-----------------|-------------------------------|--------|
| 1 ^a | NA | NA | NA | NA | NA |
| 1 | PCIe 5.0 | x16 | x16 | Full-height, full-length slot | Proc 1 |
| 2 | PCIe 5.0 | x16 | x16 | Full-height, full-length slot | Proc 1 |
| 3 | PCIe 5.0 | x16 | x16 | Full-height, half-length slot | Proc 1 |

Notes:

- A maximum of 1 Primary Riser can be selected per server.
- If this Primary Riser2 is selected, then default Primary riser is replaced with this Riser.
- ^a If Hitachi Advanced Server HA820 G6 x16/x16/x16 Cable Kit is NOT selected, then only Slot 2 and Slot 3 will be available for PCIe card and no PCIe cards can be selected for Slot1.

Secondary riser

There are 2 types of risers supported on the secondary slot. A maximum of 1 Secondary Riser can be selected per server.

Secondary riser option 1 (P48802-B21)

| Slots # | Technology | Bus Width | Connector Width | Slot Form Factor | Notes |
|---------|------------|-----------|-----------------|-------------------------------|--------|
| 4 | PCIe 5.0 | X8 | x16 | Full-height, full-length slot | Proc 2 |
| 5 | PCIe 5.0 | x16 | x16 | Full-height, full-length slot | Proc 2 |
| 6 | PCIe 5.0 | X8 | x16 | Full-height, half-length slot | Proc 2 |

Secondary riser option 2 (P51083-B21)

| Slots # | Technology | Bus Width | Connector Width | Slot Form Factor | Notes |
|---------|------------|-----------|-----------------|-------------------------------|--------|
| 4* | NA | NA | NA | NA | NA |
| 4 | PCIe 5.0 | x16 | x16 | Full-height, full-length slot | Proc 2 |
| 5 | PCIe 5.0 | x16 | x16 | Full-height, full-length slot | Proc 2 |
| 6 | PCIe 5.0 | x16 | x16 | Full-height, half-length slot | Proc 2 |

Notes:

- * If Hitachi Vantara Hitachi Advanced Server HA820 G6 x16/x16/x16 Cable Kit is NOT selected, then only Slot 5 and Slot 6 will be available for PCIe Card selection and no PCIe cards can be selected for Slot4.

Tertiary riser

There are two types of risers supported on the Tertiary slot. A maximum of 1 Tertiary Riser can be selected per server.

Tertiary riser option 1 (P76451-B21)

| Slots # | Technology | Bus Width | Connector Width | Slot Form Factor | Notes |
|---------|------------|-----------|-----------------|-------------------------------|--------|
| 7 | PCIe 5.0 | x16 | x16 | Full-height, full-length slot | Proc 2 |
| 8 | PCIe 5.0 | x16 | x16 | Full-height, full-length slot | Proc 2 |

Tertiary riser option 2 (P74737-B21)

| Slots # | Technology | Bus Width | Connector Width | Slot Form Factor | Notes |
|---------|------------|-----------|-----------------|-------------------------------|--------|
| 7 | PCIe 5.0 | x16 | x16 | Full-height, full-length slot | Proc 2 |
| 8 | PCIe 5.0 | X8 | x16 | Full-height, full-length slot | Proc 2 |

OCP expansion slots

Rear OCP 3.0 Slots

| Expansion Slots # | Part No. | Technology | Bus Width | Connector Width |
|--|-------------------------------------|------------|------------------|-----------------|
| 1 Rear OCP A ² (OCP 3.0) embedded | Default & P72201-B21 | PCIe 5.0 | x 8 ¹ | x16 |
| 1 Rear OCP B (OCP 3.0) optional cabled | P72203-B21, P72205-B21 & P72207-B21 | PCIe 5.0 | x 8 ¹ | x16 |
| 1 Front Primary OCP ² (OCP3.0) (Box 2, Bay 9) | P74757-B21 | PCIe 5.0 | x16 | x16 |
| 1 Front Secondary OCP (OCP3.0) (Box 2, Bay 11) | P74758-B21 | PCIe 5.0 | x16 | x16 |

Notes:

- ¹Can be extended to x16 with one processor if we don't use the other OCP, with 2 processors we can have both OCPA and OCP B as x16.
- ²Provides the share-NIC function with Network Controller Sideband Interface (NCSI).Front and rear OCPs cannot be enabled at the same time.
- Front OCPs are enabled with the multipurpose cage (only with SFF and EDSFF CTO Server) and can only support networking cards.

OCP 3.0 Slot Priority Support Matrix

| OCP Slot Location | 1 OCP Storage Controller (OROC) + 1 OCP NIC | 1 OCP NIC (if both OCPs are enabled) | 2 OCP NICs | 1 OCP Storage Controller (OROC) | 2 OCP Storage Controllers (OROC) |
|-------------------|---|--------------------------------------|---------------------------|---------------------------------|----------------------------------|
| OCP A | OROC | N/A | OCP NIC | OROC (Higher priority) | OROC (Higher priority) |
| OCP B | OCP NIC | NIC (higher priority) | OCP NIC (higher priority) | N/A | OROC |

Internal storage devices

- Optical Drive—Available on SFF and EDSFF CTO Servers as an option (DVD-ROM or DVD-RW)
- Hard Drives—none ship standard

Graphics

Integrated video standard

- VGA Port in the rear
- DisplayPort with optional optical disk drive
- Video modes up to 1920 x 1200@60Hz (32 bpp)
- 16MB Video Memory

Interfaces

| Interface | Description |
|--|---|
| Serial Port | 1 optional rear |
| DisplayPort | 1 optional front DisplayPort via Universal Media Bay. (Supported only on SFF and EDSFF CTO Server.) |
| VGA Port | 1 standard, rear. Both VGA and DisplayPorts are not active simultaneously. |
| Network Ports | None as standard. The choice of stand-up or OCP networking card is required. |
| Hitachi Vantara iLO Remote Management Network Port | 1 Gb Dedicated, rear. |
| Front iLO Service Port | 1 standard (Not available when System Insight Display Kit is ordered). |
| USB 3.2 Port Gen 1 | Up to 5 total: 1 front (3.2 Gen 1), 2 rear (3.0), 2 internal (3.0), 2 optional USB 2.0 front via Universal Media Bay. |
| System Insight Display (SID) | Optional, front. Supported with SFF and EDSFF CTO Server only. |

Operating systems and virtualization software support for Hitachi Vantara Servers

Hitachi Vantara servers are designed for seamless integration with partner Operating Systems and Virtualization Software. By collaborating closely with our partners, we ensure that their products are optimized, certified, and fully supported within your Hitachi Vantara server environment.

Industry standard compliance

- ACPI 6.5 Compliant
- PCIe 5.0 Compliant
- Wake on LAN (WOL) Support
- Microsoft® Logo certifications
- PXE Support
- VGA
- DisplayPort
 - Notes:** Support from the optional Universal Media Bay.
- USB 3.2 Gen1 Compliant
- USB 2.0 Compliant (via Universal Media Bay)
 - Notes:** Support from the optional Universal Media Bay.
- Energy Star
- SMBIOS 3.7
- Unified Extensible Firmware Interface (UEFI) 2.10
- UEFI Class 3
- Redfish API
- IPMI 2.0
- Advanced Encryption Standard (AES)
- SNMP v3
- TLS 1.2
- DMTF Redfish support for Secure Boot Key Management
- ACPI DSM Drive LED Management
- Memory Page Retire Support
- Retire old VMware Secure Boot Key
- APML

Smart update

Keep your servers up to date by using Smart Update Manager (SUM) to optimize the firmware and driver updates.

Security

Experience unparalleled security benefits with Hitachi Advanced Server HA820 G6, designed to enhance your infrastructure's security and performance. These servers come equipped with cutting-edge embedded security features, ensuring robust protection for your critical data and applications. Key features include:

- **Integrated Lights-Out (iLO7):** This product offers advanced embedded security features for monitoring, service alerting, reporting, and remote management.
- **Enhanced Server Data Security:** Encryption and key management, iLO Managed Encryption, UEFI-managed encryption, and self-encrypting drives (SED) for enhanced data-at-rest protection.
- **Expanded Industry Security Compliance:** Adherence to standards such as FIPS 140-3, NIST SP 800-53, NIST SP 800-171, and NIST SP 800-88.
- **Compute Ops Management:** Provides an intuitive cloud operating experience, ensuring streamlined and highly secure operations.
- **Physical Security Options:** System maintenance switch, USB security, rack and power security, bezel lock, and chassis intrusion detection switch.
- **Trusted Supply Chain:** Trusted Supply Chain offers enhanced security and compliance for organizations worldwide. Servers built with this option undergo rigorous inspections and checkpoints to detect and mitigate malicious microcode and counterfeit parts throughout the server build and lifecycle.

Chapter 4: Additional options

Configuration details

This chapter lists some of the steps required to configure a Factory Integrated Model.

To ensure only valid configurations are ordered, we recommend the use of a Hitachi Vantara approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

- FIO indicates that this option is only available as a factory installable option.
- All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.
- Some options may not be integrated at the factory. Contact your local sales representative for additional information.
- Hitachi Advanced Server HA820 G6 is highly configurable, the configuration information below does not include all CTO configuration rules. Please use one of Hitachi Vantara's approved configurators for the final configuration validation.

Step 1: Choose Smart Chassis

Smart Chassis is a new feature in One Config Advanced (OCA) that automatically selects the right storage backplane and controller cable kits. Once the Smart Chassis ID# is identified, the system will add the necessary Cable Kits in the BOM. Follow these steps in the listed sequence to select key components:

1. Select the system inlet ambient temperature. If you are not certain what selection you should make, select the 30°C.
2. Select the required drive cage(s).
3. Select the Riser Card(s) and the required accessories as needed.
4. Select the Storage controller as needed.
 - a. Define connection for 8SFF x4 cage (if needed).
 - b. One or multiple set(s) of Smart Chassis configurations will be presented with completion of the above selections. Select quantity 1 for the smart chassis configuration for your desired selection.
 - c. With the completion of the above steps, the user will be able to enter the Shared Options menu with selection.

Notes: The ambient temperature selection in smart chassis only impacts selection of certain options (GPUs, InfiniBand etc.) in only a small number of configurations. For example, if you select 30°C as ambient temperature and the OCA won't show the options supported at 25°C ambient.

Step 2: Choose core options

- Up to two Processors
- Heatsinks and fan kits
- Memory
- Backplanes / Drive cages / Enablement Kit
- Riser cards
- Storage controllers, and associated cables
- OS Boot Device, Intel® VROC
- Networking option (PCIe Standup or OCP 3.0)
- SSD, HDD, and Optical Drives
- Factory Configuration Settings
- Power and Cooling solution
- Security Options
- Management Options

Step 3: Choose additional options

- Choice of Accessories
- Choice of Intel® Virtual RAID on CPU Premium & Standard FIO Software for Hitachi Vantara
- Choice of GPUs

Datacenter inlet ambient temperature SKUs for smart chassis selection

Notes:

- Required selection as part of smart chassis feature in OCA.
- Only one of the following SKUs can be selected.
- The ambient temperature selection in smart chassis only impacts selection of certain options (GPUs, InfiniBand etc.) in only limited number of configurations. For example, if you select 30°C as ambient temperature and the OCA won't show the options supported only at 25°C ambient.

Riser cards

| | |
|---|------------|
| Hitachi Advanced Server HA820 G6 2U x8/x16 Tertiary Riser Kit | P74737-B21 |
| Hitachi Advanced Server HA820 G6 2U 2x16 Tertiary Riser Kit | P76451-B21 |

Riser cards accessories

| | |
|---|------------|
| Hitachi Advanced Server HA820 G6 x8 Riser Enablement Cable Kit | P76471-B21 |
| Hitachi Advanced Server HA820 G6 Primary Riser x16 FIO Bundle Kit | P78117-B21 |
| Hitachi Advanced Server HA820 G6 Secondary Riser x16 FIO Bundle Kit | P78120-B21 |

Intel® Xeon 6® scalable processors

Notes:

- Mixing of 2 different processor models is NOT allowed.
- Mid Tray can be selected with 225W or below Processors only.

Performance processors

| | |
|---|------------|
| Intel® Xeon® 6780E 2.2GHz 144-core 330W Processor for Hitachi Vantara | P71124-B21 |
|---|------------|

Intel® Xeon 6® processors with performance-cores (p-cores) performance general purpose processors

| | |
|--|------------|
| Intel® Xeon® 6507P 3.5GHz 8-core 150W Processor for Hitachi Vantara | P74504-B21 |
| Intel® Xeon® 6517P 3.2GHz 16-core 190W Processor for Hitachi Vantara | P74507-B21 |
| Intel® Xeon® 6527P 3.0GHz 24-core 255W Processor for Hitachi Vantara | P74570-B21 |
| Intel® Xeon® 6725P 3.7GHz 16-core 235W Processor for Hitachi Vantara | P87302-B21 |
| Intel® Xeon® 6730P 2.5GHz 32-core 250W Processor for Hitachi Vantara | P74573-B21 |
| Intel® Xeon® 6736P 2.0GHz 36-core 205W Processor for Hitachi Vantara | P74575-B21 |
| Intel® Xeon® 6737P 2.9GHz 32-core 270W Processor for Hitachi Vantara | P74576-B21 |
| Intel® Xeon® 6745P 3.1GHz 32-core 300W Processor for Hitachi Vantara | P81591-B21 |
| Intel® Xeon® 6747P 2.7GHz 48-core 330W Processor for Hitachi Vantara | P73831-B21 |
| Intel® Xeon® 6767P 2.4GHz 64-core 350W Processor for Hitachi Vantara | P73834-B21 |
| Intel® Xeon® 6787P 2.0GHz 86-core 350W Processor for Hitachi Vantara | P73837-B21 |

Mainline processors

| | |
|--|------------|
| Intel® Xeon® 6505P 2.2GHz 12-core 150W Processor for Hitachi Vantara | P74503-B21 |
| Intel® Xeon® 6515P 2.3GHz 16-core 150W Processor for Hitachi Vantara | P74506-B21 |
| Intel® Xeon® 6520P 2.4GHz 24-core 210W Processor for Hitachi Vantara | P74568-B21 |
| Intel® Xeon® 6530P 2.3GHz 32-core 225W Processor for Hitachi Vantara | P74571-B21 |
| Intel® Xeon® 6740P 2.1GHz 48-core 270W Processor for Hitachi Vantara | P73829-B21 |
| Intel® Xeon® 6760P 2.2GHz 64-core 330W Processor for Hitachi Vantara | P73832-B21 |
| Intel® Xeon® 6714P 4.0GHz 8-core 165W Processor for Hitachi Vantara | P74508-B21 |
| Intel® Xeon® 6724P 3.6GHz 16-core 210W Processor for Hitachi Vantara | P74509-B21 |
| Intel® Xeon® 6728P 2.7GHz 24-core 210W Processor for Hitachi Vantara | P74572-B21 |

Scalable socket (8S) processors

| | |
|--|------------|
| Intel® Xeon® 6738P 2.9GHz 32-core 270W Processor for Hitachi Vantara | P74577-B21 |
| Intel® Xeon® 6748P 2.5GHz 48-core 300W Processor for Hitachi Vantara | P74579-B21 |
| Intel® Xeon® 6768P 2.4GHz 64-core 330W Processor for Hitachi Vantara | P73835-B21 |
| Intel® Xeon® 6788P 2.0GHz 86-core 350W Processor for Hitachi Vantara | P73838-B21 |

Fan kits

Notes:

- Maximum Qty=1.
- High Performance Fan Kit and Standard Fan Kit cannot be selected together.
- SFF and 8LFF CTO models include 4 standard fans.
- 12LFF and EDSFF CTO models include 6 standard fans.
- 24SFF CTO model include 6 standard high-performance fans.

| | |
|--|------------|
| Hitachi Advanced Server HA820 G6 2U High Performance Fan Kit | P48820-B21 |
|--|------------|

Notes: Includes 6 high performance fans.

| | |
|------------------|------------|
| Standard Fan Kit | P49146-B21 |
|------------------|------------|

Notes: Includes 2 standard fans.

Heat sinks

Notes: Mixing of heat sinks is not allowed.

| | |
|------------------------|------------|
| Standard Heat Sink Kit | P49145-B21 |
|------------------------|------------|

Notes:

- Contains one Heat Sink per Kit.
- Can support processors with up to 185W.

| | |
|--|------------|
| Hitachi Advanced Server HA820 G6 Max Performance Heat Sink Kit | P74794-B21 |
|--|------------|

Notes:

- Supported only with 2P configurations.
- Contains two Heat Sinks per Kit.

| | |
|--|------------|
| Hitachi Advanced Server HA820 G6 Performance Heat Sink Kit | P74792-B21 |
|--|------------|

- **Notes:** Contains one Heat Sink per Kit.

| | |
|---|------------|
| Hitachi Advanced Server HA820 G6 High Performance Heat Sink Kit | P74787-B21 |
|---|------------|

Notes: Contains one Heat Sink per Kit.

Registered DIMMs DDR5 (RDIMMs)

| | |
|---|------------|
| 16GB (1x16GB) Single Rank x8 DDR5-6400 CAS-52-52-52 EC8 Registered Smart Memory Kit Notes: 16 GB memory can only be supported with 1DPC configurations. | P69726-B21 |
| 32GB (1x32GB) Dual Rank x8 DDR5-6400 CAS-52-52-52 EC8 Registered Smart Memory Kit | P69727-B21 |
| 64GB (1x64GB) Dual Rank x4 DDR5-6400 CAS-52-52-52 EC8 Registered Smart Memory Kit | P69728-B21 |
| 96GB (1x96GB) Dual Rank x4 DDR5-6400 CAS-52-52-52 EC8 Registered Smart Memory Kit | P69729-B21 |
| 128GB (1x128GB) Dual Rank x4 DDR5-6400 CAS-52-52-52 EC8 Registered Smart Memory Kit | P69730-B21 |
| Hitachi Vantara 256GB (1x256GB) Quad Rank x4 DDR5-6400 CAS-60-52-52 EC8 Registered 3DS Smart Memory Kit | P73447-B21 |

Memory blank kit

| | |
|-------------------------------------|------------|
| Hitachi Vantara DDR4 DIMM Blank Kit | P07818-B21 |
|-------------------------------------|------------|

Smart storage battery

| | |
|--|------------|
| Hitachi Vantara 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit | P01366-B21 |
| Hitachi Vantara Smart Storage Hybrid Capacitor with 145mm Cable Kit | P02377-B21 |

Cable kits

| | |
|---|------------|
| Hitachi Vantara Storage Controller Enablement Cable Kit | P48918-B21 |
| Hitachi Advanced Server HA820 G6 8SFF SFF x4 UMB OROC Box 1/2 Cable Kit | P76452-B21 |
| Hitachi Advanced Server HA820 G6 8SFF SFF x4 UMB PCIe Box 1/2 Cable Kit | P76453-B21 |
| Hitachi Advanced Server HA820 G6 8SFF x4 Direct Attach Box 1 for 2 Processors Cable Kit | P76461-B21 |
| Hitachi Advanced Server HA820 G6 8SFF x4 Direct Attach Box 2 Cable Kit | P76462-B21 |
| Hitachi Advanced Server HA820 G6 8SFF x4 Direct Attach Box 2/3 for 1P Cable Kit | P77489-B21 |
| Hitachi Advanced Server HA820 G6 8SFF x2 Direct Attach Cable Kit | P77486-B21 |
| Hitachi Advanced Server HA820 G6 Front 8SFF x4 Direct Attach Box 1/3 Cable Kit | P76468-B21 |
| Hitachi Advanced Server HA820 G6 8SFF x4 PCIe for 2 Controllers Box 1/2 Cable Kit | P77488-B21 |
| Hitachi Advanced Server HA820 G6 8SFF x2 PCIe Box 2 Controller Cable Kit | P76456-B21 |
| Hitachi Advanced Server HA820 G6 OROC 8SFF x2 Controller Cable Kit | P76454-B21 |
| Hitachi Advanced Server HA820 G6 16SFF x4 2x Gen4 Retimer Card Box 1/3 Cable Kit | P76463-B21 |
| Hitachi Advanced Server HA820 G6 36EDSFF x2 Direct Attach Cable Kit | P76464-B21 |
| Hitachi Advanced Server HA820 G6 12EDSFF x4 Direct Attach Box 2 Cable Kit | P76465-B21 |
| Hitachi Advanced Server HA820 G6 12EDSFF x2 Direct Attach Box 1/2 Cable Kit | P76467-B21 |
| Hitachi Advanced Server HA820 G6 8LFF PCIe Controller Box 2/3 Cable Kit | P76473-B21 |
| Hitachi Advanced Server HA820 G6 8LFF OROC Box 2/3 Cable Kit | P76474-B21 |
| Hitachi Advanced Server HA820 G6 2SFF x4 PCIe Box 6 Cable Kit | P76475-B21 |
| Hitachi Advanced Server HA820 G6 2SFF x4 U.3 Side-by-Side Cable Kit | P76476-B21 |
| Hitachi Advanced Server HA820 G6 8LFF PCIe Box 1/7 Cable Kit | P77474-B21 |
| Hitachi Advanced Server HA820 G6 8LFF OROC Box 1/7 Cable Kit | P77475-B21 |
| Hitachi Advanced Server HA820 G6 4EDSFF Front Cable Kit | P77476-B21 |
| Hitachi Advanced Server HA820 G6 2SFF x4 OROC Box 6 OCP SlotB Cable Kit | P77477-B21 |
| Hitachi Advanced Server HA820 G6 2SFF HDD Stacking Drive Direct Attach Cable Kit | P77478-B21 |
| Hitachi Advanced Server HA820 G6 OROC 2SFF U.3 Side-by-Side Cable Kit | P77480-B21 |
| Hitachi Advanced Server HA820 G6 2SFF U.3 Side-by-Side Direct Attach Cable Kit | P77481-B21 |

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|--|------------|
| Hitachi Advanced Server HA820 G6 2SFF Rear PCIe Cable Kit | P77482-B21 |
| Hitachi Advanced Server HA820 G6 2SFF Rear OROC Cable Kit | P77483-B21 |
| Hitachi Advanced Server HA820 G6 2LFF Rear PCIe Cable Kit | P77484-B21 |
| Hitachi Advanced Server HA820 G6 2LFF Rear OROC Cable Kit | P77485-B21 |
| Hitachi Advanced Server HA820 G6 4EDSFF x4 Direct Attach Box 1 Cable Kit | P77490-B21 |
| Hitachi Advanced Server HA820 G6 4EDSFF x4 Direct Attach Box 3 Cable Kit | P77491-B21 |
| Hitachi Advanced Server HA820 G6 16SFF x4 1x Gen4 Retimer Card Box 1/3 Direct Attach Cable Kit | P77492-B21 |
| Hitachi Advanced Server HA820 G6 2SFF x4 Direct Attach Box 6 Cable Kit | P77493-B21 |
| Hitachi Advanced Server HA820 G6 2U GPU Power Cable Kit | P56072-B21 |
| Hitachi Advanced Server HA820 G6 Secondary Riser Paddle Card FIO Kit | P80997-B21 |
| Hitachi Advanced Server HA820 G6 Primary Riser Paddle Card FIO Kit Notes: The Riser Padder Card Kits (P83356-B21 & P83356-B21) are offered to configure up to 36 EDSFF drives as x4 direct attach. | P83356-B21 |
| Hitachi Advanced Server HA820 G6 MR932i-p 8SFF x4 Cable Kit | P83800-B21 |
| Hitachi Advanced Server HA820 G6 MR932i-p 8SFF x2 Cable Kit | P83801-B21 |
| Hitachi Advanced Server HA820 G6 MR932i-p 8SFF x1 Cable Kit | P84481-B21 |
| Hitachi Advanced Server HA820 G6 12EDSFF Power Cable Kit | P87968-B21 |
| Hitachi Advanced Server HA820 G6 MR932i-p 4EDSFF x4 Signal Cable Kit | P83798-B21 |
| Hitachi Advanced Server HA820 G6 MR932i-p 4EDSFF x2 Signal Cable Kit | P83799-B21 |
| Hitachi Advanced Server HA820 G6 MR932i-p Rear 2SFF Box 4/5 Cable Kit | P87235-B21 |
| Hitachi Advanced Server HA820 G6 MR932i-p Rear 2SFF Box 6 Cable Kit | P87236-B21 |
| Hitachi Advanced Server HA820 G6 12EDSFF Controller Attach Rear GPU FIO Bundle Kit | P87692-B21 |

OCP 3.0 enablement

| | |
|--|------------|
| Hitachi Advanced Server HA820 G6 CPU1 to Rear OCP SlotA x16 Cable Kit | P72201-B21 |
| Hitachi Advanced Server HA820 G6 CPU1 to Rear OCP SlotB x8 Cable Kit | P72203-B21 |
| Hitachi Advanced Server HA820 G6 CPU2 to Rear OCP SlotB x8 Cable Kit | P72205-B21 |
| Hitachi Advanced Server HA820 G6 CPU2 to Rear OCP SlotB x16 Cable Kit | P72207-B21 |
| Hitachi Advanced Server HA820 G6 Front Primary OCP Box2 Bay9 Enablement Kit | P74757-B21 |
| Hitachi Advanced Server HA820 G6 Front Secondary OCP Box2 Bay11 Enablement Kit | P74758-B21 |

Power supplies

Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into Hitachi Advanced Server HA820 G6 Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

European union ErP lot 9 regulation

Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, Ireland, Switzerland or Turkey, must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. Hitachi Vantara Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements.

Notes:

- The mixing of 2 different power supplies is NOT allowed.
- Select a minimum (1) and a maximum (2) power supplies.
- 1600W Power supplies only support high line voltage (200 VAC to 240 VAC).
- Hitachi Vantara 1600W Flex Slot -48VDC Hot Plug Power Supply Kit requires selection of Hitachi Vantara 1600W DC PSU power lug option kit OR Hitachi Vantara 1600W DC PSU Power Cable Kit.

Hitachi Vantara flex slot power supplies

| | |
|--|------------|
| Hitachi Vantara 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit | P38995-B21 |
| Hitachi Vantara 1000W Flex Slot Titanium Hot Plug Power Supply Kit | P03178-B21 |
| Hitachi Vantara 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit | P38997-B21 |
| Hitachi Vantara 1800W-2200W Flex Slot Titanium Hot Plug Power Supply Kit | P44712-B21 |
| Hitachi Vantara 1600W Flex Slot -48VDC Hot Plug Power Supply Kit | P17023-B21 |
| Hitachi Vantara 1600W -48VDC Power Cable Lug Kit | P36877-B21 |

Boot controllers

| | |
|---|------------|
| Hitachi Vantara NS204i-u v2 480GB NVMe Hot Plug Boot Optimized Storage Device | P78279-B21 |
| Hitachi Vantara NS204i-u v2 960GB NVMe Hot Plug Boot Optimized Storage Device | P81160-B21 |
| Hitachi Vantara NS204i-u v2 960GB NVMe SED Hot Plug Boot Optimized Storage Device | P81162-B21 |
| Hitachi Advanced Server HA820 G6 NS204i-u Rear Boot Device Enablement Kit | P74755-B21 |
| Hitachi Advanced Server HA820 G6 NS204i-u Rear Hot Plug FIO Enablement Kit | P77928-B21 |
| Hitachi Advanced Server HA820 NS204i-u Front Enablement Kit | P74759-B21 |

PCIe networking

1 gigabit Ethernet adapters

| | |
|---|------------|
| Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T Adapter for Hitachi Vantara | P51178-B21 |
|---|------------|

10 Gigabit Ethernet adapters

| | |
|---|------------|
| Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for Hitachi Vantara | P26253-B21 |
| Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for Hitachi Vantara | P26259-B21 |

10/25 Gigabit Ethernet adapters

| | |
|---|------------|
| Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for Hitachi Vantara | P26262-B21 |
| Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for Hitachi Vantara | P26264-B21 |
| NVIDIA Ethernet 10/25Gb 2-port SFP28 NVMe-oF Crypto Adapter for Hitachi Vantara | S2A69A |
| Intel® E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for Hitachi Vantara | P08443-B21 |
| Intel® E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for Hitachi Vantara | P08458-B21 |
| Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for Hitachi Vantara | P21109-B21 |
| Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for Hitachi Vantara | P42044-B21 |

100 Gigabit Ethernet adapters

| | |
|--|------------|
| Broadcom BCM57608 Ethernet 100Gb 2-port QSFP112 Adapter for Hitachi Vantara | P73111-B21 |
| Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for Hitachi Vantara | P25960-B21 |
| Intel® E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for Hitachi Vantara | P21112-B21 |

Storage offload adapters

| | |
|--|--------|
| NVIDIA Ethernet 100Gb 2-port NVMe-oF Offload Adapter for Hitachi Vantara | R8M41A |
|--|--------|

OCP networking

1 Gigabit Ethernet adapters

| | |
|--|------------|
| Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for Hitachi Vantara | P51181-B21 |
|--|------------|

10 Gigabit Ethernet adapters

| | |
|--|------------|
| Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for Hitachi Vantara | P10097-B21 |
| Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for Hitachi Vantara | P26256-B21 |
| Intel® E610-IT4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for Hitachi Vantara | P79833-B21 |

10/25 Gigabit Ethernet adapters

| | |
|--|------------|
| Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for Hitachi Vantara | P10115-B21 |
| Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for Hitachi Vantara | P26269-B21 |
| Intel® E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for Hitachi Vantara | P10106-B21 |
| Intel® E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for Hitachi Vantara | P41614-B21 |
| Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for Hitachi Vantara | P42041-B21 |

100 Gigabit Ethernet adapters

| | |
|--|------------|
| Broadcom BCM57608 Ethernet 100Gb 2-port QSFP112 OCP3 Adapter for Hitachi Vantara | P73114-B21 |
| Intel® E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for Hitachi Vantara | P22767-B21 |

InfiniBand and Ethernet

| | |
|--|------------|
| InfiniBand NDR/Ethernet 400Gb 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Adapter | P45641-H23 |
| InfiniBand NDR200/Ethernet 200Gb 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Adapter | P45642-H23 |
| InfiniBand NDR200/Ethernet 200GbE 2-port QSFP112 PCIe5 x16 MCX755106AC-HEAT Adapter | P65333-H21 |
| InfiniBand XDR400/Ethernet 400GbE 2-port QSFP112 PCIe6 x16 HHHL CX8 Crypto Adapter | P79115-H21 |
| InfiniBand XDR/Ethernet 2x400GbE 1-port OSFP PCIe6 x16 HHHL CX8 Crypto Adapter | P79114-H21 |
| InfiniBand XDR PCIe Gen6 x16 Multi Host/Socket Direct Auxiliary Card with 250mm MCIO Cable Kit | P81264-H21 |

Security options

Trusted supply chain

Notes:

- Trusted Supply Chain (P36394-B21) is an optional security upgrade intended for agencies and regulated industries needing enhanced security and compliance needs. Applying this option ensures it is built in the USA in a secure facility by vetted Hitachi Vantara personnel assigned to the manufacturing processes. A multitude of checkpoints/inspections for malicious microcode and counterfeit parts are performed throughout the server build, and additional safeguards are put in place against cyber-exploits throughout the server lifecycle. The Hitachi Advanced Server HA820 G6 is Trade Agreement Act (TAA) compliant.
- This option requires the selection of Intrusion Detection Kit (P48922-B21)
- This option requires the selection of ILO Advanced 1-server License with 3yr Support on iLO Licensed Features (BD505A).

| | |
|---------------------------------|------------|
| iLO Common Password FIO Setting | P08040-B21 |
|---------------------------------|------------|

Notes:

- Replaces iLO default randomized password by a Hitachi Vantara defined common password. Change this password immediately after the initial onboarding process.
- Customers who want to choose their own custom iLO default password should use the Hitachi Vantara Factory Express Integration Services

| | |
|--|------------|
| Hitachi Advanced Server HA820 G6 Platform Certificate and IDevID iLO FIO Setting | P42104-B21 |
|--|------------|

Notes:

- Initial Device Identity (IDevID) certificates are part of a Zero Trust Architecture. This SKU instructs factory to provision IDevID on Hitachi Vantara iLO.
- Directs Hitachi Vantara manufacturing site to create, digitally sign and store a platform certificate on the server.
- Requires Trusted Platform Module (TPM).

| | |
|----------------|------------|
| Bezel Lock Kit | 875519-B21 |
|----------------|------------|

Notes:

- Maximum quantity = 1.
- Requires selection of 2U Bezel Kit (P50400-B21).

| | |
|---------------------|------------|
| 2U Bezel Kit | P50400-B21 |
| Intrusion Cable Kit | P48922-B21 |

Notes: This option must be selected if Trusted Supply Chain SKU (P36394-B21) is selected.

| | |
|--------------|------------|
| 2U Bezel Kit | P50400-B21 |
|--------------|------------|

Notes: Requires selection of Bezel Kit (P50400-B21).

Hard disk drives

Mission critical – 12G SAS – SFF drives

| | |
|---|------------|
| 2.4TB SAS 12G Mission Critical 10K SFF BC 3yr Wty 512e FIPS 140-2 TAA-compliant HDD | P28618-B21 |
| 1.2TB SAS 12G Mission Critical 10K SFF BC 3yr Wty FIPS 140-2 TAA-compliant HDD | P28622-B21 |

Enterprise – 12G SAS – SFF drives

| | |
|---|------------|
| 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD | P28352-B21 |
| 1.8TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD | P53562-B21 |
| 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD | P28586-B21 |
| 600GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD | P53561-B21 |
| 300GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD | P40430-B21 |

Midline – 12G SAS – LFF drives

| | |
|---|------------|
| 26TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P80577-B21 |
| 20TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P53553-B21 |
| 16TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P23608-B21 |
| 24TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P68583-B21 |

Midline – 6G SATA – LFF drives

| | |
|---|------------|
| 26TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P80578-B21 |
| 20TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P53554-B21 |
| 16TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P23449-B21 |
| 24TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P68585-B21 |

SSD selection

Read intensive – SFF – solid state drives

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|---|------------|
| 7.68TB SAS Read Intensive SFF BC Self-encrypting FIPS 140-2 PM7 SSD | P63879-B21 |
| 3.84TB SAS Read Intensive SFF BC Self-encrypting FIPS 140-3 PM7 SSD | P83347-B21 |
| 15.36TB SAS 24G Read Intensive SFF BC Multi Vendor SSD | P49045-B21 |
| 3.84TB SAS Read Intensive SFF BC Self-encrypting FIPS 140-2 PM7 SSD | P63875-B21 |
| 7.68TB SAS 24G Read Intensive SFF BC Multi Vendor SSD | P49041-B21 |
| 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD | P49035-B21 |
| 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD | P49031-B21 |
| 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD | P49029-B21 |
| 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD | P40509-B21 |
| 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD | P40508-B21 |
| 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD | P40507-B21 |
| 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD | P40506-B21 |
| 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD | P49029-B21 |

Mixed use –SAS – SFF – solid state drives

| | |
|--|------------|
| 1.6TB SAS Mixed Use SFF BC Self-encrypting FIPS 140-3 PM7 SSD | P83344-B21 |
| 1.6TB SAS Mixed Use SFF BC Self-encrypting FIPS 140-2 PM7 SSD | P63871-B21 |
| 6.4TB SAS 24G Mixed Use SFF BC Multi Vendor SSD | P49057-B21 |
| 3.2TB SAS 24G Mixed Use SFF BC Multi Vendor SSD | P49053-B21 |
| 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD | P49049-B21 |
| 800GB SAS 24G Mixed Use SFF BC Multi Vendor SSD | P49047-B21 |
| 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD | P61043-B2 |
| 1 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD | P61051-B21 |
| 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD | P61059-B21 |

Mixed use – 12G SAS – SFF – solid state drives

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|--|------------|
| 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD | P40512-B21 |
| 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD | P40511-B21 |
| 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD | P40510-B21 |

Read intensive – 6G SATA – SFF – solid state drives

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|---|------------|
| 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD | P40501-B21 |
| 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD | P40500-B21 |
| 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD | P40499-B21 |
| 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD | P58236-B21 |
| 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD | P40497-B21 |
| 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD | P40498-B21 |
| 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD | P40496-B21 |

Mixed use – 6G SATA – SFF – solid state drives

| | |
|--|------------|
| 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD | P40505-B21 |
| 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD | P40504-B21 |
| 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD | P58244-B21 |
| 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD | P40503-B21 |
| 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD | P40502-B21 |

Mixed use – 12G SAS – LFF –solid state drives

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|--|------------|
| 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD | P37009-B21 |
|--|------------|

Read intensive – 6G SATA – LFF – solid state drives

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| 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD | P47808-B21 |
|---|------------|

Read intensive – NVMe – SFF – solid state drives

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|--|------------|
| 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PS1010 SSD | P70436-B21 |
| 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD | P63841-B21 |
| 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD | P50224-B21 |
| 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PS1010 SSD | P70434-B21 |
| 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD | P63837-B21 |
| 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD | P64848-B21 |
| 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD | P50222-B21 |
| 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD | P63833-B21 |
| 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD | P64846-B21 |
| 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD | P50219-B21 |
| 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD | P63829-B21 |
| 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD | P64844-B21 |
| 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD | P50216-B21 |

| | |
|--|------------|
| 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD | P64842-B21 |
| 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD | P61019-B21 |
| 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD | P61027-B21 |
| 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD | P61035-B21 |
| 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 SPDM 7500 SSD | P84242-B21 |
| 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 SPDM 7500 SSD | P84244-B21 |
| 15.36TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 SPDM 7500b SSD | P84239-B21 |
| 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 SPDM 7500 SSD | P84242-B21 |
| 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 SPDM 7500 SSD | P84244-B21 |
| 15.36TB NVMe Gen4 Mainstream Performance Read Intensive BC U.3 Static V2 SPDM Multi Vendor SSD | P84236-B21 |

Mixed use – NVMe – SFF – solid state drives

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|--|------------|
| 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PS1030 SSD | P70428-B21 |
| 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD | P63853-B21 |
| 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD | P65023-B21 |
| 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD | P50233-B21 |
| 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PS1030 SSD | P70426-B21 |
| 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD | P63849-B21 |
| 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD | P65015-B21 |
| 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD | P50230-B21 |
| 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD | P63845-B21 |
| 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD | P65007-B21 |
| 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD | P50227-B21 |
| 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD | P64999-B21 |

VRO – NVMe – SFF – solid state drives

| | |
|--|------------|
| 3.84TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD | P63930-B21 |
| 7.68TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD | P63934-B21 |
| 15.36TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD | P63938-B21 |
| 30.72TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD | P79065-B21 |

Hard drive blank kits

| | |
|--|------------|
| LFF HDD Spade Blank Kit | 807878-B21 |
| Small Form Factor Hard Drive Blank Kit | 666987-B21 |

Some options may not be integrated at the factory. To ensure only valid configurations are ordered, use the approved configurator. Contact your local sales representative for additional information.

Graphic options (GPU)

Notes:

- Mixing of GPUs is not allowed
- GPU and rear drive options cannot be selected together.
- High Performance Fan Kit must be selected

Full height full length / low profile / double wide

Notes:

- Maximum quantity 3 of double wide GPUs can be supported.
- High Performance Heat Sink OR DLC Module must be selected for Processors.
- Qty-1 of GPU Power Cable Kit (P56072-B21) must be selected which can support up to 3 DW GPUs.

| | |
|--|--------|
| NVIDIA H100 NVL 94GB PCIe Accelerator for Hitachi Vantara | S2D86C |
| NVIDIA L40S 48GB PCIe Accelerator | S2L70C |
| NVIDIA RTX PRO 6000 Blackwell Server Edition 96GB PCIe Accelerator for Hitachi Vantara | S6A73C |

Notes:

- Supported with power capped at 450W.
- 1U High Performance Heat Sink (P74787-B21) and GPU cooling upgrade kit (P81130-B21) must be selected

Half height half length/single wide

| | |
|---|--------|
| NVIDIA L4 24GB PCIe Accelerator for Hitachi Vantara | S0K89C |
| NVIDIA RTX A1000 8GB PCIe Accelerator for Hitachi Vantara | S5T74C |

Notes: A maximum of 8 single wide GPUs can be supported.

GPU cooling upgrade

| | |
|---|------------|
| Hitachi Advanced Server HA820 G6 GPU Cooling Upgrade Enablement Kit | P81130-B21 |
|---|------------|

Notes: The GPU Cooling Upgrade Enablement Kit (P81130-B21) is designed to provide enhanced cooling for DW GPUs. It allows GPUs to operate at higher inlet ambient temperatures or supports more drives at the same temperatures as previously offered. The kit includes six additional fans and air baffles. It is compatible with processors up to 270W at 30°C or 350W at 27°C. The only heat sink supported with it is the high-performance heat sink kit (P74787-B21).

Chapter 7: Technical specifications

System unit

Dimensions (height x width x depth)

- SFF/EDSFF CTO servers:
8.75 x 44.80 x 72.70 cm / 3.44 x 17.64 x 28.62 in
- LFF CTO servers:
8.75 x 44.80 x 73.25 cm / 3.44 x 17.64 x 28.84 in

Notes: The depth is measured from the back of the front ear to rear IO wall surface, does not include PSUs.

Weight (approximate)

- SFF
 - Maximum: 33 kg / 72.75 lbs.
 - Minimum: 18 kg / 39.68 lbs.
- LFF
 - Maximum: 37 kg / 81.57 lbs.
 - Minimum: 23 kg / 50.70 lbs.

System inlet temperature

- Standard Operating Temperature
 - 10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft.) above sea level to a maximum of 3050 m (10,000 ft.), no direct sustained sunlight. Maximum rate of change is 20°C/hr. (36°F/hr.). The upper limit and rate of change may be limited by the type and number of options installed.
 - System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).

- Extended Ambient Operating Temperature
 - For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft.) above 900 m (2953 ft.) to a maximum of 3050 m (10,000 ft.). The approved hardware configurations for this system can be obtained from customer support.
 - For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft.) above 900 m (2953 ft.) to a maximum of 3050 m (10,000 ft.). The approved hardware configurations for this system can be obtained from customer support.
 - System performance may be reduced if operating in the extended ambient operating range or with a fan fault.
- Non-operating temperature
 - -30° to 60°C (-22° to 140°F). The maximum rate of change is 20°C/hr. (36°F/hr.).

Relative humidity (non-condensing)

- Operating
 - 8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.
- Non-operating
 - 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.

Altitude

- Operating
 - 3050 m (10,000 ft.). This value may be limited by the type and number of options installed. The maximum allowable altitude change rate is 457 m/min (1500 ft./min).
- Non-operating
 - 9144 m (30,000 ft.). Maximum allowable altitude change rate is 457 m/min (1500 ft./min).

Acoustic noise

Listed are the declared mean A-Weighted sound power levels (LWA,m), declared average bystander position A-Weighted sound pressure levels (LpAm) and the statistical adder for verification, Kv, is a quantity to be added to the declared mean A-weighted sound power level, LWA,m when the product is operating in a 23± 2°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your Hitachi Vantara representative provide information from the Hitachi Vantara EMESC website for further technical details regarding the configurations listed below.

Acoustic Noise

| Idle | |
|------------------|---|
| LwA,m | 4.2 B Entry – SFF 4.7 B Medium - SFF 5.7 B Performance – SFF 5.6 B Base - EDSFF 5.9 B Dense - LFF |
| LpAm | 28 dBA Entry – SFF 32 dBA Medium - SFF 44 dBA Performance – SFF 45 dBA Base - EDSFF 48 dBA Dense - LFF |
| Kv | 0.4 B Entry – SFF 0.4 B Medium - SFF 0.4 B Performance – SFF 0.4 B Base - EDSFF 0.4 B Dense - LFF |
| Operating | |
| LwA,m | 4.2 B Entry – SFF 5.5 B Medium - SFF 5.7 B Performance – SFF 5.6 B Base - EDSFF 6.0 B Dense - LFF |
| LpAm | 28 dBA Entry – SFF 41 dBA Medium - SFF 44 dBA Performance – SFF 45 dBA Base - EDSFF 49 dBA Dense - LFF |
| Kv | 0.4 B Entry – SFF 0.4 B Medium - SFF 0.4 B Performance – SFF 0.4 B Base - EDSFF 0.4 B Dense - LFF |

All measurements were made to conform to ISO 7779 / ECMA-74 and declared to conform to ISO 9296/ECMA-109. Operating mode is represented by 50% of CPU and GPU TDP. The results in this declaration apply only to the specific configuration listed below when operating and tested according to the indicated modes and standards. A system with additional configuration components or increased operating functionality may increase the noise emission values.

- Entry – SFF Configuration: 1x Intel® GNR-SP 6507P CPU, 2x SAS 10K SFF BC HDD, 1x 32GB DIMM, 1x 800W PSU, 4x STD fan, 1x 1Gb 4p BASE-T OCP Adapter, 1x MR416i-p PCIe.
- Medium – SFF Configuration: 2x Intel® GNR-SP 6517P CPU, 8x SAS 10K SFF BC HDD, 2x 32GB DIMM, 2x 800W PSU, 6x STD fan, 2x 1Gb 4p BASE-T OCP Adapter, 1x MR416i-p PCIe.
- Performance – SFF Configuration: 2x Intel® Xeon® 6530P CPU, 8x NVMe PCIe SSD U.3, 8x 32GB DIMM, 2x 800W PSU, 6x Perf fan, 2x 10/25GbE 2p SFP28 OCP3 Adapter, 1x MR416i-p PCIe, 1x G6 Hot Plug Boot Opt. Dev.
- Base – EDSFF Configuration: 2x Intel® Xeon® 6530P CPU, 8x PCIe ED SSD E3.S, 8x 64GB DIMM, 2x 800W PSU, 6x Perf fan, 1x 10/25GbE 2p SFP28 OCP3 Adapter, 1x G6 Hot Plug Boot Opt. Dev.
- Dense - LFF Configuration: 2x Intel® Xeon® 6730P CPU, 12x SAS 7.2K SFF BC HDD, 8x 32GB DIMM, 2x 800W PSU, 6x Perf fan, 1x 1Gb 4p BASE-T OCP Adapter, 1x MR216i-p PCIe.

Notes:

- The declared mean A-weighted sound power level, LWA,m , is computed as the arithmetic average of the measured.
- A-weighted sound power levels for a randomly selected sample, rounded to the nearest 0,1 B.
- The declared mean A-weighted emission sound pressure level, $LpAm$, is computed as the arithmetic average of the measured A-weighted emission sound pressure levels at the bystander positions for a randomly selected sample, rounded to the nearest 1 dB.
- The statistical adder for verification, Kv , is a quantity to be added to the declared mean A-weighted sound power level, LWA,m , such that there will be a 95% probability of acceptance, when using the verification procedures of ISO 9296, if no more than 6,5 % of the batch of new equipment, has A-weighted sound power levels greater than $(LWA,m + Kv)$.
- The quantity, LWA,c (formerly called $LWAd$), can be computed from the sum of LWA,m and Kv .
- B, dB, abbreviations for bels and decibels, respectively, where 1 B = 10 dB.
- Systems under abnormal conditions may increase the noise level, people in the vicinity of the product [cabinet] for extended periods of time should consider wearing hearing protection or using other means to reduce noise exposure.

Emissions Classification (EMC) – Regulatory Information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products.

Environment-friendly products and approach - end-of-life management and recycling

End-of-life product return, trade-in, and recycling programs are available in many geographic areas. Products that are returned will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is available online and the instructions may be used by recyclers and other WEEE treatment facilities who integrate and re-sell Hitachi Vantara equipment.

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