

Overview

HPE Apollo 4200 Gen9 Server

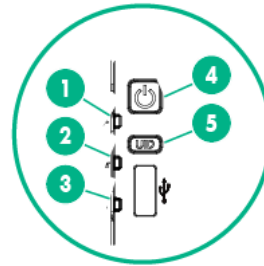
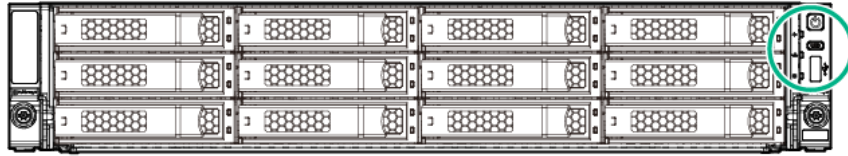
Are you ready to compete in the Big Data arena by making the leap into enterprise-class server storage architecture?

The HPE Apollo 4200 Gen9 Server offers revolutionary storage density in a 2U form factor, with more than double the storage capacity of competitors. If you are running object storage, Hadoop, content delivery, or other data intensive workloads on general purpose servers, the HPE Apollo 4200 Gen9 Server allows you to save valuable data center space through its unique density optimized 2U form factor which holds up to 28 LFF or 54 SFF hot plug drives.



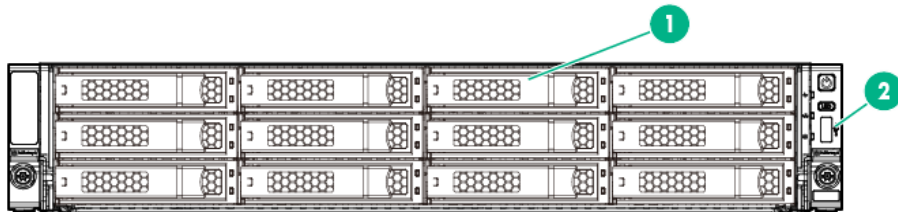
HPE Apollo 4200 Gen9 Server

Overview



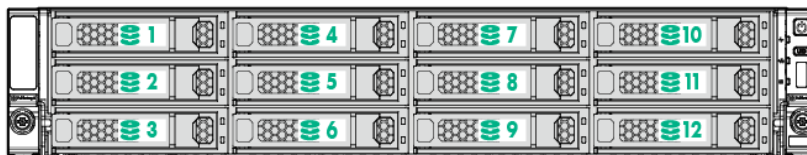
Front panel LEDs and buttons

- | | | | |
|---|----------------|---|--|
| 1 | Health LED | 3 | Front drive health/thermal LED |
| 2 | NIC status LED | 4 | Power On/Standby button and system power LED |
| 5 | UID button/LED | | |



Front View – LFF Chassis

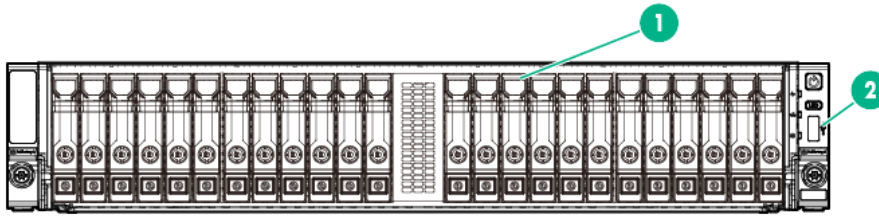
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|---|---------------------|---|-------------------|
| 1 | LFF hot-plug drives | 2 | USB 2.0 connector |
|---|---------------------|---|-------------------|



Drive numbering – LFF Chassis

- | | | | |
|-------|-------------------------|--------|--------------------------|
| 1-12. | Front row of LFF drives | 13-24. | Second row of LFF drives |
|-------|-------------------------|--------|--------------------------|

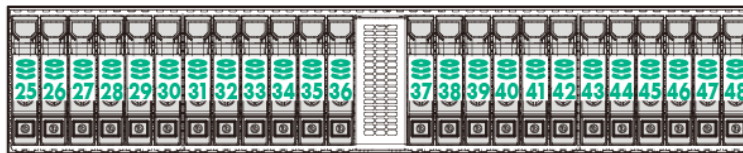
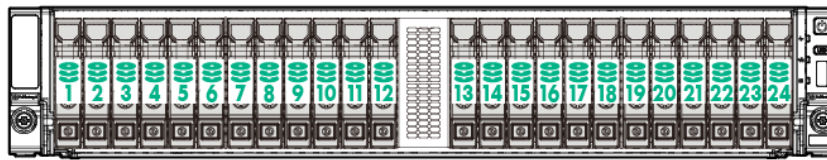
Overview



Front View – SFF Chassis

1 SFF hot-plug drives

2 USB 2.0 connector

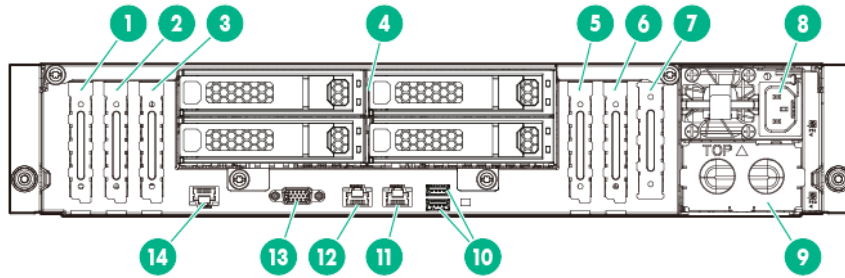


Drive numbering – SFF Chassis

1-24. Front row of SFF drives

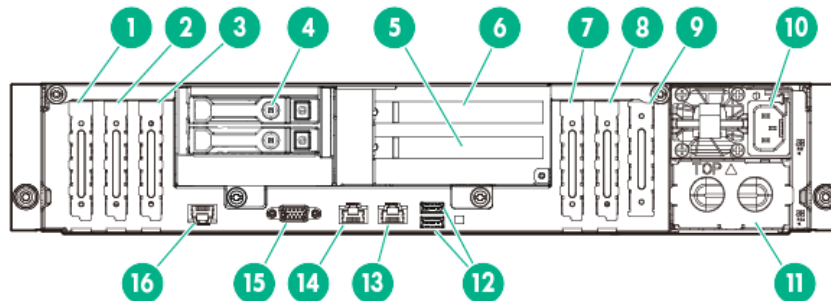
25-48. Second row of SFF drives

Overview



Rear view with rear LFF Rear HDD cage Kit (LFF Model only)

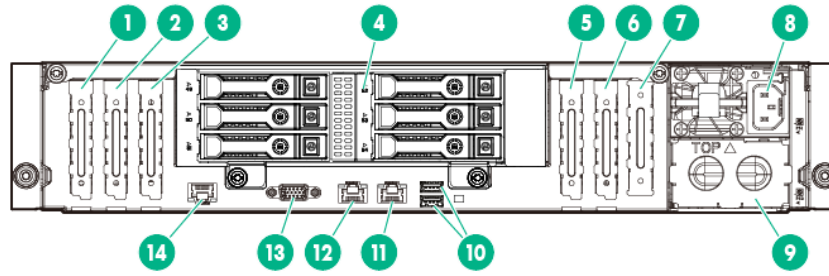
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|----|--------------------------------|-----|---|
| 1. | PCIe3 x16 (16, 8, 4, 1) Slot 7 | 8. | Hot-plug power supply bay 1 |
| 2. | PCIe3 x8 (8, 4, 1) Slot 6 | 9. | Hot-plug power supply bay 2 |
| 3. | PCIe3 x16 (16, 8, 4, 1) Slot 5 | 10. | USB 3.0 connectors |
| 4. | LFF hot-plug drives | 11. | NIC 1/shared iLO connector |
| 5. | PCIe3 x16 (16, 8, 4, 1) Slot 2 | 12. | NIC connector 2 |
| 6. | PCIe3 x8 (8, 4, 1) Slot 1 | 13. | Video connector |
| 7. | FlexibleLOM slot | 14. | Dedicated iLO management connector (optional) |



Rear view with 2SFF and 2FHHL Kit

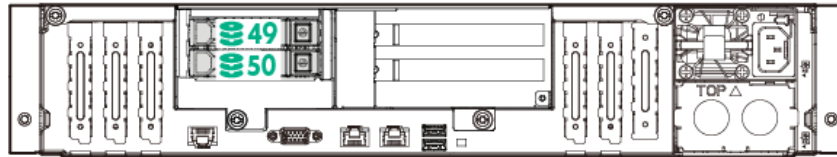
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|----|--|-----|---|
| 1. | PCIe3 x16 (16, 8, 4, 1) Slot 7 | 9. | FlexibleLOM slot |
| 2. | PCIe3 x8 (8, 4, 1) Slot 6 | 10. | Hot-plug power supply bay 1 |
| 3. | PCIe3 x16 (16, 8, 4, 1) Slot 5 | 11. | Hot-plug power supply bay 2 |
| 4. | SFF hot-plug drives | 12. | USB 3.0 connectors |
| 5. | PCIe3 x8 (8, 4, 1) Slot 4 | 13. | NIC 1/shared iLO connector |
| 6. | PCIe3 x8 (8, 4, 1) Slot 3 | 14. | NIC connector 2 |
| 7. | PCIe3 Slot 2 for riser cage of slot 3 and slot 4 (no slot available) | 15. | Video connector |
| 8. | PCIe3 x8 (8, 4, 1) Slot 1 | 16. | Dedicated iLO management connector (optional) |

Overview

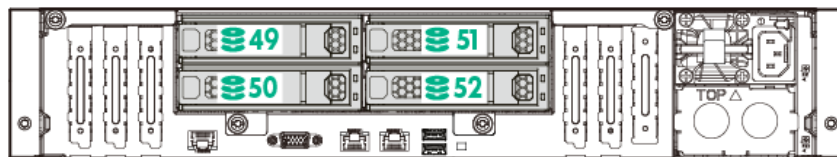


Rear view with 6SFF Rear HDD Cage

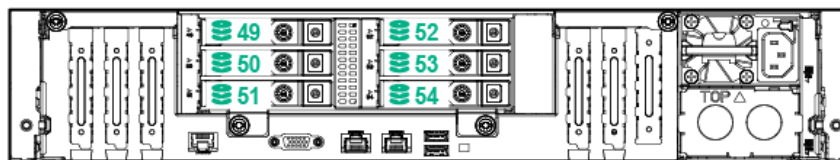
- | | |
|----------------------------------|---|
| 1. PCIe x16 (16, 8, 4, 1) Slot 7 | 8. Hot-plug power supply bay 1 |
| 2. PCIe x8 (8, 4, 1) Slot 6 | 9. Hot-plug power supply bay 2 |
| 3. PCIe x16 (16, 8, 4, 1) Slot 5 | 10. USB 3.0 connectors |
| 4. SFF hot-plug drives | 11. NIC 1/shared iLO connector |
| 5. PCIe x16 (16, 8, 4, 1) Slot 2 | 12. NIC connector 2 |
| 6. PCIe x8 (8, 4, 1) Slot 1 | 13. Video connector |
| 7. FlexibleLOM slot | 14. Dedicated iLO management connector (optional) |



Drive numbering – Two-bay SFF hot-plug rear drive numbering

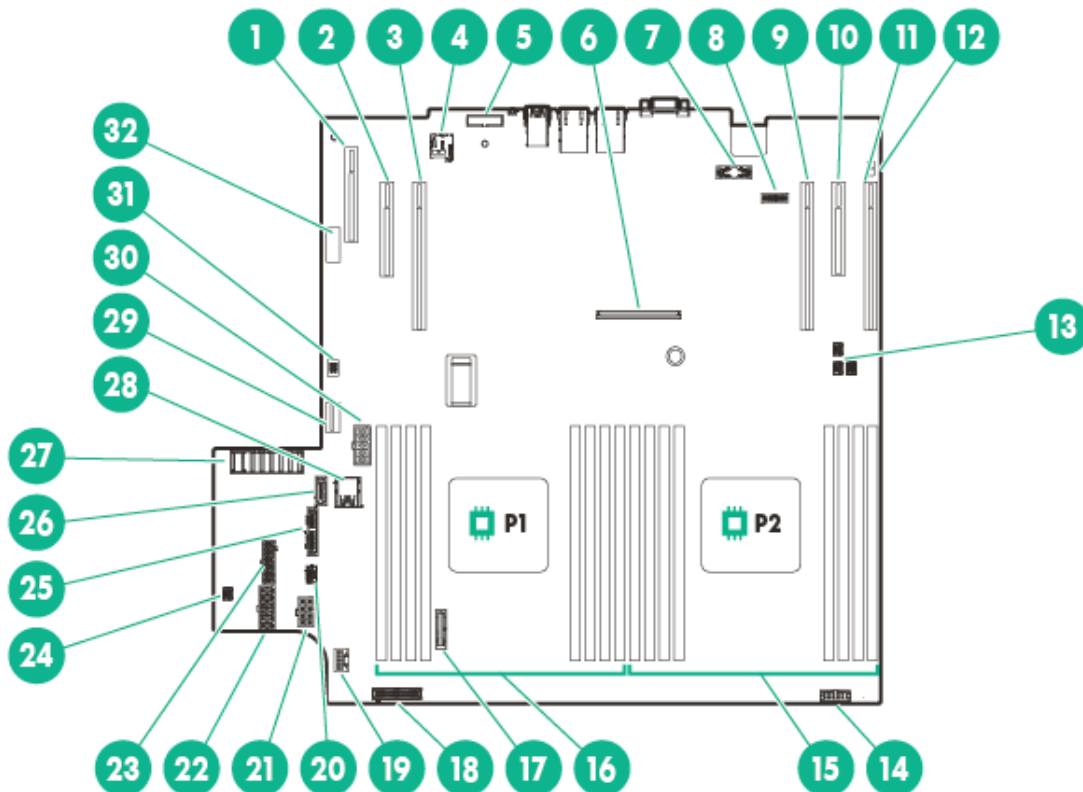


Drive numbering – Four-bay LFF hot-plug rear drive numbering



Drive numbering – Six-bay SFF hot-plug rear drive numbering

Overview



- | | |
|--|--|
| 1. FlexibleLOM Slot | 17. System battery |
| 2. PCIe3 x8 (8, 4, 1) slot 1 for low-profile, standup expansion board | 18. Fan signal connector |
| 3. PCIe3 x16 (16, 8, 4, 1) slot 2 for low-profile, standup expansion board or riser cage options | 19. HPE Smart Storage Battery connector |
| 4. microSD slot | 20. Rear SFF drive backplane detection connector |
| 5. TPM connector | 21. Fan power connector |
| 6. HPE Flexible Smart Array Controller slot | 22. Front drive cage 2 backplane power connector |
| 7. Dedicated iLO management module connector | 23. Front drive cage 1 backplane power connector |
| 8. System maintenance switch | 24. Storage backup power connector for expansion slots 1-2 |
| 9. PCIe3 x16 (16, 8, 4, 1) slot 5 for low-profile, standup expansion board | 25. SATA 6Gb/s connector 4 |
| 10. PCIe3 x8 (8, 4, 1) slot 6 for low-profile, standup expansion board | 26. SATA 6Gb/s connector 5 |
| 11. PCIe3 x16 (16, 8, 4, 1) slot 7 for low-profile, standup expansion board | 27. Power pass-through board connector |
| 12. NMI header | 28. Internal USB 3.0 connector |
| 13. Storage backup power connectors for expansion slots 3-7 | 29. SATA x4 connector 1 |
| 14. Front I/O connector | 30. Rear drive cage backplane power connector |
| 15. Processor 2 DIMM slots | 31. Front USB 2.0 connector |
| 16. Processor 1 DIMM slots | 32. 6SFF backplane sideband connector |

Standard Features

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

Processor Up to two of the following depending on model

Model	CPU frequency	Cores	L3 Cache	Power	QPI	DDR4 Hz
E5-2699v3	2.3GHz	18	45MB	145W	9.6GT/s	2133
E5-2698v3	2.3GHz	16	40MB	135W	9.6GT/s	2133
E5-2697v3	2.6GHz	14	35MB	145W	9.6GT/s	2133
E5-2695v3	2.3GHz	14	35MB	120W	9.6GT/s	2133
E5-2690v3	2.6GHz	12	30MB	135W	9.6GT/s	2133
E5-2683v3	2.0GHz	14	35MB	120W	9.6GT/s	2133
E5-2680v3	2.5GHz	12	30MB	120W	9.6GT/s	2133
E5-2670v3	2.3GHz	12	30MB	120W	9.6GT/s	2133
E5-2667v3	3.2GHz	8	20MB	135W	9.6GT/s	2133
E5-2660v3	2.6GHz	10	25MB	105W	9.6GT/s	2133
E5-2650v3	2.3GHz	10	25MB	105W	9.6GT/s	2133
E5-2650Lv3	1.8GHz	12	30MB	65W	9.6GT/s	2133
E5-2643v3	3.4GHz	6	20MB	135W	9.6GT/s	2133
E5-2640v3	2.6GHz	8	20MB	90W	8.0GT/s	1866
E5-2637v3	3.5GHz	4	15MB	135W	9.6GT/s	2133
E5-2630v3	2.4Ghz	8	20MB	85W	8.0GT/s	1866
E5-2630Lv3	1.8GHz	8	20MB	55W	8.0GT/s	1866
E5-2623v3	3.0GHz	4	10MB	105W	8.0GT/s	1866
E5-2620v3	2.4GHz	6	15MB	85W	8.0GT/s	1866
E5-2609v3	1.9GHz	6	15MB	85W	6.4GT/s	1600
E5-2603v3	1.6GHz	6	15MB	85W	6.4GT/s	1600
E5-2699v4	2.2GHz	22	55MB	145W	9.6GT/s	2400
E5-2698v4	2.2GHz	20	50MB	135W	9.6GT/s	2400
E5-2697v4	2.3GHz	18	45MB	145W	9.6GT/s	2400
E5-2697Av4	2.6GHz	16	40MB	145W	9.6GT/s	2400
E5-2695v4	2.1GHz	18	45MB	120W	9.6GT/s	2400
E5-2690v4	2.6GHz	14	35MB	135W	9.6GT/s	2400
E5-2683v4	2.1GHz	16	40MB	120W	9.6GT/s	2400
E5-2680v4	2.4GHz	14	35MB	120W	9.6GT/s	2400
E5-2667v4	3.2GHz	8	25MB	135W	9.6GT/s	2400
E5-2660v4	2.0GHz	14	35MB	105W	9.6GT/s	2400
E5-2650v4	2.2GHz	12	30MB	105W	9.6GT/s	2400
E5-2650Lv4	1.7GHz	14	35MB	65W	9.6GT/s	2400
E5-2643v4	3.4GHz	6	20MB	135W	9.6GT/s	2400
E5-2640v4	2.4GHz	10	25MB	90W	8.0GT/s	2133
E5-2637v4	3.5GHz	4	15MB	135W	9.6GT/s	2400
E5-2630v4	2.2Ghz	10	25MB	85W	8.0GT/s	2133
E5-2630Lv4	1.8GHz	10	25MB	55W	8.0GT/s	2133
E5-2623v4	2.6GHz	4	10MB	85W	9.6GT/s	2133
E5-2620v4	2.1GHz	8	20MB	85W	8.0GT/s	2133
E5-2609v4	1.7GHz	8	20MB	85W	6.4GT/s	1866
E5-2603v4	1.7GHz	6	15MB	85W	6.4GT/s	1866

Standard Features

Chipset

Intel® C610 Series Chipset
 Intel® E5-2600v3 Processor Family
 Intel® E5-2600v4 Processor Family

NOTE: For more information regarding Intel chipsets, please see the following URL:

<http://www.intel.com/products/server/chipsets/>.

On System Management Chipset

HPE iLO (Firmware HPE iLO4 2.0) 2GB NAND

NOTE: Read and learn more in the iLO QuickSpecs.

<https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=c04154343>

Motherboard

HPE ProLiant XL420 Gen9 Server

NOTE: As a reminder that the Apollo 4200 Gen9 Server offers familiar management tools, the motherboard carries a ProLiant name.

NOTE: In boot-up, the “HPE ProLiant XL420 Gen9 Server” name will appear.

NOTE: The official product name remains HPE Apollo 4200 Gen9 Server, while the motherboard name is “HPE ProLiant XL420 Gen9 Server”

Memory Protection	Advanced ECC	Advanced ECC uses single device data correction to detect and correct single and all multibit error that occurs within a single DRAM chip.
	Online spare	Memory online spare mode detects a rank that is degrading and switches operation to the spare rank.

Expansion Slots

CPU1, (Standard)	Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
	1	PCIe 3.0	x8	X8	Low profile	Proc 1
	2	PCIe 3.0	x16	x16	Low profile	Proc 1

Slots with 2 PCIe FHHL riser (CPU1) (Optional 2SFF and 2 FHHL Kit: (806564-B21))	Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
	3	PCIe 3.0	X8	x8	Full-height, half-length slot	Proc 1
	4	PCIe 3.0	X8	X8	Full-height, half-length slot	Proc 1

NOTE: Using optional FHHL kit (PN: 806564-B21), the two PCIe slots (slots 3 and 4) are available by using slot 2 as a standup expansion slot, so slot 2 is not available.

NOTE: PCIe slots 1-4 are associated with processor 1.

CPU 2 (Optional)	Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
	5	PCIe 3.0	x16	x16	Low Profile	Proc 2
	6	PCIe 3.0	x8	x8	Low Profile	Proc 2
	7	PCIe 3.0	X16	X16	Low Profile	Proc 2

Standard Features

Storage Controller HPE Flexible Smart Array P840ar/2G FIO Controller
 Embedded HPE Dynamic Smart Array B140i Controller
 Controllers

NOTE: The P840ar is embedded in the chassis by default, including the HPE Smart Storage Battery.
NOTE: The embedded B140i controller will operate in UEFI only mode. For legacy support an additional controller will be needed, and for CTO orders please also select the Legacy mode settings part, 758959-B22.
NOTE: The B140i defaults to AHCI off the chipset. Smart Array needs to be enabled on the SATA-only models, if required.
NOTE: The B140i will not operate in Legacy mode.

Internal Storage Devices 48 SFF plus optional 2 SFF drives rear or 6 SFF drivers rear
 24 LFF plus optional 4 LFF drives rear, 2 SFF drives rear, or 6 SFF drivers rear
 One of the following depending on model

NOTE: HPE Apollo 4200 Gen9 2SFF and 2FHHL Kit (806564-B21) and HPE Apollo 4200 Gen9 6 SFF Rear Hard Drive Cage Kit (838833-B21) are available for the SFF and LFF models. When using with LFF models, it cannot support HPE 2nd Cage Controller Mode for Rear Storage (813546-B21)
NOTE: HPE Apollo 4200 Gen9 LFF Rear HDD Cge Kit (806563-B21) supports an additional 4 LFF drives and is available only for the LFF model.
CAUTION: Do not operate the server with any of the rear drive cage bays empty. To maintain proper airflow and sufficient cooling in the rear drive cage, all drive bays in this cage should have a drive or a drive blank. Hewlett Packard Enterprise recommends installing at least one drive in the rear drive cage before operating the Apollo 4200.

SFF Model	CAPACITY	CONFIGURATION
Hot Plug SFF SAS	129.6TB	48+6 x 2.4TB (with optional rear SFF drive cage)
Hot Plug SFF SAS SSD	740TB	48 x 15.3TB + 6 x 960GB (with optional rear SFF drive cage)
Hot Plug SFF SATA	108TB	48+6 x 2TB (with optional SFF drive cage)
Hot Plug SFF SATA SSD	414.72TB	48+6 x 7.68TB (with optional SFF drive cage)
LFF Model	CAPACITY	CONFIGURATION
Hot Plug LFF SAS	392TB	24+4 x 14TB (with optional rear LFF drive cage)
Hot Plug LFF SAS SSD	41.5TB	24 x 1.6TB + 4 x 800GB (with optional rear LFF drive cage)
Hot Plug LFF SATA	392TB	24+4 x 14TB (with optional rear LFF drive cage)
Hot Plug LFF SATA SSD	53.76TB	24+4 x 1.92TB (with optional rear LFF drive cage)

Power Supply

HPE 800W Flex Slot Platinum Hot Plug Power Supply
 HPE 1400W Flex Slot Platinum Plus Hot Plug Power Supply
 HPE 800W Flex Slot Titanium Hot Plug Power Supply Kit
 HPE 800W Flex Slot Universal Hot Plug Power Supply Kit
 HPE 800W Flex Slot 48VDC Hot Plug Power Supply Kit

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen9 Performance 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.

All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (AOK02A). This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the **ProLiant Power Cables** web page.

To review the power requirements for your selected system, please use the HPE Power Advisor Tool located at <http://www.hpe.com/info/hppoweradvisor>

Power specifications and technical content for all HPE Server power supplies can be found at <http://www.hpe.com/info/proliant/powersupply>

Standard Features

System Fans	Non-redundant	Redundant
When 1 Processor is selected	4 fans	8 fans
When 2 Processors are selected	5 fans	10 fans

NOTE: 1P models typically ship with 4 standard fans. The second processor option kit contains 1 additional fan.

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) will ship 5 fans for redundant function

NOTE: 1P CTO model with HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) will be shipped with 8 fans installed and 1 spare fan in the carton for the future upgrade to 2 processors.

Interfaces

Video	1 rear VGA
FlexibleLOM Network Ports	2 x 1Gb ports shipping standard with optional FlexibleLOM
HPE iLO Remote Management Network Port	Shared (Optional 1 Gb HPE Apollo 4200 Gen9 Dedicated iLO Management Port Kit 806565-B2)
Micro SD Slot	1 Micro SD
USB 2.0	1 front
USB 3.0	2 rear, 1 internal

Operating Systems and Virtualization Software Support for ProLiant Servers

Microsoft Windows Server

Canonical Ubuntu

Red Hat Enterprise Linux (RHEL)

SUSE Linux Enterprise Server (SLES)

VMware

NOTE: For more information on the HPE Certified and Supported ProLiant Servers for OS and Virtualization Software and latest list of software drivers available for your server, please visit our Support Matrix at: <http://www.hpe.com/go/ossupport> and our download page: <http://h20566.www2.hpe.com/portal/>

Upgradeability

Upgradeable to two processors (44 Cores)

NOTE: Processor upgrade available from Intel® Xeon® Processors E5-2600v3 or E5-2600v4. Please contact Hewlett Packard Enterprise Technology Sales <https://www.hpe.com/support> or your local Hewlett Packard Enterprise Re-seller.

- Up to 16 DIMM slots available for higher Memory capacity
- FlexibleLOM connector for 1 Gigabit or 10 Gigabit networking options
- HPE Flexible Smart Array or Smart HBA Controllers
- Embedded rear 6-Port SATA, B140i as standard
- Optional 2 PCIe slot riser (x8, x8)

NOTE: To utilize PCIe slots 3 and 4, riser kit must be purchased

NOTE: To take advantage of the additional 3 PCIe slot upgrade, the second processor must be installed.

- Optional 4LFF kit in rear, 2SFF+2FHHL PCIe kit, or 6SFF kit
- Redundant Power Supply
- HPE Legacy Mode (FIO only, 758959-B22)

NOTE: UEFI is the default mode for CTO and BTO SKUs. Can change default to legacy via CTO.

Standard Features

Industry Standard Compliance

ACPI 2.0b Compliant
PCIe 3.0 Compliant
PXE Support
WOL Support
Microsoft® Logo certifications
USB 3.0 Support
USB 2.0 Support
ASHRAE A3

NOTE: For additional technical thermal details regarding ambient temperatures, humidity and features support please visit: <http://www.hpe.com/servers/ashrae>

UEFI (Unified Extensible Firmware Interface Forum)

NOTE: UEFI is the default for the HPE Apollo 4200 Gen9. Legacy model can be selected in the field or as a CTO option (758959-B22).

Graphics

Integrated Matrox G200eH2 video standard with 16MB of Video RAM

- 1280 x 1024 (32 bpp)
- 1920 x 1200 (16 bpp)

HPE iLO 4 On System Management Memory

- 16 MB Flash
 - 128 MB DDR3
-

HPE Server UEFI/Legacy ROM

HPE Server UEFI /Legacy ROM

Unified Extensible Firmware Interface (UEFI) is an industry standard that provides better manageability and more secured configuration while interacting with your server at boot time. HPE Gen9 platform defaults to UEFI and can be field configured for Legacy BIOS Boot Mode.

NOTE: The UEFI System Utilities function is analogous to the HPE ROM-Based Setup Utility (RBSU) of legacy BIOS. For more information, please visit <http://www.hpe.com/go/proliantuefi/docs>

UEFI enables numerous new capabilities specific to Hewlett Packard Enterprise servers such as:

- Secure Boot
- Operating system specific functionality
- Support for > 2.2 TB (using GPT) boot drives
- USB 3.0 Stack
- Embedded UEFI Shell
- Mass Configuration Deployment Tool using HPE RESTful API.
- PXE boot support for IPv6 networks
- Boot support for option cards that only support a UEFI option ROM

For more information please visit <http://www.hpe.com/go/proliant/uefi>

NOTE: For UEFI Boot Mode, boot environment and OS image installations should be configured properly to support UEFI.

NOTE: HPE Legacy FIO Mode Setting (758959-B22) can be selected to configure the system in Legacy mode in the factory.

Form Factor

2U Rack form factor
LFF and SFF Drive Bay Versions:
3.44 in x 17.63 in x 32 in (8.75cm x 44.8 cm x 81.28 cm)

NOTE: Dimensions without bezel.

Standard Features

Embedded Management	HPE Integrated Lights-Out (HPE iLO)	Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO. Learn more at https://www.hpe.com/us/en/servers/integrated-lights-out-ilo.html .
	UEFI	Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI). Learn more at http://www.hpe.com/go/proliant/uefi
	RESTful API	A single programmatic web interface that allows you to manage and monitor your server infrastructure using basic HTTP operations (GET, PUT, POST, DELETE and PATCH). RESTful API for iLO 4 conforms to the Redfish 1.0 DMTF standard (iLO firmware version v2.30 or higher required for Redfish conformance). For more details visit: https://www.hpe.com/us/en/servers/restful-api.html .
	Intelligent Provisioning	Provision servers by discovering and deploying 1 to few servers with Intelligent Provisioning. Learn more at https://www.hpe.com/us/en/product-catalog/detail/pip.5219984.html .
	Embedded Remote Support	Hewlett Packard Enterprise embedded remote support, used with Insight Online direct connect or HPE Insight Remote Support, allows HPE ProLiant servers to transmit hardware events directly to Hewlett Packard Enterprise or a Hewlett Packard Enterprise Authorized Partner for automated phone home support. Learn more at https://www.hpe.com/us/en/servers/management.html .
Server Utilities	Smart Update	Optimize firmware and driver updates with Smart Update solutions including Smart Update Manager (SUM) and Service Pack for ProLiant (SPP). Learn more at https://www.hpe.com/us/en/product-catalog/detail/pip.5182020.html .
	HPE Systems Insight Manager (HPE SIM)	HPE SIM allows you to monitor the health of your HPE ProLiant Servers and HPE Integrity Servers, and also provides you with basic support for non-Hewlett Packard Enterprise servers. HPE SIM also integrates with SUM to provide quick and seamless firmware updates. Learn more at https://www.hpe.com/us/en/product-catalog/detail/pip.489496.html .
	Scripting Tool Kit and Windows PowerShell	Provision 1 to many servers using your own scripts to discover and deploy them with Scripting Tool Kit for Windows and Linux or Scripting Tools for Windows PowerShell. Learn more at https://www.hpe.com/us/en/product-catalog/detail/pip.5219389.html
	RESTful Interface Tool	Scripting tool to provision servers using iLO 4 RESTful API to discover and deploy servers at scale. Learn more at https://www.hpe.com/us/en/product-catalog/detail/pip.7630408.html
	HPE iLO Mobile Application	Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: https://www.hpe.com/us/en/servers/integrated-lights-out-ilo.html .
	HPE Insight Online	HPE Insight Online, available at no additional cost as part of your Hewlett Packard Enterprise warranty, Care Pack or contractual support agreement with Hewlett Packard Enterprise, is a personalized dashboard for simplified tracking of IT operations and support information from anywhere, anytime. Learn more at https://www.hpe.com/us/en/servers/management.html .

Standard Features

Security

Power-on password

Serial interface control

Administrator's password

UEFI

iLO 4 (Integrated Lights-Out 4) has 12 customizable user accounts and SSL encryption

Integrated Lights-Out can be disabled via a Global Setting

iLO Advanced supports directory services integration

TPM 1.2 or 2.0

Warranty

This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise

Enterprise Services and a worldwide network of Hewlett Packard Enterprise

Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Pointnext operational services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

NOTE: Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise

Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:

<http://h20564.www2.hpe.com/hpsc/wc/public/home>

NOTE: In Asia Pacific, Japan and China, Server Warranty includes 3 year Parts, 3 year Labor, 3-year On-site support with next business day response

Optional Features

Embedded Management

iLO Advanced

HPE iLO Advanced licenses offer smart remote functionality without compromise, for all HPE ProLiant servers. The license includes the full integrated remote console, virtual keyboard, video, and mouse (KVM), multi-user collaboration, console record and replay, and GUI-based and scripted virtual media and virtual folders. You can also activate the enhanced security and power management functionality. Learn more about HPE iLO Advanced at

<https://buy.hpe.com/b2c/us/en/enterprise-software/server-management-software/server-ilo-management/ilo-licenses/hpe-ilo-advanced/p/332279>

Server Management

HPE Insight Control

HPE Insight Control, lets you deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. For more information, see <https://www.hpe.com/us/en/servers/management.html>

HPE Insight Cluster Management Utility (CMU)

HPE Insight Cluster Management Utility is an hyperscale-optimized management framework that includes software for the provisioning, control, performance management and monitoring of groups of nodes and infrastructure. Learn more at <http://www.hpe.com/go/cmu>

Rack and Power Infrastructure

HPE Rack and Power Infrastructure products and services create highly efficient and intelligent solutions for existing or new IT data centers. HPE Rack and Power infrastructure solutions – rack infrastructure, power protection and management, performance optimized data centers (PODs) – are the foundation you are looking for to help secure your long-term IT success. These products are designed to help you react to changes in the industry. They deliver efficient, easy-to-use capabilities to manage, monitor, deploy and provision infrastructure from entry to enterprise. As an industry leader, Hewlett Packard Enterprise

Enterprise is uniquely positioned to address the key concerns of power, cooling, cable management and system access.

Learn more at [HPE Rack and Power Infrastructure](#)

High Performance Clusters

HPE Cluster Platforms are specifically engineered, factory-integrated large-scale ProLiant clusters optimized for High Performance Computing, with a choice of servers, networks and software. Operating system options include specially priced offerings for Red Hat Enterprise Linux and SUSE Linux Enterprise Server, as well as Microsoft Windows HPC Server. A Cluster Platform Configurator simplifies ordering. <https://buy.hpe.com/b2c/us/en/enterprise-software/high-performance-cluster-software/c/488486>

NOTE: High Performance Computing (HPC) interconnect technologies are available for this server as part of the HPE Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by Hewlett Packard Enterprise when integrated within an HPE cluster. Flexible, validated solutions can be defined with the help of configuration tools.

<http://www.hpe.com/techservers/clusters/ucp/index.html>

HPC Interconnects

NOTE: High Performance Computing (HPC) interconnect technologies are available for this server under the HPE Cluster Platform product portfolio. These high-speed interconnects are fully supported by Hewlett Packard Enterprise when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand Interconnects:

<http://www.hpe.com/techservers/clusters/ucp/index.html>

Optional Features

Storage Software

Whether you need to solve a specific data protection, archiving, or storage command and control challenge, or deliver on strategic consolidation, compliance, or continuity initiatives, look no further than HPE storage software. Our storage software helps you reduce costs, simplify storage infrastructure, protect vital assets and respond faster to business opportunities.

Storage software that gets the job done:

- **Data Protection and Recovery Software**

Whether you're a large enterprise or a smaller business, Hewlett Packard Enterprise data protection and recovery software will effectively protect you against disaster and ensure business continuity.

- **Data Archive and Migration Software**

The HPE storage software enables you to comply with data retention and retrieval requirements, improve application performance and reduce costs by efficiently migrating infrequently accessed or less valuable data to lower cost storage.

- **Storage Resource Management Software (SRM)**

The HPE storage resource management software reduces operational costs and provides the command and control foundation you need to efficiently manage and visualize your physical and virtual environments.

- **Data Replication Software**

Hewlett Packard Enterprise offers array-based and host-based replication software for use in disaster recovery, testing, application development and reporting.

- **Storage Device Management Software**

Maximize your investment in HPE storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.

- **HPE StoreVirtual VSA**

With HPE StoreVirtual VSA you can use the power of virtualization to create a virtual array within your host server. Manage it as a single pool of shared storage capacity, and scale it to match your evolving needs. HPE ProLiant Gen9 servers include a 3-year limited license for HPE StoreVirtual VSA software with 1TB of capacity at no extra cost. Simply select to install HPE StoreVirtual VSA software during server setup within Intelligent Provisioning. More information, instructional videos, and free console management software available at <http://www.hpe.com/go/vsa1TB>

NOTE: For more information about Storage Software including QuickSpecs, please see: <http://www.hpe.com/go/storage/software>

One Config Simple (SCE)

SCE is a guided self-service tool to help sales and non-technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" or configuration for products not available in SCE, please contact the HPE Customer Business Center or an Authorized Partner for assistance. <http://www.hpe.com/products/configurator>

Service and Support

Service and Support

HPE Technology Services for Industry Standard Servers

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HPE Pointnext operational services

HPE Pointnext operational services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the selected support.

Optimized Care

Supports maintaining servers at optimum performance availability

HPE Proactive Care with 24x7 coverage, three year Care Pack Service

HPE Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to Hewlett Packard Enterprise. This Care Pack Service combines three years' proactive reporting and advice with our 24x7 coverage and enhanced escalation management, four hour hardware response time and two hour call back for software questions on leading industry standard software running on your HPE ProLiant server.

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

Standard Care Package

Supports maintaining high level of server availability

HPE Proactive Care with 6 hour call-to-repair commitment, three year Care Pack Service

HPE Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice when your products are connected to Hewlett Packard Enterprise. This Service combines three years' proactive reporting and advice with our highest level reactive coverage - Hewlett Packard Enterprise 24x7, six hour hardware call-to-repair. Hewlett Packard Enterprise is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers. Service includes collaborative software support for Independent Software Vendors software (Red Hat, VMWare, Microsoft, etc.) running on your HPE ProLiant/Apollo server.

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

Related Services

HPE Server Hardware Installation

Provides for the basic hardware installation of Hewlett Packard Enterprise branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner

<https://www.hpe.com/h20195/V2/GetPDF.aspx/5981-9356EN.pdf>

Data Privacy – protect your data through better media management. Hewlett Packard Enterprise data privacy services help manage and protect sensitive data to reduce the risk of unauthorized access to private information and help meet compliance requirements. Our retention services allow you to keep drives and other devices upon failure, our removal services provide convenient data sanitization and our recovery services allow you to safely retire IT assets and capture any remaining value from the hardware. <https://www.hpe.com/us/en/services/platform-consulting-services.html>

Service and Support

Factory Express for Servers and storage

HPE Factory Express offers configuration, customization, integration and deployment services for Hewlett Packard Enterprise servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. Hewlett Packard Enterprise products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE Apollo, HPE ProLiant Server Blades, HPE BladeSystem, HPE 9000 servers as well as the MSAXxx3PAR suite, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: <http://www.hpe.com/info/factoryexpress>

HPE StoreEver MSL 1/8 G2 0-drive Tape Autoloader

R1R75A

Additional HPE Pointnext operational services can be found at: <http://h20565.www2.hpe.com/portal/site/hpsc/>

Connect your devices to Hewlett Packard Enterprise

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77% reduction in down time, near 100% diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to Hewlett Packard Enterprise support.

HPE Support Center

Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers. Learn more <http://h20565.www2.hpe.com/portal/site/hpsc/>

HPE Support Center Mobile App** allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, Care Pack or Hewlett Packard Enterprise contractual support agreement.

** HPE Support Center Mobile App is subject to local availability

Parts and Materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

For more information

To learn more on HPE ProLiant servers, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner.

Pre-configured Models

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.

Hewlett Packard Enterprise does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.

If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs. Not all models are available in all regions. Check with your local country Hewlett Packard Enterprise offices for availability.

NOTE: All Pre-configured Models come populated with some hard drive blanks installed. Should the customer need additional hard drive blanks, they can order more using either P/N 666987-B21: HPE SFF Hard Drive Blank Kit or P/N 807878-B21: HPE LFF Hard Drive Blank Kit.

NOTE: All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the ProLiant Power Cables web page.

CAUTION: Hewlett Packard Enterprise recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

- BTO SFF Model
- BTO LFF Model
- [SKU Number]
- 806357-B21
- 806356-B21
- Model Name
- HPE Apollo 4200 Gen9 E5-2620v3 SFF Server
- HPE Apollo 4200 Gen9 E5-2620v3 LFF Server
- Processor
- Intel® Xeon® E5-2620v3
- Intel® Xeon® E5-2620v3
- Number of Processors
- One
- Memory
- 16GB (1x16GB Registered DIMMs, 2133 MHz)

NOTE: With the E5-2620v3 this memory DIMM will only operate at 1866MHz 16GB (1x16GB Registered DIMMs, 2133 MHz).

NOTE: With the E5-2620v3 this memory DIMM will only operate at 1866MHz Network Controller.

- HPE Embedded 1Gb Ethernet 2-port 361i Adapter
- Storage Controller
- HPE Flexible Smart Array P840ar/2G Controller
- HPE Flexible Smart Array P840ar/2G Controller
- Hard Drive
- None ship standard
- 22SFF hard drive blanks
- None ship standard
- 10 LFF hard drive blanks
- Internal Storage
- 48 SFF HDD Bays and optional 2SFF Rear Cage Kit or 6SFF Rear Cage Kit
- 28 LFF HDD Bays and optional 4LFF Rear Cage Kit, 2SFF Rear Cage Kit, or 6SFF Rear Cage Kit
- PCI-Express Slots
- 2 PCIe slots and FlexibleLOM (+3 PCIe slots available with upgrade to second processor and optional 2 FHHL slots available with purchase of 2SFF and 2FHHL Rear Cage Kit)
- 2 PCIe slots and FlexibleLOM (+3 PCIe slots available with upgrade to second processor)

Pre-configured Models

- Power Supply
 - HPE 1400W Flex Slot Platinum Power Supply
 - HPE 1400W Flex Slot Platinum Power Supply
 - Fans
 - 4 fans
 - 4 fans
 - Management
 - iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control (optional)
 - Form Factor
 - Rack (2U)
 - Rack (2U)
 - Warranty
 - Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response
 - BTO SFF Model
 - BTO LFF Model
 - [SKU Number]
 - 849879-B21
 - 849878-B21
 - Model Name
 - HPE Apollo 4200 Gen9 E5-2620v4 SFF Server
 - HPE Apollo 4200 Gen9 E5-2620v4 LFF Server
 - Processor
 - Intel® Xeon® E5-2620v4
 - Intel® Xeon® E5-2620v4
 - Number of Processors
 - One
 - Memory
 - 16GB (1x16GB Registered DIMMs, 2400 MHz)
- NOTE:** With the E5-2620v4 this memory DIMM will only operate at 2133MHz 16GB (1x16GB Registered DIMMs, 2400 MHz).
- NOTE:** With the E5-2620v4 this memory DIMM will only operate at 2133MHz.
- Network Controller
 - HPE Embedded 1Gb Ethernet 2-port 361i Adapter
 - Storage Controller
 - HPE Flexible Smart Array P840ar/2G Controller
 - HPE Flexible Smart Array P840ar/2G Controller
 - Hard Drive
 - None ship standard
 - 22SFF hard drive blanks
 - None ship standard
 - 10 LFF hard drive blanks
 - Internal Storage
 - 48 SFF HDD Bays and optional 2SFF Rear Cage Kit or 6SFF Rear Cage Kit
 - 28 LFF HDD Bays and optional 4LFF Rear Cage Kit, 2SFF Rear Cage Kit, or 6SFF Rear Cage Kit
 - PCI-Express Slots
 - 2 PCIe slots and FlexibleLOM (+3 PCIe slots available with upgrade to second processor and optional 2 FHHL slots available with purchase of 2SFF and 2FHHL Rear Cage Kit)
 - 2 PCIe slots and FlexibleLOM (+3 PCIe slots available with upgrade to second processor)
 - Power Supply
 - HPE 1400W Flex Slot Platinum Power Supply
 - HPE 1400W Flex Slot Platinum Power Supply

Pre-configured Models

- Fans
- 4 fans
- 4 fans
- Management
- iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control (optional)

Form Factor

Rack (2U)

Rack (2U)

Warranty

Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response

NOTE: UEFI is the standard default for all Predefined models

Country Code Key

xx1 = B21

Worldwide

NOTE: The -B21 WW SKU is to be ordered in all countries other than Japan or PRC.

xx1 = 291

Japan

xx1 = AA1

PRC

Configuration Information - Factory Integrated Models

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of a Hewlett Packard Enterprise approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

- Factory Integrated Models must start with a CTO Server.
- 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.

Step 1: Base Configuration (choose one of the following configurable models)		
[Chassis]	HPE Apollo 4200 Gen9 LFF CTO Server	HPE Apollo 4200 Gen9 SFF CTO Server
SKU Number	808027-B21	808028-B21
Processor	2 (optional) x HPE Smart Socket Guide	
DIMM Slots	16 DIMM slots for RDIMM, LRDIMM DDR4 Memory	
Storage Controller	HPE Smart Array P840ar, plus HPE Dynamic Smart Array B140i , optional HPE Flexible Smart Array or Smart HBA controller	
PCIe	2 PCIe slots and FlexibleLOM (Plus FHHL Riser option+3 PCI slots available with upgrade to second processor)	
Drive Cage	24 LFF Hot Plug and optional 4LFF Rear Cage Kit, , 2SFF Rear Cage Kit, or 6SFF Rear Cage Kit	48 SFF Hot Plug and optional 2 SFF Rear Cage Kit or 6 SFF Rear Cage Kit
Network Controller	HPE Embedded 1Gb Ethernet 2-port 361i Adapter, plus optional HPE FlexibleLOM or stand up card	
Fans	4 fans standard for 1P, 5 fans standard for 2P, plus redundant fan option	4 fans standard for 1P, 5 fans standard for 2P, plus redundant fan option
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control (optional)	
USB	1 front, 2 rear, 1 internal	1 front, 2 rear, 1 internal

Step 2: Choose Required Options (only one of the following from each list unless otherwise noted)

HPE Processors

Select one or two processors from Core options-Processor section below,

If one processor is desired, select one xxxxxx-L21

- If two processors are desired, select one xxxxxx-L21 and one xxxxxx-B21.
- Up to 2 processors supported. Mixing different processor models is not supported.
- DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on quantity and type of DIMMs installed.
- For the Intel® C600 Chipset E5-2600 Series, the letter preceding the model number indicates the Pro Line (E3, E5, E7); 2600x v#, 2 = number of CPUs in a Node, 6 is socket/segment designation, 00 = Proce SKU, x = L for low power SKUs and v# (not yet designated) = version number.

Configuration Information - Factory Integrated Models

- HPE Memory** Select one or more memory from Core options-Memory section below,
- LRDIMM, RDIMM are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen9 servers support LRDIMM and RDIMM.
 - HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen9.
 - If only one processor is installed, only half of the total DIMM slots are available. When populating with two processors all DIMM slots are available.
 - Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: <http://www.hpe.com/go/proliant-energy-efficient>
 - Depending on the memory configuration and processor model, the memory speed may run at 2133MHz, 1866MHz, 1600MHz or 1333MHz. Please see Memory Population Table or the Online Memory Configuration Tool at: <http://www.hpe.com/servers/ddr4memoryconfig>
- HPE Power Supplies** Select one or more power supplies from Core Options-Power Supplies section below:
- Prior to selecting a power supply option, it is highly recommended that you review your server configuration in the HPE Power Advisor tool to determine the right size power supply for your server configuration. The HPE Power Advisor is located at: <http://www.hpe.com/info/hppoweradvisor>
 - Mixing of power supplies in the same server is not supported. All power supplies must be of the same input voltage, output rating, and efficiency rating. If non-matching power supplies are installed, you may receive an error message and/or experience operational issues with your server.

Step 3: Choose Additional Factory Integrable Options

- HPE Unique Options** Select one or more Unique options from Core options section below.
- This section may contain FIO options, please see the unique options section below.
 - FIO indicates that this option is only available as a factory installable option.
- HPE I/O Expansion Options** Select Riser Kit options from Core options section below.
- To take advantage of the additional PCI slot upgrade, the second processor must be installed.
 - This section may contain FIO options, please see HPE I/O Expansion Options section below.
 - FIO indicates that this option is only available as a factory installable option.
- HPE Drives** Select one or more drives from Core options-HPE Drives section below:
- The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.
 - Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.
 - The HPE ProLiant Gen9 Smart Storage solutions are equipped with re-designed Small Form Factor (SFF 2.5 in) and Large Form Factor (LFF 3.5 in) hot plug carriers for HPE Qualified Hard Drives and Solid State Drives. These new carriers provide status and activity indicators as well as caution indicators for "Do Not Remove".
- HPE Flexible LOM** Select a FlexibleLOM from Core options-Networking section below,
- Only one FlexibleLOM can be added to the server. These options are upgradeable and can be changed from the original configuration after the server is shipped.
 - For 10Gb adapters, a minimum of two Gigabytes (2 GB) of server memory is required per each adapter.
- HPE Networking** Select a standup NIC adapter from Core options-Networking section below,
- Please see the QuickSpecs for Technical Specifications and additional information:
 - <http://www.hpe.com/servers/ProLiantNICs>
 - These options are upgradeable and can be changed from the original configuration after the server is shipped.
 - For 10Gb adapters, a minimum of two Gigabytes (2 GB) of server memory is required per each adapter.
- HPE Storage Controllers** Select one or more Storage options from Additional options section below.
- The P840ar will be embedded by default in the server chassis.

Configuration Information - Factory Integrated Models

- The embedded B140i controller will operate in UEFI only mode. Legacy model can be selected in the field.
- This section may contain FIO options, please see HPE Storage Controllers section below.
- FIO indicates that this option is only available as a factory installable option.

HPE Cooling Options Select Fan Kit from Core options section below.

- This section may contain FIO options, please see HPE Cooling Options section below.
- FIO indicates that this option is only available as a factory installable option.
- Redundant fan kit available (806562-B21) to reach up 5 fans. However, 1P and 2P redundant SKUs are coupled with 8 fans and 10 fans respectively

NOTE: 1P CTO model with HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) will be shipped with 8 fans installed and 1 spare fan in the carton for the future upgrade to 2 processors.

- Fan count is shown below :
- 1P non-redundant : 4 fans
- 2P non-redundant : 5 fans
- 1P redundant : 8 fans
- 2P redundant : 10 fans

HPE Rail Kits Select one type of rail kit from Additional options section below.

- Please take a moment to review the installation documentation that comes with the server to help you with the installation of your Gen9 server.
- To assist in the installation of the server into the rack, an optional installation tool is available by contacting your local services representative (822731-B21).
- See HPE Rack Options in Additional Options section of this QuickSpecs for more rack kit choices.

CAUTION: Hewlett Packard Enterprise recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

Core Options

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of a Hewlett Packard Enterprise approved configurator. Contact your local sales representative for additional information.

HPE Unique Options

HPE Apollo 4200 Gen9 4 LFF Rear Hard Drive Cage Kit 806563-B21

NOTE: The LFF Rear HDD cage kit supports an additional four LFF drives.

NOTE: The LFF Rear HDD cage only applies to the LFF model.

CAUTION: Do not operate the server with any of the rear drive cage bays empty. To maintain proper airflow and sufficient cooling in the rear drive cage, all drive bays in this cage should have a drive or a drive blank. Hewlett Packard Enterprise recommends installing at least one drive in the rear drive cage before operating the Apollo 4200.

HPE Apollo 4200 Gen9 2 SFF and 2 Full Height Half Length Riser Kit 806564-B21

NOTE: This part supports an additional 2SFF drives and a riser that supports 2 full-height half-length PCIe slots.

NOTE: To access PCIe slots 3-4, this above 2SFF and 2FHHL Kit must be purchased

NOTE: Using optional FHHL kit (PN: 806564-B21), the two PCIe slots 3-4 are available by using slot 2 as a standup expansion slot.

CAUTION: Do not operate the server with any of the rear drive cage bays empty. To maintain proper airflow and sufficient cooling in the rear drive cage, all drive bays in this cage should have a drive or a drive blank. Hewlett Packard Enterprise recommends installing at least one drive in the rear drive cage before operating the Apollo 4200.

HPE Apollo 4200 Gen9 6 SFF Rear Hard Drive Cage Kit 838833-B21

NOTE: The 6SFF Rear HDD cage kit supports an additional six SFF drives.

NOTE: One of the below 6 FIO controller mode combinations is required when the 6SFF Rear HDD cage kit (838833-B21) is selected.

NOTE: When HPE 2nd HDD Cage FIO Controller Mode for Rear Storage (813546-B21) + HPE SATA B140i FIO Controller Mode for Rear Storage (813545-B21) is selected, the SFF Drive number 49-52 are under 2nd HDD cage controller and SFF Drive number 53-54 are under HPE SATA B140i Controller. The SFF Drive number 53-54 have to be SATA HDDs. This combination is for SFF model only.

NOTE: When HPE 2nd HDD Cage FIO Controller Mode for Rear Storage (813546-B21) + HPE SAS Smart HBA H240 FIO Controller Mode for Rear Storage (838827-B21) is selected, the SFF Drive number 49-52 are under 2nd HDD cage controller and SFF Drive number 53-54 are under optional HPE SAS Smart HBA H240 controller. The HPE H240 12Gb 2-ports Int Smart Host Bus Adapter (726907-B21) is required. This combination is for SFF model only.

NOTE: When HPE 2nd HDD Cage FIO Controller Mode for Rear Storage (813546-B21) + HPE SAS Smart Array P440 FIO Controller Mode for Rear Storage (838830-B21) is selected, the SFF Drive number 49-52 are under 2nd HDD cage controller and SFF Drive number 53-54 are under optional HPE SAS Smart Array P440 controller. The HPE Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller (726821-B21) is required. This combination is for SFF model only.

NOTE: When HPE SAS Smart HBA H240 FIO Controller Mode for Rear Storage (838827-B21) is selected only, all rear 6SFF HDDs are under optional HPE SAS Smart HBA H240 controller. The HPE H240 12Gb 2-ports Int Smart Host Bus Adapter (726907-B21) is required. This mode is for both LFF and SFF models.

NOTE: When HPE SAS Smart Array P440 FIO Controller Mode for Rear Storage (838830-B21) is selected only, all rear 6SFF HDDs are under optional HPE SAS Smart Array P440 controller. The HPE Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller (726821-B21) is required. This mode is for both LFF and SFF models.

NOTE: When HPE SATA B140i FIO Controller Mode for Rear Storage (813545-B21) is selected only, all rear 6SFF HDDs are under HPE SATA B140i controller. All the 6SFF Drives have to be SATA HDDs. This mode is for both LFF and SFF models.

CAUTION: Do not operate the server with any of the rear drive cage bays empty. To maintain proper airflow and sufficient cooling in the rear drive cage, all drive bays in this cage should have a drive or a drive blank. Hewlett Packard Enterprise recommends installing at least one drive in the rear drive cage before operating the Apollo 4200.

Core Options

HPE Apollo 4200 Gen9 Smart HBA H240 Rear Cable Kit	838823-B21
NOTE: This part is required when HPE H240 12Gb 2-ports Int Smart Host Bus Adapter (726907-B21) is selected.	
HPE Apollo 4200 Gen9 Smart Array P440 Rear Cable Kit	841374-B21
NOTE: This part is required when the rear HDDs are controlled by the optional HPE Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller (726821-B21).	
HPE SATA B140i FIO Controller Mode for Rear Storage	813545-B21
NOTE: Cannot be selected if P/N: 813546-B21, 838827-B21, 838830-B21, or P03845-B21 is selected with HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) or HPE Apollo 4200 Gen9 2SFF and 2FHHL Kit (806564-B21).	
NOTE: When one of the HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) or HPE Apollo 4200 Gen9 2SFF and 2FHHL Kit (806564-B21) is selected, one of the HPE SATA B140i Mode for Rear Storage (813545-B21), HPE 2nd HDD Cage FIO Controller Mode for Rear Storage (813546-B21), HPE SAS Smart HBA H240 FIO Controller Mode for Rear Storage (838827-B21), or HPE SAS Smart Array P440 FIO Controller Mode for Rear Storage (838830-B21) is required.	
NOTE: Can only be selected with SATA drives for rear HDDs.	
HPE 2nd Cage FIO Controller Mode for Rear Storage	813546-B21
NOTE: Cannot be selected if P/N: 813545-B21, 838827-B21, 838830-B21, or P03845-B21 is selected with HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) or HPE Apollo 4200 Gen9 2SFF and 2FHHL Kit (806564-B21).	
NOTE: When one of the HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) or HPE Apollo 4200 Gen9 2SFF and 2FHHL Kit (806564-B21) is selected, one of the HPE SATA B140i Mode for Rear Storage (813545-B21), HPE 2nd HDD Cage FIO Controller Mode for Rear Storage (813546-B21), HPE SAS Smart HBA H240 FIO Controller Mode for Rear Storage (838827-B21), or HPE SAS Smart Array P440 FIO Controller Mode for Rear Storage (838830-B21) is required.	
NOTE: The Rear HDDs will be under the same controller as the 2nd HDD cage when HPE 2nd HDD Cage FIO Controller Mode for Rear Storage (813546-B21) is selected.	
HPE SAS Smart HBA H240 FIO Controller Mode for Rear Storage	838827-B21
NOTE: Cannot be selected if P/N: 813545-B21, 813546-B21, 838830-B21, or P03845-B21 is selected with HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) or HPE Apollo 4200 Gen9 2SFF and 2FHHL Kit (806564-B21).	
NOTE: When one of the HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) or HPE Apollo 4200 Gen9 2SFF and 2FHHL Kit (806564-B21) is selected, one of the HPE SATA B140i Mode for Rear Storage (813545-B21), HPE 2nd HDD Cage FIO Controller Mode for Rear Storage (813546-B21), HPE SAS Smart HBA H240 FIO Controller Mode for Rear Storage (838827-B21), or HPE SAS Smart Array P440 FIO Controller Mode for Rear Storage (838830-B21) is required.	
NOTE: The Rear HDDs will be under the optional HPE H240 12Gb 2-ports Int Smart Host Bus Adapter (726907-B21) when HPE SAS Smart HBA H240 FIO Controller Mode for Rear Storage (838827-B21) is selected.	
HPE SAS Smart Array P440 FIO Controller Mode for Rear Storage	838830-B21
NOTE: Cannot be selected if P/N: 813545-B21, 813546-B21, 838827-B21, or P03845-B21 is selected with HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) or HPE Apollo 4200 Gen9 2SFF and 2FHHL Kit (806564-B21).	
NOTE: When one of the HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) or HPE Apollo 4200 Gen9 2SFF and 2FHHL Kit (806564-B21) is selected, one of the HPE SATA B140i Mode for Rear Storage (813545-B21), HPE 2nd HDD Cage FIO Controller Mode for Rear Storage (813546-B21), HPE SAS Smart HBA H240 FIO Controller Mode for Rear Storage (838827-B21), or HPE SAS Smart Array P440 FIO Controller Mode for Rear Storage (838830-B21) is required.	
NOTE: The Rear HDDs will be under the optional HPE Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller (726821-B21) when HPE SAS Smart Array P440 FIO Controller Mode for Rear Storage (838830-B21) is selected.	

Core Options

HPE Dual SAS Smart Array P440 FIO Controller Mode for Front Storage	P03845-B21
NOTE: Two HPE Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller (726821-B21) and one HPE Apollo 4200 Gen9 6 SFF Rear Hard Drive Cage Kit (838833-B21) are required when P03845-B21 is selected.	
NOTE: Cannot be selected if P/N: 813545-B21, 813546-B21, 838827-B21, or 838830-B21 is selected with HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) or HPE Apollo 4200 Gen9 2SFF and 2FHHL Kit (806564-B21).	
NOTE: The Rear HDDs will be under the default HPE Flexible Smart Array P840ar/2G FIO Controller and the two front HDD cage will be under the two optional HPE Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller (726821-B21) when HPE Front Dual SAS P440 FIO Ctrlr Mode for the Apollo 4200 (P03845-B21) is selected.	
HPE Apollo 4200 Gen9 Redundant Fan Kit	806562-B21
NOTE: For 1 processor configurations, the HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) will ship 4 additional fans, for a total of 8 fans. There will be one spare fan in the carton for the future upgrade to 2 processors.	
NOTE: For 2 processor configurations, the HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) will ship 5 fans for redundant function	
HPE 2U Shelf-Mount Adjustable Rail Kit	822731-B21
HPE Apollo 4200 Gen9 FIO Strap Shipping Bracket	822640-B21
NOTE: This part is used for shipping that is integrated in a rack.	
HPE Apollo 4200 Gen9 Interface Manager Card Kit	806565-B21
NOTE: This is a management module for the Apollo 4200 Gen9 Server to provide a rear dedicated 1Gb management port.	

HPE Processor

22-Core Processors

HPE Apollo 4200 Gen9 Intel Xeon E5-2699v4 (2.2GHz/22-core/55MB/145W) FIO Processor Kit	830754-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2699v4 (2.2GHz/22-core/55MB/145W) Processor Kit	830754-B21

20-Core Processors

HPE Apollo 4200 Gen9 Intel Xeon E5-2698v4 (2.2GHz/20-core/50MB/135W) FIO Processor Kit	830752-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2698v4 (2.2GHz/20-core/50MB/135W) Processor Kit	830752-B21

18-Core Processors

HPE Apollo 4200 Gen9 Intel Xeon E5-2697v4 (2.3GHz/18-core/45MB/145W) FIO Processor Kit	830750-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2697v4 (2.3GHz/18-core/45MB/145W) Processor Kit	830750-B21
HPE Apollo 4200 Gen9 Intel Xeon E5-2695v4 (2.1GHz/18-core/45MB/120W) FIO Processor Kit	830748-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2695v4 (2.1GHz/18-core/45MB/120W) Processor Kit	830748-B21

16-Core Processors

HPE Apollo 4200 Gen9 Intel Xeon E5-2697Av4 (2.6GHz/16-core/40MB/145W) FIO Processor Kit	841372-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2697Av4 (2.6GHz/16-core/40MB/145W) Processor Kit	841372-B21
HPE Apollo 4200 Gen9 Intel Xeon E5-2683v4 (2.1GHz/16-core/40MB/120W) FIO Processor Kit	830744-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2683v4 (2.1GHz/16-core/40MB/120W) Processor Kit	830744-B21

14-Core Processors

HPE Apollo 4200 Gen9 Intel Xeon E5-2690v4 (2.6GHz/14-core/35MB/135W) FIO Processor Kit	830746-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2690v4 (2.6GHz/14-core/35MB/135W) Processor Kit	830746-B21
HPE Apollo 4200 Gen9 Intel Xeon E5-2680v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit	830742-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2680v4 (2.4GHz/14-core/35MB/120W) Processor Kit	830742-B21
HPE Apollo 4200 Gen9 Intel Xeon E5-2660v4 (2.0GHz/14-core/35MB/105W) FIO Processor Kit	830736-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2660v4 (2.0GHz/14-core/35MB/105W) Processor Kit	830736-B21
HPE Apollo 4200 Gen9 Intel Xeon E5-2650Lv4 (1.7GHz/14-core/35MB/65W) FIO Processor Kit	830732-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2650Lv4 (1.7GHz/14-core/35MB/65W) Processor Kit	830732-B21

Core Options

12-Core Processors

HPE Apollo 4200 Gen9 Intel Xeon E5-2650v4 (2.2GHz/12-core/30MB/105W) FIO Processor Kit	830734-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2650v4 (2.2GHz/12-core/30MB/105W) Processor Kit	830734-B21

10-Core Processors

HPE Apollo 4200 Gen9 Intel Xeon E5-2640v4 (2.4GHz/10-core/25MB/90W) FIO Processor Kit	830728-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2640v4 (2.4GHz/10-core/25MB/90W) Processor Kit	830728-B21
HPE Apollo 4200 Gen9 Intel Xeon E5-2630v4 (2.2GHz/10-core/25MB/85W) FIO Processor Kit	830724-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2630v4 (2.2GHz/10-core/25MB/85W) Processor Kit	830724-B21

8-Core Processors

HPE Apollo 4200 Gen9 Intel Xeon E5-2667v4 (3.2GHz/8-core/25MB/135W) FIO Processor Kit	830738-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2667v4 (3.2GHz/8-core/25MB/135W) Processor Kit	830738-B21
HPE Apollo 4200 Gen9 Intel Xeon E5-2620v4 (2.1GHz/8-core/20MB/85W) FIO Processor Kit	830718-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2620v4 (2.1GHz/8-core/20MB/85W) Processor Kit	830718-B21
HPE Apollo 4200 Gen9 Intel Xeon E5-2609v4 (1.7GHz/8-core/20MB/85W) FIO Processor Kit	830716-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2609v4 (1.7GHz/8-core/20MB/85W) Processor Kit	830716-B21

6-Core Processors

HPE Apollo 4200 Gen9 Intel Xeon E5-2643v4 (3.4GHz/6-core/20MB/135W) FIO Processor Kit	830730-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2643v4 (3.4GHz/6-core/20MB/135W) Processor Kit	830730-B21
HPE Apollo 4200 Gen9 Intel Xeon E5-2603v4 (1.7GHz/6-core/15MB/85W) FIO Processor Kit	830714-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2603v4 (1.7GHz/6-core/15MB/85W) Processor Kit	830714-B21

4-Core Processors

HPE Apollo 4200 Gen9 Intel Xeon E5-2637v4 (3.5GHz/4-core/15MB/135W) FIO Processor Kit	830726-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2637v4 (3.5GHz/4-core/15MB/135W) Processor Kit	830726-B21
HPE Apollo 4200 Gen9 Intel Xeon E5-2623v4 (2.6GHz/4-core/10MB/85W) FIO Processor Kit	830720-L21
HPE Apollo 4200 Gen9 Intel Xeon E5-2623v4 (2.6GHz/4-core/10MB/85W) Processor Kit	830720-B21

NOTE: FIO indicates factory integrated option via CTO.

NOTE: Up to 2 processors supported.

NOTE: DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

NOTE: The xxxxxx-L21 is the first processor shipped, the xxxxxx-B21 is the 2nd processor and ships with 1 additional FAN for factory of field installation.

HPE Memory

Registered DIMMs (RDIMMs) for E5-2600v3 Series

NOTE: The following memory is supported by the E5-2600v3 series Processors.

HPE 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726719-B21
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NOTE: Depending on Processor selected this memory will run at 1600, 1866 or 2133MHz.

NOTE: Depending on Processor selected this memory will run at 1600, 1866 or 2133MHz.

Registered DIMMs (RDIMMs) for E5-2600v4 Series

NOTE: The following memory is supported by the E5-2600v4 series Processors.

HPE 32GB (1x32GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory	805351-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered	805349-K21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Registered Memory	805347-K21

NOTE: Depending on Processor selected this memory will run at 1866, 2133 or 2400MHz.

Load Reduced DIMMs (LRDIMMs) for E5-2600v4 Series

Core Options

NOTE: The following memory is supported by the E5-2600v4 series Processors.

HPE 64GB (1x64GB) Quad Rank x4 DDR4-2400 CAS-17-17-17 Load Reduced 805358-B21

NOTE: Depending on Processor selected this memory will run at 1866, 2133 or 2400MHz.

HPE Drives

6-pack SATA Hot Plug LFF (3.5-inch) Low Profile Hard Drive Bundles

HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty He 512e DS 6-pack FIO HDD P09797-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

NOTE: HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) is required when this SKU is selected.

HPE 8TB 6G SATA 7.2K rpm LFF (3.5in) 512e Low Profile Midline 1yr Wty 6-pack FIO Hard Drive Bundle 867261-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

HPE 6TB 6G SATA 7.2K rpm LFF (3.5in) 512e Low Profile Midline 1yr Wty 6-pack FIO Hard Drive Bundle 867267-K21

6-pack SAS Hot Plug LFF (3.5-inch) Low Profile Hard Drive Bundles

HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty He 512e DS 6-pack FIO HDD P09799-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

NOTE: HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) is required when this SKU is selected.

HPE 8TB 12G SAS 7.2K rpm LFF (3.5in) 512e Low Profile Midline 1yr Wty 6-pack FIO Hard Drive Bundle 867263-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

HPE 6TB 12G SAS 7.2K rpm LFF (3.5in) 512e Low Profile Midline 1yr Wty 6-pack FIO Hard Drive Bundle 867271-K21

12G SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed 832514-K21

6G SATA MU Hot Plug LFF (3.5-inch) LP MDL HDD

HPE 14TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD P09165-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

NOTE: HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) is required when this SKU is selected.

HPE 12TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e 881787-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

NOTE: HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) is required when this SKU is selected.

HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD P09161-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

NOTE: HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) is required when this SKU is selected.

HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally 834028-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

12G SAS Hot Plug LFF (3.5-inch) LP MDL HDD

HPE 14TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD P09155-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

NOTE: HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) is required when this SKU is selected.

HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e 881781-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

NOTE: HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) is required when this SKU is selected

HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD P09149-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

NOTE: HPE Apollo 4200 Gen9 LFF Rear HDD Cage Kit (806563-B21) is required when this SKU is selected.

HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally 834031-K21

NOTE: HPE Apollo 4200 Gen9 Redundant Fan Kit (806562-B21) and ROM version 1.50 or later are required.

Core Options

HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed	833928-K21
HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed	833926-K21
SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed	655710-K21
SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed	861683-K21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed	861681-K21
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed	861686-K21
12G SAS Mixed Use Hot Plug SFF (2.5-inch) Solid State Drives	
HPE 3.84TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10460-K21
NOTE: This SKU cannot be installed in the rear HDD cage	
HPE 1.92TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10454-K21
NOTE: This SKU cannot be installed in the rear HDD cage	
HPE 960GB SAS 12G Mixed Use SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10448-K21
NOTE: This SKU cannot be installed in the rear HDD cage	
12G SAS Mixed Use Hot Plug LFF (3.5-inch) Solid State Drives	
HPE 3.84TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10462-K21
NOTE: This SKU cannot be installed in the rear HDD cage	
HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10458-K21
NOTE: This SKU cannot be installed in the rear HDD cage	
HPE 960GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10452-K21
12G SAS Read Intensive Hot Plug SFF (2.5-inch) Solid State Drives	
HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10446-K21
NOTE: This SKU cannot be installed in the rear HDD cage	
HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10444-K21
NOTE: This SKU cannot be installed in the rear HDD cage	
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10442-K21
NOTE: This SKU cannot be installed in the rear HDD cage	
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10440-K21
6G SATA Hot Plug SFF (2.5-inch) SC Read Intensive Solid State Drives	
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally	P05946-K21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally	P05938-K21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed	P05932-K21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed	P05928-K21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed	P05924-K21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed	P04556-K21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed	P06194-K21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed	P04560-K21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed	P06196-K21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed	P04564-K21

Core Options

HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally	P06198-K21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally	P04566-K21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally	P06200-K21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally	P04570-K21
6G SATA Hot Plug SFF (2.5-inch) SC Mixed Use Solid State Drives	
HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed	P05994-K21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed	P05986-K21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed	P05980-K21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed	P05976-K21
6G SAS (2.5-inch) 512e SC HDD	
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally	765464-K21
HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD	765466-K21
NOTE: This SKU cannot be installed in the rear HDD cage	
6G SATA (2.5-inch) 512e SC HDD	
HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally	765455-K21
Hard Drive Blank Kits	
HPE Gen9 LFF HDD Spade Blank Kit	807878-B21
HPE Small Form Factor Hard Drive Blank Kit	666987-B21
HPE Networking	
1 Gigabit Ethernet adapters	
HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21
HPE Ethernet 1Gb 2-port 332T Adapter	615732-B21
10 Gigabit Ethernet adapters	
HP Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
HPE Ethernet 10Gb 2-port 530T Adapter	656596-B21
HPE Ethernet 10G 2-port 546SFP+ Adapter	779793-B21
HPE Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21
HPE Ethernet 10Gb 2-port 561T Adapter	716591-B21
HPE Ethernet 10Gb 2-port 562SFP+ Adapter	727055-B21
25 Gigabit Ethernet adapters	
HPE Ethernet 4x25Gb 1-port 620QSFP28 Adapter	817762-B21
HPE Ethernet 10/25Gb 2-port 640SFP28 Adapter	817753-B21
NOTE: The HPE Apollo 4200 Gen9 chassis ships with 2x1Gb Embedded.	
NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.	
NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. Please see the related NIC QuickSpecs for Technical Specifications and additional information:	
http://www.hpe.com/servers/ProLiantNICs	
FlexibleLOM Adapters	
HPE Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
HP FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
HP FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21

Core Options

HPE Ethernet 10Gb 2P 546FLR-SFP+ Adapter	779799-B21
HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21
HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter	727054-B21
HPE Ethernet 10/25Gb 2-port 640FLR-SFP28 Adapter	817749-B21
HPE FlexFabric 10Gb 4-port 536FLR-T Adapter	764302-B21

HPE InfiniBand

NOTE: The RHEL6.5 driver is not part of SPP, but may be downloaded here:

<http://h20565.www2.hp.com/portal/site/hpsc/>

HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter	764284-B21
HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter	764285-B21
HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter	829335-B21
HPE InfiniBand EDR/Ethernet 100Gb 1-port 840QSFP28 Adapter	825110-B21
HPE InfiniBand EDR/Ethernet 100Gb 2-port 840QSFP28 Adapter	825111-B21
HPE InfiniBand EDR 100Gb 1-port 841QSFP28 Adapter	872725-B21

NOTE: This SKU can only be installed in PCIe slot3 or slot4.

HPE InfiniBand EDR/Ethernet 100Gb 2-port 841QSFP28 Adapter	872726-B21
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NOTE: This SKU can only be installed in PCIe slot3 or slot4.

HPE InfiniBand FDR/Ethernet 40/50Gb 2-port 547FLR-QSFP Adapter	879482-B21
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HPE I/O Expansion Options HPE Apollo 4200 Gen9 2 SFF and 2 Full Height Half Length Riser Kit	806564-B21
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NOTE: This riser kit allows for two additional small form factor drives in the rear and two PCIe slots 3-4 are available by using slot 2 as a standup expansion slot

NOTE: Using the above kit, PCIe slot 3 and 4 may be populated.

NOTE: Slot3: 1x Gen3 x8 FH/FL. Slot 4: 1xGen3 x8 FH/HL.

HPE Power Supplies

1 Gigabit Ethernet adapters

HPE 800W Flex Slot Titanium Hot Plug Power Supply Kit	720482-B21
HPE 800W Flex Slot Platinum Hot Plug Power Supply Kit	720479-B21
HPE 800W Flex Slot -48VDC Hot Plug Power Supply Kit	720480-B21
HPE 1400W Flex Slot Platinum Plus Hot Plug Power Supply Kit	720620-B21

NOTE: All power supplies must be of the same input voltage, output rating, and efficiency rating. If non-matching power supplies are installed, you may receive an error message and/or experience operational issues with your server.

NOTE: Prior to selecting a power supply option, it is highly recommended that you review your server configuration in the HPE Power Advisor tool to determine the right size power supply for your server configuration.

NOTE: The above power supply options are all 80Plus Platinum-certified with an efficiency rating of up to 94%. Support for HPE Power Discovery Services is included with the 1400W

NOTE: Maximum of 2 Flex Slot PS per platform.

HPE Cooling Options

HPE Apollo 4200 Gen9 Redundant Fan Kit	806562-B21
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NOTE: The Apollo 4200 Redundant Fan Kit allows the server to reach up to 8 fans using a 1 processor configuration, or 10 total fans using a 2 processors configuration.

Additional Options

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of a Hewlett Packard Enterprise approved configurator. Contact your local sales representative for additional information.

HPE Insight Control Software

HPE Insight Control including 1yr 24x7 Technical Support and Updates Single Server License	C6N27A
HPE Insight Control including 1yr 24x7 Technical Support and Updates Electronic License	C6N28ABE
HPE Insight Control Server Provisioning Media Kit	BD883A
HPE Insight Management Media Kit	C6N31A

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.

NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HPE Software Technical Support and Update Service.

NOTE: Licenses ship without media. The HPE Insight Control Media Kit can be ordered separately, or can be downloaded at: <https://www.hpe.com/info/insightmanagement>

Embedded Management

HPE iLO Advanced

HPE iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License	512485-B21
HPE iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates	BD505A
HPE iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU	E6U59ABE
HPE iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU	E6U64ABE

High Performance Clusters

HPE Cluster Management Utility

HPE Insight Cluster Management Utility 1yr 24x7 Flexible License	QL803B
HPE Insight Cluster Management Utility 3yr 24x7 Flexible License	BD476A

NOTE: These part numbers can be used to purchase one certificate for multiple licenses and support with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key. Customer also will receive a support agreement.

HPE Insight Cluster Management Utility Media	BD477A
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HPE PCIe Workload Accelerator Options NVME PCIe Workload Accelerators

HPE 6.4TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	P10268-K21
HPE 3.2TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	P10266-K21
HPE 1.6TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	P10264-K21
HPE 2.0TB NVMe Mixed Use HH/HL PCIe Workload Accelerator	803204-B21
HPE 1.6TB NVMe Write Intensive HH/HL PCIe Workload Accelerator	803197-B21
HPE 1.6TB NVMe Mixed Use HH/HL PCIe Workload Accelerator	803202-B21
HPE 800GB NVMe Write Intensive HH/HL PCIe Workload Accelerator	803195-B21
HPE 800GB NVMe Mixed Use HH/HL PCIe Workload Accelerator	803200-B21
HPE 750GB PCIe x4 Lanes Write Intensive HHHL 3yr Wty Digitally Signed Firmware Card	878038-K21

Additional Options

HPE Security

HPE 2U Security Bezel Kit 666988-B21

HPE Trusted Platform Module 2.0 Kit 745823-B21

NOTE: If the TPM Module (488069-B21) is installed, then there is no support for TPM 2.0

NOTE: This is supported on both the E5-2600v3 and E5-2600v4 processors

HPE Trusted Platform Module Option 488069-B21

HPE Storage Controllers

SAS Controllers

HPE Smart Array Controllers

HPE Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller 726821-B21

NOTE: Provides support for the SAS/SATA drives in the 2nd HDD cage and its expander or rear SAS/SATA drives in the rear HDD cage.

NOTE: HPE P440 Smart Array Controller is only supported in PCIe slot 1.

HPE Smart Array P441/4G Controller 726825-B21

HPE Smart Array P841/4G Controller 726903-B21

NOTE: HPE P841 Smart Array Controller is only supported in PCIe slot 3 or PCIe slot 4. To utilize these slots, a 2 SFF and 2 FHHL Kit (P/N: 806564-B21) is required.

HPE Smart Host Bus Adapters

HPE H240 12Gb 2-ports Int Smart Host Bus Adapter 726907-B21

NOTE: Provides support for the rear SAS/SATA drives in the rear HDD cage only.

NOTE: HPE Apollo 4200 Gen9 Smart HBA H240 FIO Rear Cable Kit (838823-B21) and HPE SAS Smart HBA H240 FIO Controller Mode for Rear Storage(838827-B21) are required when HPE H240 12Gb 2-ports Int Smart Host Bus Adapter (726907-B21) is selected.

HPE H241 12Gb 2-ports Ext Smart Host Bus Adapter 726911-B21

Optional Software

HPE Secure Encryption No Media Flexible License per Drive D8S84A

HPE Secure Encryption No Media E-LTU per Drive D8S85AAE

NOTE: HPE Secure Encryption is supported when one of the supported Smart Array Controllers or the supported Smart SAS HBA (configured in the RAID mode) is installed in the server.

HPE Secure Encryption licensing is based on the number of physical drives requiring encryption.

HPE USB Keyboard and Mouse

HPE USB BFR with PVC Free US Keyboard/Mouse Kit 631341-B21

HPE USB BFR with PVC Free UK Keyboard/Mouse Kit 631344-B21

HPE USB BFR with PVC Free FR Keyboard/Mouse Kit 631346-B21

HPE USB BFR with PVC Free ES Keyboard/Mouse Kit 631348-B21

HPE USB BFR with PVC Free DE Keyboard/Mouse Kit 631358-B21

HPE USB BFR with PVC Free JP Keyboard/Mouse Kit 631360-B21

HPE USB BFR with PVC Free IT Keyboard/Mouse Kit 631362-B21

HPE USB BFR with PVC Free CN Keyboard/Mouse Kit 631364-B21

HPE USB BFR with PVC Free AE Keyboard/Mouse Kit 638212-B21

HPE USB BFR with PVC Free RU Keyboard/Mouse Kit 638214-B21

HPE USB BFR with PVC Free IN Keyboard/Mouse Kit 672097-D63

HPE Dual 8GB microSD EM USB Kit 741279-B21

HPE 32GBmicroSDMainstream Flash Media Kit 700139-B21

Additional Options

Rail Kits NOTE: Rail kits are optional for the HPE Apollo 4200 Gen9 CTO Chassis and are no longer included standard with the server. Customers have the option to purchase their server without a rail kit.

CAUTION: Hewlett Packard Enterprise recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

HPE 2U Shelf-Mount Adjustable Rail Kit 822731-B21

HPE USB and SD Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

HPE 32GB microSD Enterprise Mainstream Flash Media Kit 700139-B21

HPE 8GB microSD Enterprise Mainstream Flash Media Kit 726116-B21

HPE 8GB USB Enterprise Mainstream Flash Media Drive Key Kit 737953-B21

HPE Dual 8GB microSD EM USB Kit 741279-B21

HPE Storage Options

Emulex Fibre Channel HBAs

HPE 81E 8Gb 1-port PCIe Fibre Channel Host Bus Adapter AJ762B

HPE 82E 8Gb 2-port PCIe Fibre Channel Host Bus Adapter AJ763B

HPE StoreFabric SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter C8R38A

HPE StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter C8R39A

QLogic Fibre Channel HBAs

HPE 81Q 8Gb 1-port PCIe Fibre Channel Host Bus Adapter AK344A

HPE 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter AJ764A

HPE StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter QW971A

HPE StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter QW972A

Converged Network Adapter

HPE StoreFabric CN1100R Dual Port Converged Network Adapter QW990A

HPE StoreFabric CN1100R 10GBASE-T Dual Port Converged Network Adapter N3U52A

HPE 3 year Foundation Care Next business day Apollo 4200 Service U8MG4E

HPE 3 year Foundation Care Next business day with DMR Apollo 4200 Service U8MG5E

HPE 3 year Foundation Care Next business day with CDMR Apollo 4200 Service U8MG6E

HPE 3 year Foundation Care 24x7 Apollo 4200 Service U8MH3E

HPE 3 year Foundation Care 24x7 wDMR Apollo 4200 Service U8MH4E

HPE 3 year Foundation Care 24x7 wCDMR Apollo 4200 Service U8MH5E

HPE 3 year Proactive Care 24x7 Apollo 4200 Service U8MH6E

HPE 3 year Proactive Care 24x7 with DMR Apollo 4200 Service U8MH7E

HPE 3 year Proactive Care 24x7 with CDMR Apollo 4200 Service U8MH8E

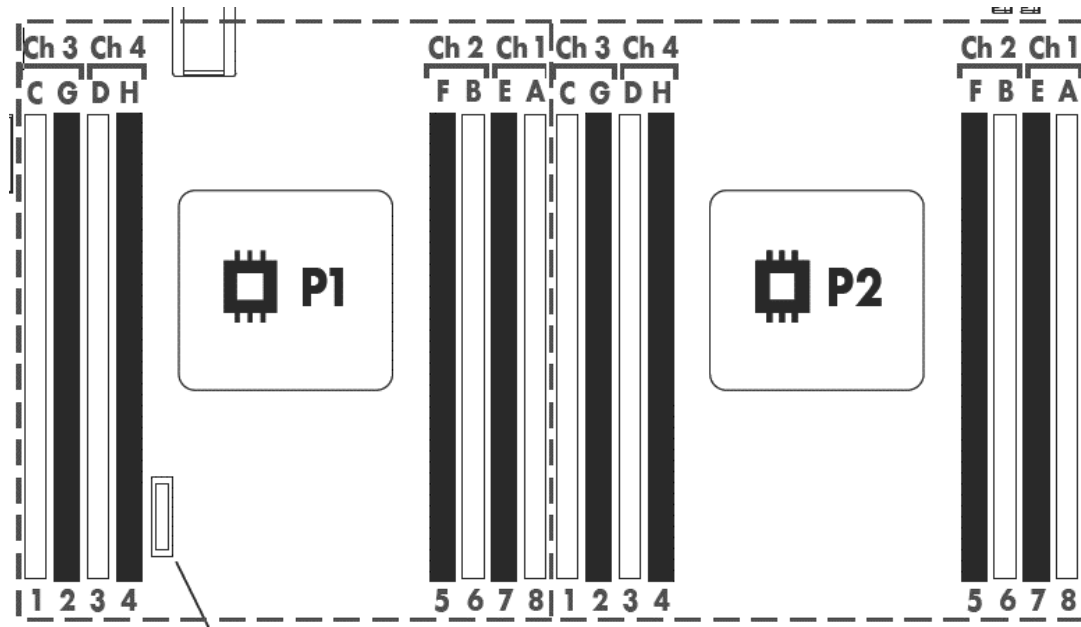
HPE Installation ProLiant DL1000/DL2000 Service UM857E

HPE Installation and Startup DL1000/DL2000 Service UM858E

Memory

Memory Subsystem Architecture

Each Intel® Xeon® E5-2600v3 or E5-2600v4 family processor socket contains four memory channels per installed processor with two DIMMs per channel for a total of eight (8) DIMMs or a grand total of sixteen (16) DIMMs for the server.



Memory Population Guidelines

DIMM Configuration

NOTE: This information is for Advanced ECC memory mode. If operating in other modes, see the user guide Key.

Alpha- population order

Numeric-DIMM Slot ID for spare replacement

Before installing DIMMs, review the following population guidelines:

- Install DIMMs only if the corresponding processor is installed.
- When two processors are installed, balance the total capacity of the DIMM's across the two processors.
- White DIMM's slots denote the first slot of a channel (Ch 1-A, Ch 2-B, Ch 3-C, Ch 4-D).
- Do not mix RDIMMs and LRDIMMs in the same system.

When only one processor is installed, install DIMMs in sequential alphabetic order; A, B, C, D, E, F, and so forth.

When two processors are installed, install DIMMs in sequential alphabetic order; P1-A, P2-A, P1-B, P2-B, P1-C, P2-C, and so forth.

For DIMM spare replacement, install the DIMMs per slot numbers as instructed by your system software. These are general DIMM population rules. For specific memory mode population rules see the server user guide on the Hewlett Packard Enterprise website.

<https://www.hpe.com/us/en/support.html>.

Memory

General Memory Population Rules and Guidelines:

- White DIMM slots denote the first slot of a channel. For 1 DPC (DIMM per channel) populate white slots only. A minimum of one DIMM is required per server.
- Install DIMMs only if the corresponding processor is installed.
- If only one processor is installed in a two processor system, only half of the DIMM slots are available.
- To maximize performance, it is recommended to balance the total memory capacity between all installed processors and to load the channels similarly whenever possible.
- When two processors are installed, balance the DIMMs across the two processors.
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel. Heaviest load (DIMM with most ranks) within a channel goes furthest from the processor.
- Do not mix RDIMMs or LRDIMMs.
- LRDIMMs are supported up to 2 DIMMs per channel.
- DIMMs of different speeds may be mixed in any order; the server will select a common optimal speed.
- The maximum memory speed is a function of the memory type, memory configuration, and processor model.
- The maximum memory capacity is a function of the memory type and number of installed processors.
- HPE memory from previous generation servers is not compatible with the HPE Apollo 4200 Gen9 Server. Certain HPE SmartMemory features such as memory authentication and enhanced performance may not be supported.
- To realize the performance memory capabilities listed in this document, HPE SmartMemory is required. For additional information, please see the HPE SmartMemory QuickSpecs at:
http://h18000.www1.hpe.com/products/QuickSpecs/14225_div/14225_div.html
- For memory population rules and additional memory guidelines, please see the HPE Apollo 4200 Gen9 user guide at <http://www.hpe.com/support>
- There are four (4) Memory channels per processor; eight (8) channels per 2 processor server.
- There are two (2) DIMM slots for each memory channel; sixteen (16) total slots for 2 processor server.
- Memory channels 1 and 3 consists of the two (2) DIMMs that are furthest from the processor.
- Memory channel 2 and 4 consists of the two (2) DIMMs that are closest to the processor.

Intel Gen9 Supported Memory Bandwidth for HPE ProLiant Gen9 Intel® Xeon®E5-2600v3 Series Processor Family

DIMM Type	Registered DIMMs (RDIMMs)					Load Reduced (LRDIMMs)		
	Single Rank (1R)		Dual Rank (2R)			Dual Rank (2R)	Quad Rank (4R)	
DIMM Rank								
DIMM Capacity	4GB	8GB	8GB	16GB	32GB	16GB	32GB	64GB
DIMM Native Speed (MHz)	2133							
Voltage	Std Voltage 1.2V							
SLOTS THAT CAN BE POPULATED								
16 slot server nodes	16	16	16	16	16	16	16	16
Maximum capacity (GB)*	64	128	128	256	512	256	512	1026

Intel Gen9 Supported Memory Bandwidth for HPE ProLiant Gen9 Intel® Xeon®E5-2600v4 Series Processor Family

DIMM Type	Registered DIMMs (RDIMMs)				Load Reduced (LRDIMMs)	
	Single Rank (1R)		Dual Rank (2R)		Dual Rank (2R)	Quad Rank (4R)
DIMM Rank						
DIMM Capacity	8GB	16GB	16GB	32GB	32GB	64GB
DIMM Native Speed (MHz)	2400					

Memory

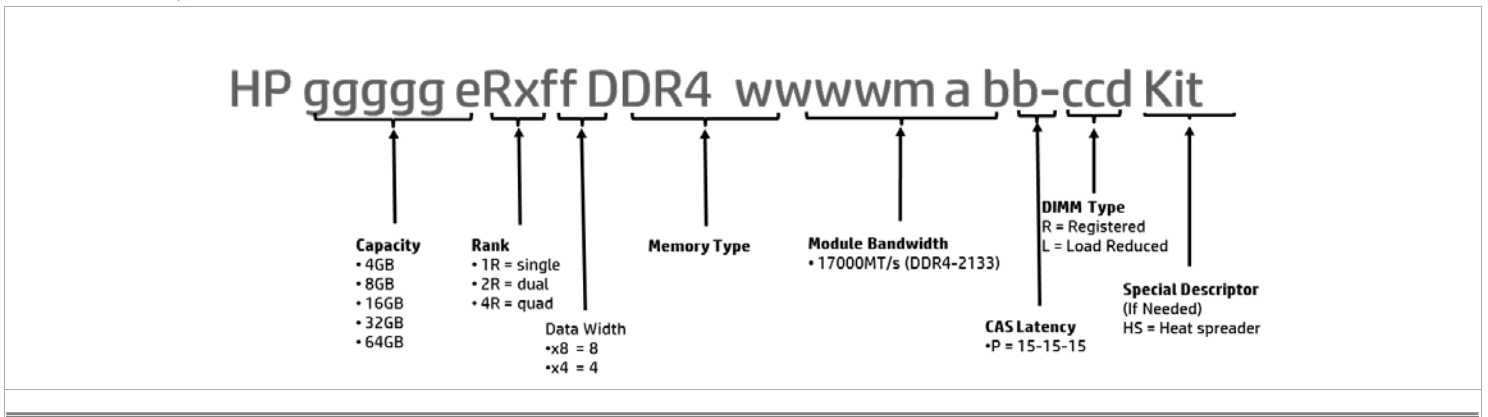
Voltage	Std Voltage 1.2V					
Slots that can be populated						
16 slot server nodes	16	16	16	16	16	16
Maximum capacity (GB)*	128	256	256	512	512	1024

Memory Speed by Processor Model	Processor Models		Supported Memory Speeds		
	E5-2603v3, E5-2609v3,		1600MHz		
	E5-2620v3, E5-2623v3, E5-2630v3, E5-2630Lv3, E5-2640v3,		1866MHz		
	E5-2637v3, E5-2643v3, E5-2650v3, E5-2650Lv3, E5-2660v3, E5-2667v3, E5-2670v3, E5-2680v3, E5-2683v3, E5-2690v3, E5-2695v3, E5-2697v3, E5-2698v3, E5-2699v3,		2133MHz		
	E5-2603v4, E5-2609v4,		1866MHz		
	E5-2620v4, E5-2623v4, E5-2630v4, E5-2630Lv4, E5-2640v4		2133MHz		
	E5-2637v4, E5-2643v4, E5-2650v4, E5-2650Lv4, E5-2660v4, E5-2667v4, E5-2680v4, E5-2683v4, E5-2690v4, E5-2695v4, E5-2697v4, E5-2697Av4, E5-2698v4, E5-2699v4		2400MHz		
Standard and Maximum Memory Capacity (Pre-configured Models)	Pre-Configured Models	Standard Memory		Maximum Memory Plus Optional Memory	Standard Memory Replaced with Optional Memory
	SFF Model	16GB (1x16GB)		496GB (15x32GB, 1x16GB)	1024GB (16x64GB)
	LFF Model	16GB (1x16GB)		496GB (15x32GB, 1x16GB)	1024GB (16x64GB)

DDR4 memory options part number decoder

NOTE: Capacity references are rounded to the common gigabyte (GB) values.

- 2GB = 2,048MB
- 4GB = 4,096MB
- 8GB = 8,192MB
- 16GB = 16,384MB
- 32GB = 32,768MB
- 64GB = 65,536MB



Technical Specifications

System Unit

Dimensions (L x W x D)	3.44 x 17.63 x 32 in (8.75cm x 44.8 x 81.28 cm)								
	NOTE: Dimensions without Bezel.								
Weight (approximate)	<table border="0"> <tr> <td>Minimum: (Minimum – 24LFF chassis)</td> <td>51.04 lb (23.2 kg)</td> </tr> <tr> <td>Maximum: (Maximum - 24LFF chassis)</td> <td>89.32 lb (40.6 kg)</td> </tr> <tr> <td>Minimum: (Minimum – 48SFF chassis)</td> <td>46.64 lb (21.2 kg)</td> </tr> <tr> <td>Maximum: (Maximum – 48SFF chassis)</td> <td>77lb (35kg)</td> </tr> </table>	Minimum: (Minimum – 24LFF chassis)	51.04 lb (23.2 kg)	Maximum: (Maximum - 24LFF chassis)	89.32 lb (40.6 kg)	Minimum: (Minimum – 48SFF chassis)	46.64 lb (21.2 kg)	Maximum: (Maximum – 48SFF chassis)	77lb (35kg)
Minimum: (Minimum – 24LFF chassis)	51.04 lb (23.2 kg)								
Maximum: (Maximum - 24LFF chassis)	89.32 lb (40.6 kg)								
Minimum: (Minimum – 48SFF chassis)	46.64 lb (21.2 kg)								
Maximum: (Maximum – 48SFF chassis)	77lb (35kg)								
Input Requirements (per power supply)	<table border="0"> <tr> <td>Range Line Voltage</td> <td>100 to 120 VAC</td> </tr> <tr> <td></td> <td>200 to 240 VAC</td> </tr> </table>	Range Line Voltage	100 to 120 VAC		200 to 240 VAC				
Range Line Voltage	100 to 120 VAC								
	200 to 240 VAC								
BTU Rating	<table border="0"> <tr> <td>Maximum</td> <td>For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VAC) for China Only</td> </tr> </table>	Maximum	For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VAC) for China Only						
Maximum	For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VAC) for China Only								
Power Supply Output (per power supply)	<table border="0"> <tr> <td>Rated Steady-State Power</td> <td>For 1400W Power Supply: 1400W (at 240 VAC), 1400W (at 240 VAC) For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VAC) input for China only</td> </tr> <tr> <td>Maximum Peak Power</td> <td>For 1400W Power Supply: 1400W (at 200 to 240 1VAC), 1400W (at 240 VAC) input for China only For 800W Power Supply: 800W (at 100 to 127 VAC), 800W (at 200 to 240 1VAC), 800W (at 240 VAC) input for China only</td> </tr> </table>	Rated Steady-State Power	For 1400W Power Supply: 1400W (at 240 VAC), 1400W (at 240 VAC) For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VAC) input for China only	Maximum Peak Power	For 1400W Power Supply: 1400W (at 200 to 240 1VAC), 1400W (at 240 VAC) input for China only For 800W Power Supply: 800W (at 100 to 127 VAC), 800W (at 200 to 240 1VAC), 800W (at 240 VAC) input for China only				
Rated Steady-State Power	For 1400W Power Supply: 1400W (at 240 VAC), 1400W (at 240 VAC) For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VAC) input for China only								
Maximum Peak Power	For 1400W Power Supply: 1400W (at 200 to 240 1VAC), 1400W (at 240 VAC) input for China only For 800W Power Supply: 800W (at 100 to 127 VAC), 800W (at 200 to 240 1VAC), 800W (at 240 VAC) input for China only								
System Inlet Temperature	<table border="0"> <tr> <td>Standard Operating Support</td> <td>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).</td> </tr> <tr> <td>Extended Ambient Operating Support</td> <td>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 are listed at the URL: http://www.hpe.com/servers/ashrae System performance may be reduced if operating in the extended ambient operating range or with a fan fault.</td> </tr> </table>	Standard Operating Support	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 Support	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 are listed at the URL: http://www.hpe.com/servers/ashrae System performance may be reduced if operating in the extended ambient operating range or with a fan fault.				
Standard Operating Support	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 Support	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 are listed at the URL: http://www.hpe.com/servers/ashrae System performance may be reduced if operating in the extended ambient operating range or with a fan fault.								
Relative Humidity (non-condensing)	<table border="0"> <tr> <td>Non-operating</td> <td>-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).</td> </tr> <tr> <td>Operating</td> <td>Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity. Maximum to be the lower (less moisture) of 24°C (75.2°F) dew point or 90% relative humidity.</td> </tr> <tr> <td>Non-operating</td> <td>5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.</td> </tr> </table>	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).	Operating	Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity. Maximum to be the lower (less moisture) of 24°C (75.2°F) dew point or 90% relative humidity.	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.		
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Altitude	<table border="0"> <tr> <td>Operating</td> <td>3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).</td> </tr> <tr> <td>Non-operating</td> <td>9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).</td> </tr> </table>	Operating	3048 m (10,000 ft). This value may be limited by the type and number of options installed. 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).				
Operating	3048 m (10,000 ft). This value may be limited by the type and number of options installed. 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 A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment.								

Technical Specifications

Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

Idle

L WAd	4.5 B Entry LFF
	4.3 B Entry SFF
	4.8 B Typical LFF
	4.8 B Typical SFF
	4.8 B Performance LFF
L pAm	4.9 B Performance SFF
	29 dBA Entry LFF
	26 dBA Entry SFF
	32 dBA Typical LFF
	33 dBA Typical SFF
	33 dBA Performance LFF
	34 dBA Performance SFF

Operating

L WAd	4.5 B Entry LFF
	4.3 B Entry SFF
	4.8 B Typical LFF
	4.9 B Typical SFF
	4.9 B Performance LFF
L pAm	5.4 B Performance SFF
	30 dBA Entry LFF
	27 dBA Entry SFF
	33 dBA Typical LFF
	33 dBA Typical SFF
	35 dBA Performance LFF
	37 dBA Performance SFF

NOTE: Entry LFF Configuration tested included one Intel E5-2620v4 processor, two 3TB LFF SAS HDD at front drive cage, one 3TB LFF SATA HDD at rear drive cage, one 16GB DDR4 RDIMMs 2400MHz, four system fans, one 1400W power supply, one P840ar Flexible Smart Array Controller, one Flexible Storage 96W battery

NOTE: Entry SFF configuration tested included one Intel E5-2620v4 processor, two 300GB SFF SAS HDD at front drive cage, one 16GB DDR4 RDIMMs 2400MHz, four system fans, one 1400W power supply, one P840ar Flexible Smart Array Controller, one Flexible Storage 96W battery.

NOTE: Typical LFF configuration tested included one Intel E5-2620v4 processor, twelve 3TB LFF SAS HDD at front drive cage, one 3TB LFF SATA HDD at rear drive cage, four 16GB DDR4 RDIMMs 2400MHz, four system fans, one 1400W power supply, one P840ar Flexible Smart Array Controller, one Flexible Storage 96W Battery.

NOTE: Typical SFF configuration tested included one Intel E5-2620v4 processor, twenty-four 300GB SFF SAS HDD at front drive cage, four 16GB DDR4 RDIMMs 2400MHz, four system fans, one 1400W power supply, one P840ar Flexible Smart Array Controller, one Flexible Storage 96W Battery.

NOTE: Performance LFF configuration tested included two Intel E5-2620v4 processor, sixteen 3TB LFF SAS HDD at front drive cages, one 3TB LFF SATA HDD at rear drive cage, eight 16GB DDR4 RDIMMs 2400MHz, five system fans, two 1400W power supplies, one P840ar Flexible Smart Array Controller, one Flexible Storage 96W battery.

NOTE: Performance SFF configuration tested included two Intel E5-2620v4 processor, thirty-two 300GB SFF SAS HDD at front drive cages, eight 16GB DDR4 RDIMMs 2400MHz, five system fans, two 1400W power supplies, one P840ar Flexible Smart Array Controller, one Flexible Storage 96W Battery.

NOTE: Values are subject to change without notification and are for reference only.

NOTE: Performance of system, options, and ancillary equipment will vary depending on the system configurations

NOTE: Levels presented do not account for non-Hewlett Packard Enterprise installed hardware.

Technical Specifications

Emissions Classification (EMC)	FCC Rating	Class A
	Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1 NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.
HPE Dynamic Smart Array B140i Controller	Number of PCI links	Four (4)
	PCI link rate	4GB/s
	Storage protocol support	SATA
	SAS/SATA peak data transfer rate	6Gb/s
	Number of SAS/SATA links	6 links
	SAS/SATA connectivity	1x4 connectors; 2x1 connectors
	Expander support	No
	Drives supported (max)	Up to 6 Internal Drives
	RAID support	0, 1, 10, 5 SATA
	Software management	HPE SSA, SMH, SIM
	Warranty	Server warranty
	HPE Secure Encryption license	Not Supported
	HPE SmartCache License	Not Supported
	HPE Smart Storage Administrator	Supported

Technical Specifications

HPE Ethernet 1Gb 2-port 361i Adapter

Network Interface 10Base-T/100Base-TX/1000Base-TX

Compatibility IEEE 802.3 10Base-T
IEEE 802.3ab 1000Base-T
IEEE 802.3u 100Base-TX
IEEE 1588, IEEE 802.1AS
IEEE 802.3az - Energy Efficient Ethernet (EEE)

Data Transfer Method PCI Express v 2.0, 5.0 GT/s, two lanes (x2)

Controller Intel I350 Powerville

Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s per port, 40 Mb/s combined
	10Base-T (Full-Duplex)	20 Mb/s per port, 80 Mb/s combined
	100Base-TX (Half-Duplex)	100 Mb/s per port, 400 Mb/s combined
	100Base-TX (Full-Duplex)	200 Mb/s per port, 800 Mb/s combined

	1000Base-TX (Half and Full-Duplex)	1000Mb/s per port, 4000 Mb/s combined
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Connector Two RJ-45

Cable Support	10 Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)
	10/100/1000 Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)

Environment-friendly Products and Approach - End-of-life Management and Recycling

Hewlett Packard Enterprise offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <https://www.hpe.com/us/tradein>





To recycle your product, please go to: <https://www.hpe.com/us/tradein> or contact your nearest Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise 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 posted on the Hewlett Packard Enterprise web site at: <https://www.hpe.com/us/tradein>

These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
02-Dec-2019	Version 22	Changed	Core Options and Additional Option sections were updated.
06-May-2019	Version 21	Changed	Core Options and Standard Features sections were updated.
02-Apr-2019	Version 20	Changed	Core Options and Additional Option sections were updated.
04-Feb-2019	Version 19	Changed	New SKUs were added and Obsolete SKUs were removed from Core Options Section
03-Dec-2018	Version 18	Changed	QuickSpecs format was updated.
01-Oct-2018	Version 17	Changed	SKU description were updated. hp.com URLs were removed.
06-Aug-2018	Version 16	Added	Added new Solid State Drives offering.
04-Jun-2018	Version 15	Changed	Update the following sections, technical specifications, configuration, features and remove obsolete SKUs.
02-Apr-2018	Version 14	Changed	Update technical specifications and standard features.
23-Oct-2017	Version 13	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
13-Feb-2017	Version 12	Changed	Update Core Options and add missing NIC Options.
04-Nov-2016	Version 11	Changed	Remove HDD SKUs drives.
26-Sep-2016	Version 10	Changed	Update technical specifications and standard features.
08-Jul-2016	Version 9	Changed	Change the broken link for the warranty section.
06-Jun-2016	Version 8	Changed	Change images in the overall section and updates throughout the document.
31-Mar-2016	Version 7	Changed	Update the following sections, technical specifications, configuration, features and remove obsolete SKUs.
16-Feb-2016	Version 6	Changed	Update the SAS and the SATA drives, remove obsoletes.
01-Dec-2015	Version 5	Changed	Update Technical information and configurations section.
09-Oct-2015	Version 4	Changed	Update Core Options and Standard Features sections.
21-Aug-2015	Version 3	Changed	Remove non supported items and add HPE Pointnext operational info.
08-Jun-2015	Version 2	Changed	Update technical specifications and standard features.
01-Jun-2015	Version 1	Created	Create QS for HPE Apollo 4200 Gen9 Server.

   
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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.

c04616495 - 15256 - Worldwide - V22 - 02-December-2019


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