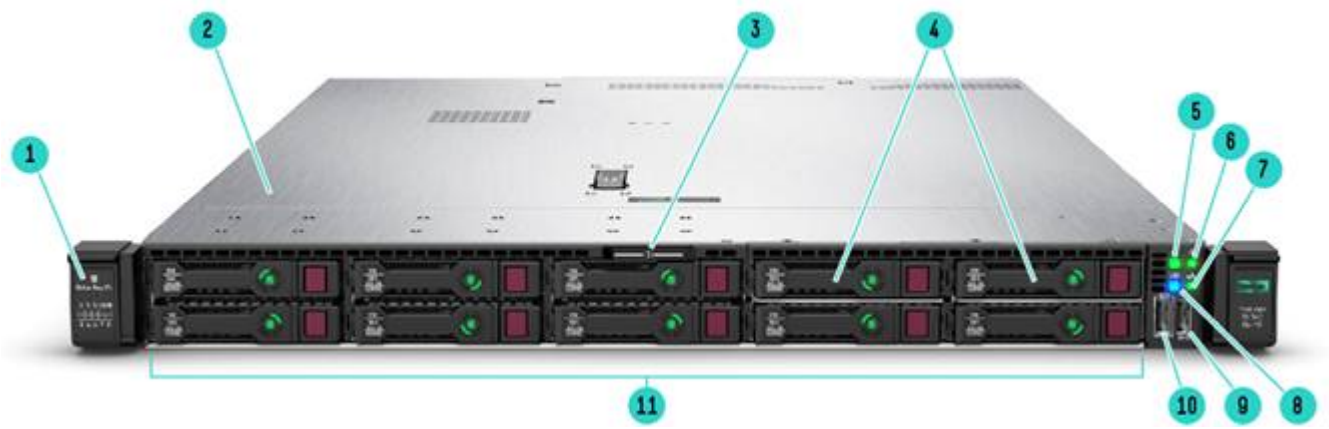
Overview

HPE ProLiant DL360 Gen10 Carrier Grade Server NEBS Level 3 and ETSI Certified

Does your data center need a secure, performance driven dense server that you can confidently deploy for virtualization, database, or high-performance computing? The powerful 2P HPE ProLiant DL360 Gen10 is redefining dense compute by delivering security, agility and unmatched expandability businesses want all packed in a dense 1U rack design.

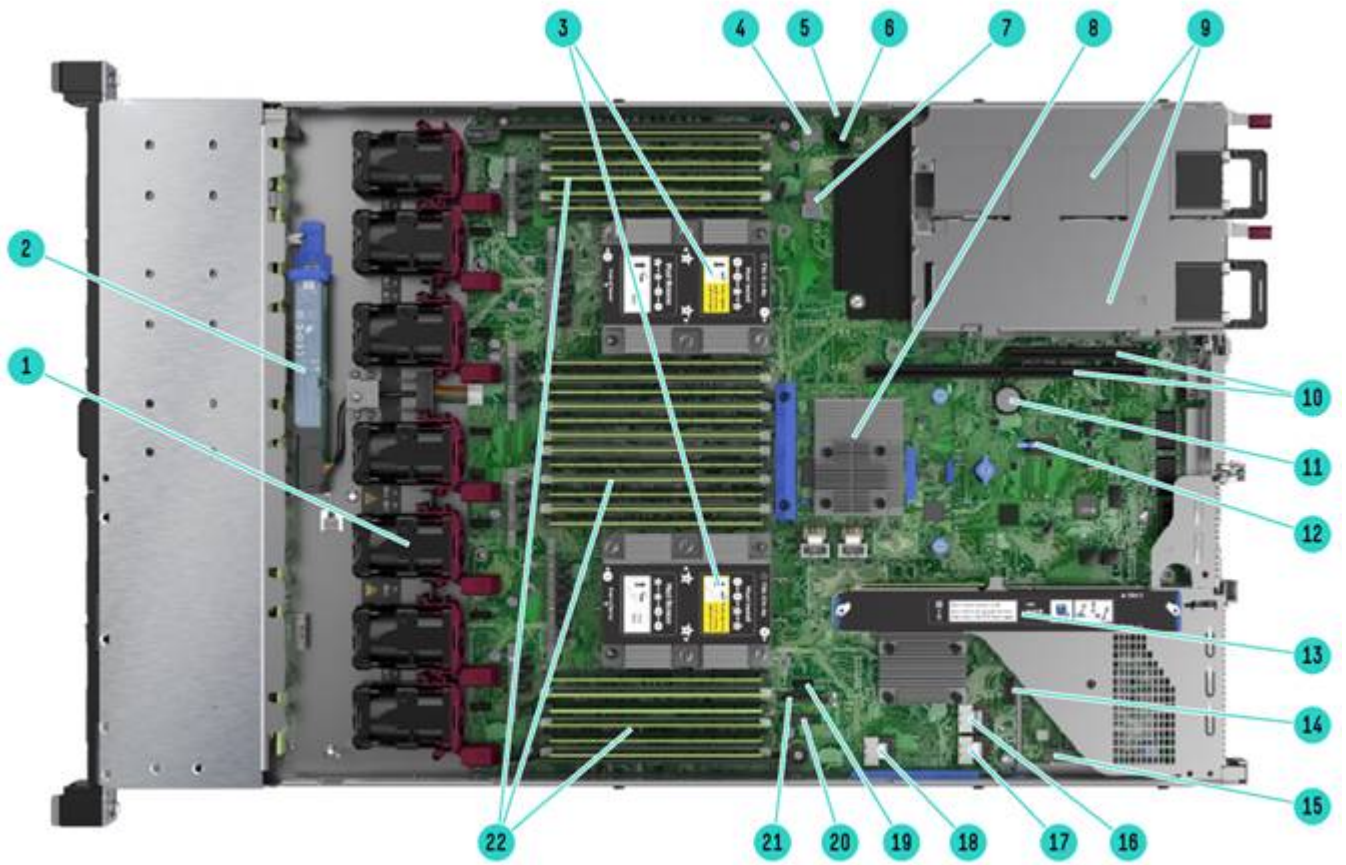
The HPE ProLiant DL360 Gen10 Server supports the Intel® Xeon® Processor Scalable Family with up to 28 cores, plus 2666 MT/s HPE DDR4 SmartMemory supporting up to 3.0 TB max. Deploy this dense platform for diverse workloads in space constrained environments and maintain it with ease by automating the most essential server lifecycle management tasks with HPE OneView and HPE iLO 5.



8 SFF Front View - 8 SFF + 2 SFF Universal Media Bay option shown

1. Drive support label
2. Quick removal access panel
3. Serial no. label pull tab
4. Universal Media Bay Options:
   Option shown: +2 SFF SAS/SATA (total 10SFF)
   Option: +2 SFF NVMe drives
   Option: DVD-RW or DVD-ROM + Display port & USB 2.0 port Kit
   Option: +2 Dual uFF (4x M.2 cartridges)
   Option: Display port + USB 2.0 port Kit + Blank
   NOTE: Other options not shown.
   NOTE: New! Rear drive option allows for an additional + 1 SFF or +1 Dual uFF (2x M.2 cartridges).
   NOTE: System Insight Display (SID) module will include #5-9 above (will not include #10 - iLO Service Port).
5. Power On/Standby button and system power LED
6. Health LED
7. NIC status LED
8. UID button/LED
9. USB 3.0 port
10. iLO Service Port
11. Standard 8 SAS/SATA/SSD drive bays

Overview

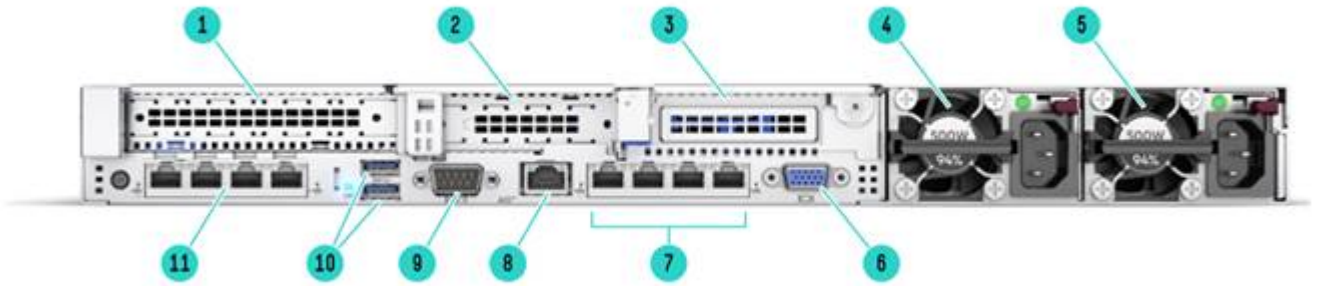


Internal View - Standard for all DL360 Gen10

1. For 8 SFF - Standard single rotor hot plug fans
   - 1 CPU - 5 standard fans
   - 2 CPUs - 7 standard fans
   *Option: High Performance fans
2. Option: Smart Storage Battery
3. Up to 2 processors (shown with standard heat sinks)
4. MicroSD card slot (Dual Micro-SD option available)
5. Option: Chassis Intrusion Detection
6. Hard Drive backplane power connector
7. Dual internal USB 3.0 connector
8. Smart Array Controller (Type -a shown)
9. Up to 2 Power Supplies for redundant power
10. Secondary (CPU2) PCIe 3.0 riser
    Option: Low Profile x16
11. System Battery
12. Optional: TPM 2.0
13. Primary (CPU1) PCIe 3.0 riser
    Standard: GPU power connector + 1x 16 and 1x 8
    Optional: 2 SATA M.2 + 2x 16
    NOTE: *Only available on 8 SFF.
14. Optional: Front Display port / USB 2.0
15. FlexibleLOM (supports various NICs up to 25GbE)
16. x4 SATA port 1
17. x4 SATA port 2
18. x2 SATA port 3
19. x1 SATA port 4
20. Optical / SATA port 5
21. Front Power USB 3.0 connector
22. DDR4 DIMM slots

Overview

(Fully populated 24 DIMMs shown)



Rear View - Standard for all DL360 Gen10

1. Slot 1 PCIe 3.0
   Option: Rear Drive +1 SFF or 1 uFF SSD (2x M.2 cartridges)
   NOTE: Will lose one FH x16 PCIe slot1 with this option.
2. Slot 2 PCIe 3.0
3. Option: Slot 3 PCIe 3.0 (Requires 2nd processor)
4. Power Supply 2
5. Power Supply 1
6. VGA port
7. Embedded 4x 1GbE Adapter
8. iLO Management Port
9. Option: Serial Port
10. USB 3.0 Ports
11. Option: FlexibleLOM (Shown: 4x 1GbE)
    NOTE: Supports Various NICs up to 25GbE.

Platform Information

Platform Information

Form Factor	1U rack
Chassis Types	8 SFF with options supporting: +2 SFF or 2 Dual uFF (4x M.2 cartridges)
System Fans	Single rotor hot plug fans will be included 8 SFF chassis: 1 CPU - Includes 5 standard fans 2 CPUs - Includes 7 standard fans **NOTE:** Optional High Performance Fan Kit available (includes 7 fans). **NOTE:** The DL360 Gen10 will support up to 7 fans with fan redundancy built in. One fan rotor failure will place server in degraded mode but fully functional. Two fan rotor failures could provide warning and imminent server shutdown.

Standard Features

Standard Features

Processors - Up to 2 of the following depending on model.

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

NOTE: This table covers the public Intel offering only.

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Gold 6152 Processor	2.1 GHz	22	30.25MB	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6140 Processor	2.3 GHz	18	24.75 MB	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6130 Processor	2.1 GHz	16	22.00 MB	125W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 5122 Processor	3.6 GHz	4	16.50 MB	105W	2 @ 10.4 GT/s	2666 MT/s	768GB
Gold 5118 Processor	2.3 GHz	12	16.50 MB	105W	2 @ 10.4 GT/s	2400 MT/s	768GB
Bronze 3106 Processor	1.7 GHz	8	11.00 MB	85W	2 @ 9.6 GT/s	2133 MT/s	768GB

NOTE: Gold Processors:
- 2 and 4 socket capable, 2S - 2UPI, 4S - 3UPI @ 10.4 GT/s.
- 6-Channel DDR4 @ 2400 MT/s (SKU 5122 - supports 2666 MT/s).
- 768 GB max memory capacity (1.5 TB on select skus).
- Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512 (1x 512-bit FMA) (SKU 5122 - supports 2x 512 bit FMA).
- 48 lanes PCIe 3.0, advanced RAS.

NOTE: Bronze Processors:
- 2 socket capable, 2S - 2UPI @ 9.6 GT/s.
- 6-Channel DDR4 @ 2133 MT/s, 768 GB max memory capacity.
- Intel AVX-512 (1x 512-bit FMA).
- 48 lanes PCIe 3.0, standard RAS.

Chipset

Intel C621 Chipset

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 5 ASIC

NOTE: Read and learn more in the **iLO QuickSpecs**.

Memory

Standard Features

Type		HPE DDR4 SmartMemory Registered (RDIMM), Load Reduced (LRDIMM)
DIMM Slots Available	24	12 DIMM slots per processor, 6 channels per processor, 2 DIMMs per channel
Maximum capacity (LRDIMM)	3.0 TB	24 x 128 GB LRDIMM @ 2666 MT/s
Maximum capacity (RDIMM)	768 GB	24 x 32 GB RDIMM @ 2666 MT/s
Maximum capacity (NVDIMM)	192 GB	12 x 16 GB NVDIMM @ 2666 MT/s

NOTE: NVDIMMs can be mixed with RDIMMs only.
NOTE: Maximum memory per socket is dependent on processor selection. Processors supporting 1.5 TB per s is indicated by the “M” in the processor model names (i.e. 8160M).
NOTE: Mixing of RDIMM and LRDIMM memory is not supported.
NOTE: For General Server Memory and NVDIMM Population Rules and Guidelines for Gen10 see details here: **http://www.hpe.com/docs/memory-population-rules**

Memory Protection

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

NOTE: For more information see our **Memory RAS feature technical whitepaper**.

Expansion Slots

Primary SATA M.2 Riser	Expansion Slots #	Technology	Bus Width	Connector Width	Processor	Slot F Fact
	1	PCIe 3.0	x16	x16	CPU 1	Full-heig length 9.5i
	2	PCIe 3.0	x16	x16	CPU 1	Low P

Secondary Riser*	Expansion Slots #	Technology	Bus Width	Connector Width	Processor	Slot F Fact
	3	PCIe 3.0	x16	x16	CPU 2	Low Pro Full-heig length 9.5

NOTE: If secondary full height kit is installed, then primary PCIe Slot #2 cannot be used. Only 2 full height slots are supported.

Storage Controllers

Software RAID

HPE Smart Array S100i SR Gen10 SW RAID

NOTE: HPE Smart Array S100i SR Gen10 SW RAID will operate in UEFI mode only. For legacy support an additional controller will be needed, and for CTO orders please also select the Legacy mode settings part, 7589

Standard Features

B22.
NOTE: HPE Smart Array S100i SR Gen10 SW RAID is off by default and must be enabled.
NOTE: The S100i is a 14-port SATA controller, but only 12 ports are accessible as 2 are leveraged to support tl
2 M.2 options on the Primary Riser.
NOTE: The S100i supports windows only.
NOTE: For Linux users, HPE offers a solution that uses in-distro open-source software to create a two-disk RA
1 boot volume. For more information visit:
https://downloads.linux.hpe.com/SDR/project/lsrrb/

Essential RAID Controllers

HPE Smart Array E208e-p SR Gen10 Controller

Performance RAID Controllers

HPE Smart Array P816i-a SR Gen10 Controller

NOTE: For additional details, please see **HPE Smart Array Gen10 Controllers Data Sheet**.

Internal Storage Devices

Optical Drive	Available on 8 SFF CTO Servers as an option (DVD-ROM or DVD-RW)
Hard Drives	None ship standard

Power Supply

HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit

NOTE: Available in 94% and 96% efficiency.
NOTE: Also available in -48VDC and 227VAC/380VDC power inputs.

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 Gen10 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 (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.

To review the power requirements for your selected system, please use the **HPE Power Advisor Tool**.

For information on power specifications and technical content visit **HPE Server power supplies**.

Interfaces

Serial	1 port - Optional
Video	1 Front - Display port (optional 8 SFF and 4 LFF only) 1 Rear - VGA port (standard on all chassis types) **NOTE:** Both ports are not active simultaneously.
Network Ports	4x 1GbE embedded NIC (standard on all chassis types)

Standard Features

	1 FlexibleLOM slot available on all chassis types (supporting various NICs adapters)
iLO Remote Mgmt Port	1 Gb Dedicated
MicroSD Slot	1 MicroSD slot **NOTE:** The MicroSD slot is not hot-pluggable, please power down server before removal.
USB 3.0	Up to 5 total: 1 front, 2 rear, 2 internal (standard on all chassis types) +1 optional USB 2.0 front (on 8 SFF and 4 LFF only)
SID (Systems Insight Display)	Optional for all chassis types **NOTE:** Will lose iLO Service Port if selecting this option.

Operating Systems and Virtualization Software

Windows Server 2012 R2 (Most Recent Version)

Windows Server 2016 (Most Recent Version)

VMware ESXi 6.0 U3

VMware ESXi 6.5 and U1 upon release

Red Hat Enterprise Linux (RHEL) 6.9 and 7.3

SUSE Linux Enterprise Server (SLES) 11 SP4 and 12 SP2

ClearOS

NOTE: ClearOS allows you to build a fully functional server that is just right for you at no upfront cost. For more information on ClearOS, please visit **http://www.hpe.com/servers/clearos**.

CentOS

NOTE: For more information on Hewlett Packard Enterprise Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server.
http://www.hpe.com/info/ossupport

Industry Standard Compliance

- ACPI 6.1 Compliant
- PCIe 3.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- USB 3.0 Compliant
- USB 2.0 Compliant (only on optional Universal Media Bay)
- SMBIOS 3.1
- UEFI 2.6 (Unified Extensible Firmware Interface Forum)
- Redfish API
- IPMI 2.0
- Secure Digital 4.0
- TPM 1.2 and 2.0 support
- Advanced Encryption Standard (AES)
- Triple Data Encryption Standard (3DES)
- SNMP v3
- TLS 1.2

Standard Features

- DMTF Systems Management Architecture for Server Hardware Command Line (SMASH CLP)
- Active Directory v1.0
- ASHRAE A3/A4
- Energy Star

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

Graphics

Integrated video standard

- Video modes up to 1920 x 1200 @ 60 Hz (32 bpp)
- 16 MB Video Memory

HPE iLO 5 on system management memory

- 32 MB Flash
- 4 Gbit DDR3 with ECC protection

HPE Server UEFI/Legacy ROM

Unified Extensible Firmware Interface (UEFI) is an industry standard that provides better manageability and more secured configuration than the legacy ROM while interacting with your server at boot time. HPE ProLiant Gen10 servers have a UEFI Class 2 implementation and support both UEFI Mode (default) and Legacy BIOS Mode.

NOTE: The UEFI System Utilities tool is analogous to the HPE ROM-Based Setup Utility (RBSU) of legacy BIOS. For more information, please visit **http://www.hpe.com/servers/uefi**.

UEFI enables numerous new capabilities specific to HPE ProLiant servers such as:

- Secure Boot and Secure Start enable for enhanced security
- 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 iLO RESTful API that is Redfish API Conformant
- PXE boot support for IPv6 networks
- Workload Profiles for simple performance optimization

UEFI Boot Mode only:

- TPM 2.0 Support
- NVMe Boot Support
- Platform Trust Technology (PTT) can be enabled.
- iSCSI Software Initiator Support.
- HTTP/HTTPs Boot support as a PXE alternative.
- Boot support for option cards that only support a UEFI option ROM

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

NOTE: UEFI FIO Setting (758959-B22) can be selected to configure the system in Legacy mode in the factory for your HPE ProLiant Gen10 Server.

Embedded Management

Standard Features

HPE Integrated Lights-Out (HPE iLO)	Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO. Learn more at **http://www.hpe.com/info/ilo**.
UEFI	Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI). Learn more at **http://www.hpe.com/servers/uefi**.
Intelligent Provisioning	Hassle free server and OS provisioning for one or more servers with Intelligent Provisioning. Learn more at **http://www.hpe.com/servers/intelligentprovisioning**.
iLO RESTful API	iLO RESTful API is Redfish API conformance and offers simplified server management automation such as configuration and maintenance tasks based on modern industry standards. Learn more at **http://www.hpe.com/info/restfulapi**.

Server Utilities

Active Health System	The HPE Active Health System (AHS) is an essential component of the iLO management portfolio that provides continuous, proactive health monitoring of HPE servers. Learn more at **http://www.hpe.com/servers/ahs**.
Active Health System Viewer	Use the Active Health System Viewer, a web-based portal, to easily read AHS logs and speed problem resolution with HPE self-repair recommendations, to learn more visit: **http://www.hpe.com/servers/ahsv**.
Smart Update	Keep your servers up to date with the HPE Smart Update solution by using Smart Update Manager (SUM) to optimize the firmware and driver updates of the Service Pack for ProLiant (SPP). Learn more at **http://www.hpe.com/info/smartupdate**.
iLO Amplifier Pack	Designed for large enterprise and service provider environments with hundreds of HPE servers, the iLO Amplifier Pack is a free, downloadable open virtual application (OVA) that delivers the power to discover, inventory and update Gen8, Gen9 and Gen10 HPE servers at unmatched speed and scale. Use with an iLO Advanced License to unlock full capabilities. Learn more at **http://www.hpe.com/servers/iLOamplifierpack**.
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: **http://www.hpe.com/info/ilo/mobileapp**.
RESTful Interface Tool	RESTful Interface tool (iLOREST) is a single scripting tool to provision using iLO RESTful API to discover and deploy servers at scale. Learn more at **http://www.hpe.com/info/resttool**.

Standard Features

Scripting Tools	Provision one to many servers using your own scripts to discover and deploy with Scripting Tool (STK) for Windows and Linux or Scripting Tools for Windows PowerShell. Learn more at **http://www.hpe.com/servers/stk** or **http://www.hpe.com/servers/powershell**.
HPE OneView Standard	HPE OneView Standard can be used for inventory, health monitoring, alerting, and reporting without additional fees. It can monitor multiple HPE server generations. The user interface is similar to the HPE OneView Advanced version, but the software-defined functionality is not available. Learn more at **http://www.hpe.com/info/oneview**.
HPE Systems Insight Manager (HPE SIM)	Ideal for environments already using HPE SIM, it allows you to monitor the health of your HPE ProLiant Servers and HPE Integrity Servers. Also provides you with basic support for non-HPE servers. HPE SIM also integrates with Smart Update Manager to provide quick and seamless firmware updates. Learn more at **http://www.hpe.com/info/hpesim**.

Security

- UEFI Secure Boot and Secure Start support
- Immutable Silicon Root of Trust
- FIPS 140-2 validation (iLO 5 certification in progress)
- Common Criteria certification (iLO 5 certification in progress)
- Configurable for PCI DSS compliance
- Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser
- Support for Commercial National Security Algorithms (CNSA)
- iLO Security Modes including a New iLO Advanced Premium Security License
- Granular control over iLO interfaces
- Smart card (PIV/CAC) and Kerberos based 2-factor Authentication
- Tamper-free updates - components digitally signed and verified
- Secure Recovery - recover critical firmware to known good state on detection of compromised FW
- Ability to rollback firmware
- Secure erase of NAND
- TPM (Trusted Platform Module) 1.2 option
- TPM (Trusted Platform Module) 2.0 option Bezel Locking Kit
- Chassis Intrusion detection option

Warranty

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of HPE 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, 3-Year Labor, 3-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

Standard Features

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 replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: **http://h17007.www1.hpe.com/us/en/enterprise/servers/warranty/**.

Optional Features

Server Management

HPE 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 **http://www.hpe.com/servers/iloadvanced**.
HPE iLO Advanced Premium Security Edition	HPE iLO Advanced Premium Security Edition for iLO 5 includes iLO Advanced License plus high-end security modes, unique security capabilities, like Automatic FW recovery; Runtime FW verification, and Secure erase. Learn more about HPE iLO Advanced Premium Security Edition at: **http://www.hpe.com/servers/ilopremium**.
HPE OneView Advanced	HPE OneView brings a new level of automation to infrastructure management by taking a template driven approach to provisioning, updating, and integrating compute, storage, and networking infrastructure. It provides full-featured licenses which can be purchased for managing Gen8, Gen9 and Gen10 servers. To learn more visit **http://www.hpe.com/info/oneview**.
HPE Insight Cluster Management Utility (CMU)	HPE Insight Cluster Management Utility is a HyperScale management framework that includes software for the centralized provisioning, management and monitoring of nodes and infrastructure. Learn more at **http://www.hpe.com/info/cmu**.

Accelerator and GPGPU Information

Hewlett Packard Enterprise supports various accelerators on select HPE Proliant servers to support different workloads. The accelerators enable seamless integration of GPU computing with HPE ProLiant servers for high-performance computing, large data center graphics, deep learning and virtual desktop deployments. These accelerators deliver all of the standard benefits of GPU computing while enabling maximum reliability and tight integration with system monitoring and management tools such as HPE Insight Cluster Management Utility.

Rack and Power Infrastructure

The story may end with servers, but it starts with the foundation that makes compute go - and business grow. We've reinvented our entire portfolio of rack and power products to make IT infrastructure more secure, more practical, and more efficient. In other words, we've created a stronger, smarter, and simpler infrastructure to help you get the most out of your IT equipment. As an industry leader, Hewlett Packard Enterprise is uniquely positioned to address the key concerns of power, cooling, cable management and system access.

HPE G2 Advanced and Enterprise Racks are perfect for the server room or today's modern data center with enhanced airflow and thermal management, flexible cable management, and a 10 year Warranty to support higher density computing.

Optional Features

HPE G2 PDUs offer reliable power in flexible form factors that operate at temperatures up to 60°, include color-coded outlets and load segments and a low-profile design for optimal access to the rack and support for dense rack environments.

HPE Uninterruptible Power Systems are cost-effective power protection for any type workload. Some UPSs include options for remote management and extended runtime modules so you're critical dense data center is covered in power outages.

HPE KVM Solutions include a console and switches designed to work with your server and IT equipment reliably. We've got a cost-effective KVM switch for your first rack and multiple connection IP switches with remote management and security capabilities to keep your data center rack up and running.

Learn more about HPE Racks, KVM, PDUs and UPSs at **HPE Rack and Power Infrastructure**.

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" rack configuration or configuration for products not available in SCE, please contact Hewlett Packard Enterprise Customer Business Center or an Authorized Partner for assistance.
https://h22174.www2.hpe.com/SimplifiedConfig/Welcome#

HPE Pointnext - Service and Support

Protect your business beyond warranty with HPE Support Services

HPE Pointnext provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation. From the onset of your transformation journey, Advisory and Transformational Services focus on designing the transformation and creating a solution roadmap. Professional Services specializes in creative configurations with flawless and on-time implementation, and on-budget execution. Finally, operational services provides innovative new approaches like Flexible Capacity and Datacenter Care, to keep your business at peak performance. HPE is ready to bring together all the pieces of the puzzle for you, with an eye on the future, and make the complex simple.

Connect your devices:

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Reduce down time and improve diagnostic accuracy with a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, 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 HPE support.

Learn more about getting connected at **http://www.hpe.com/services/getconnected**.

Other related Services

HPE Server Hardware Installation

Provides for the basic hardware installation of HPE 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

Parts and Materials

HPE 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 HPE due to malfunction.

HPE Support Center

The HPE Support Center is a personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers. Learn more **http://www.hpe.com/support/hpesc**.

HPE's Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent

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Service and Support

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 HPE warranty, HPE Support Service or HPE contractual support agreement.

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

For more information: **http://www.hpe.com/services**.

Configuration Information - Factory Integrated Models

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

To ensure valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

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

2. FIO indicates that this option is only available as a factory installable option.

3. All Factory Integrated Models will be populated with sufficient hard drive blanks based on number of drives ordered with server.

4. Some options may not be integrated at the factory. Contact your local sales representative for additional information

IMPORTANT: To yield a carrier grade server that is compliant with all the required technical criteria, the product content is limited to what is listed in this document. In addition to this, system maintenance switch #10 must be turned on to enable the expanded operating temperature range and the hardware from the following kits must be installed:
HPE DL360 Gen9 High Performance Fan Kit

Please refer to the HPE DL360 Gen10 Carrier Grade Conversion documentation on the HPE web site:
http://www.hpe.com/services/hpsc

Step 1: Base Configuration (choose one of the following configurable models)

CTO Server	8 SFF
SKU Number	867959-B21
TAA SKU*	875966-B21
Processor	Not included as standard
DIMM Slots	24-DIMM slots (12 can be used for NVDIMMs)
Storage Controller	Embedded SW RAID (S100i) with 14 SATA ports Optional: Choice of HPE modular Smart Array and PCIe plug-in controller
PCIe	2 PCIe slots (1 x16 FH / 1 x8 LP) Optional: 1 x16 FH or LP
Drive Cage - included	8 SFF - SAS/SATA Optional: up to 2 NVMe or 2 Dual uFF (4x M.2 cartridges)
Network Controller	Embedded 4x 1GbE with optional HPE FlexibleLOM and/or standup cards
Fans	1 CPU - 5 Standard Fans 2 CPU - 7 Standard Fans Optional: High Performance Fans
Management	HPE iLO with Intelligent Provisioning (standard) Optional: iLO Advance and OneView
USB	Front: 1 USB 3.0 + iLO service port Rear: 2 USB 3.0 Internal: 2 USB 3.0 Optional: 1 USB 2.0 (lose iLO serv. Port)

NOTE: HPE offers multiple Trade Agreement Act (TAA) compliant configurations to meet the needs of US Federal Government customers. These products are either manufactured or substantially transformed in a designated country.
NOTE: *TAA chassis are only orderable in North America and Canada.

Step 2a: Choose Processor Options

Please select one -L21 processor required below.
For second processor, please select the same processor model with -B21 from Core Options - HPE Processors section.
For example: first processor, select 876099-L21 then for second processor, select 876099-B21.
NOTE: For first processor, -L21 will include 5 fans, For second processor, -B21 will add 2 additional fans (for 4 LFF and 8 SFF CTO Server). 10 NVMe CTO Server will always get 7 High Performane fans regardless of 1 or 2 processors.
NOTE: Maximum memory capacity per processor is dependent on processor models. All processors support up to 768 GB max memory per processor except "M" model processors will support up to 1.5 TB max memory per processor.
NOTE: Mixing of 2 different processor models are NOT allowed.
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: Processors with 130W or higher will ship with the High Performance heat sink plus SKUs 8156, 6128, 5122 as noted below. All other will processors will ship with the Standard heat sink.

Processor Option Kits	Required Processor
HPE DL360 Gen10 Intel® Xeon-Gold 6152 (2.1GHz/22-core/140W) FIO Processor Kit	860677-L21
NOTE: Ships with High Performance Heatsink.	
HPE DL360 Gen10 Intel® Xeon-Gold 6140 (2.3GHz/18-core/140W) FIO Processor Kit	860667-L21
HPE DL360 Gen10 Intel® Xeon-Gold 6130 (2.1GHz/16-core/125W) FIO Processor Kit	860687-L21
NOTE: Ships with High Performance Heatsink.	
HPE DL360 Gen10 Intel® Xeon-Gold 5122 (3.6GHz/4-core/105W) FIO Processor Kit	860679-L21
NOTE: Ships with High Performance Heatsink.	
HPE DL360 Gen10 Intel® Xeon-Gold 5118 (2.3GHz/12-core/105W) FIO Processor Kit	860663-L21
HPE DL360 Gen10 Intel® Xeon-Bronze 3106 (1.7GHz/8-core/85W) FIO Processor Kit	860651-L21
NOTE: Ships with High Performance Heatsink.	

Step 2b: Choose Memory Options

Please select one or more memory from below.

For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go to: **https://www.hpe.com/docs/memory-population-rules**

For Gen10 memory speed table, please go to: **https://www.hpe.com/docs/memory-speed-table**

For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: **http://www.hpe.com/docs/memory-ras-feature**.

Configuration Information - Factory Integrated Models

NOTE: Maximum memory capacity per processor is dependent on processor model selection or limitation.
NOTE: Maximum memory speed is dependent on processor model selection or limitation.
NOTE: A maximum of 12 NVDIMMs can be supported.

HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815098-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
HPE 8GB (1x8GB) Dual Rank x8 DDR4 2666 CAS 19-19-19 Registered Smart Memory Kit	876181-B21

Step 2c: Choose Power Supplies

Please select one or two power supplies from below.

NOTE: Mixing of 2 different power supplies are NOT allowed.

HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21

Step 3: Choose Additional (FIO) Factory Integratable Options

Each of the following may be selected if desired at time of factory integration

HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21

NOTE: HPE Trusted Platform Module 2.0 option works with Gen10 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants.
NOTE: HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

HPE Gen10 TPM 1.2 FIO Setting	872108-B21

NOTE: TPM 2.0 is set as default, for 1.2 TPM setting instead, please select this option.

HPE Legacy FIO Mode Setting	758959-B22

NOTE: UEFI is the default, this FIO part can be used for CTO to enable Legacy mode.

Step 4: Choose Additional Options for Factory Integration from Core and Additional Option sections below

HPE OneView for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	E5Y43A
HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A

Configuration Information - Factory Integrated Models

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 an Hewlett Packard Enterprise approved configurator. Contact your local sales representative for additional information.

HPE Unique Options

Risers

HPE DL360 Gen10 Low Profile Riser Kit	867982-B21

Riser Information

Part Number	Description	Riser position		Bus width (Gen3 lanes)		
		Primary	Secondary	Top slot	Middle Slot	Bottom slot
867982-B21	HPE DL360 Gen10 x16 LP Riser Kit	N	O	0	0	x16

Performance Cooling Options

HPE DL360 Gen10 High Performance Heat Sink Kit	871246-B21
HPE DL360 Gen10 High Performance Fan Kit	871244-B21

Universal Media Bay Options

HPE DL360 Gen10 2SFF SAS/SATA Backplane Kit	867966-B21

System Insight Display Options

HPE DL360 Gen10 SFF System Insight Display Power Module Kit	867996-B21

Security

HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21
HPE 1U Gen10 Bezel Kit	867998-B21

Cable Kits

HPE DL360 Gen10 SFF Internal Cable Kit	867990-B21
HPE DL3XX Gen10 Rear Serial Cable and Enablement Kit	873770-B21

HPE Processors

Please select one -L21 processor required above.
For second processor, please select the same processor model with -B21 from Core Options - HPE Processors section below.

For example: first processor, select 876099**-**L21 then for second processor, select 876099**-**B21.

NOTE: For first processor, -L21 will include 5 fans, for second processor, -B21 will add 2 additional fans (for 4 LFF and 8 SFF chassis). 10 NVMe chassis will always get 7 High Performane fans regardless of 1 or 2 processors.
NOTE: Maximum memory capacity per processor is dependent on processor models. All processors support up to 768 GB max memory per processor except “M” model processors will support up to 1.5 TB max memory per processor.
NOTE: Mixing of 2 different processor models are NOT allowed.
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: Processors with 130W or higher will ship with the High Performance heat sink plus SKUs 8156,

Core Options

6128, 5122 as noted below. All other will processors will ship with the Standard heat sink.

HPE DL360 Gen10 Intel® Xeon-Gold 6140 (2.3GHz/18-core/140W) Processor Kit	860667-B21

NOTE: Ships with Performance Heatsink.

HPE DL360 Gen10 Intel® Xeon-Gold 6130 (2.1GHz/16-core/125W) Processor Kit	860687-B21
HPE DL360 Gen10 Intel® Xeon-Gold 5118 (2.3GHz/12-core/105W) Processor Kit	860663-B21

HPE Memory

For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go to: **https://www.hpe.com/docs/memory-population-rules**

For Gen10 memory speed table, please go to: **https://www.hpe.com/docs/memory-speed-table**

For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: **http://www.hpe.com/docs/memory-ras-feature**

NOTE: Maximum memory capacity per processor is dependent on processor model selection or limitation.
NOTE: Maximum memory speed is dependent on processor model selection or limitation.
NOTE: A maximum of 12 NVDIMMs can be supported.

HPE DDR4 Memory

Registered DIMMs (RDIMMs)

HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815098-B21
HPE 8GB (1x8GB) Dual Rank x8 DDR4 2666 CAS 19-19-19 Registered Smart Memory Kit	876181-B21

HPE Drives

Enterprise - 12G SAS - SFF Drives

HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-B21
HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-B21

Midline - 12G SAS - SFF Drives

HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD	765466-B21
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	832514-B21
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765464-B21

Core Options

SSD Selection

To streamline the configuration process for HPE ProLiant Gen10 servers and to provide the best product availability, HPE recommends SSDs from the list located here: **http://www.hpe.com/products/recommend**.

Write Intensive - SAS - SFF - Solid State Drives	
HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD	779168-B21
Write Intensive - 6G SATA - SFF - Solid State Drives	
HPE 1.6TB 6G SATA Write Intensive-2 SFF (2.5-inch) SC SSD	872363-B21
HPE 800GB 6G SATA Write Intensive-2 SFF (2.5-inch) SC SSD	872359-B21
HPE 400GB 6G SATA Write Intensive-2 SFF (2.5-inch) SC SSD	872355-B21
Read Intensive - 6G SATA - SFF - Solid State Drives	
HPE 1.6TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	869386-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	868814-B21
Mixed Use - SATA - SFF - Solid State Drives	
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872352-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872344-B21
External Dual uFF M.2 Kit	
HPE 340GB SATA 6G Read Intensive UFF 3yr Wty Dual M.2 Kit	815605-B21
HPE Dual 150GB SATA Read Intensive M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	880875-B21
Hard Drive Blank Kits	
HPE Small Form Factor Hard Drive Blank Kit	666987-B21

HPE Networking

25 Gigabit Ethernet adapters	
HPE Ethernet 10/25Gb 2-port 640SFP28 Adapter	817753-B21
HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter	817718-B21
HPE Ethernet 4x25Gb 1-port 620QSFP28 Adapter	817762-B21
10 Gigabit Ethernet adapters	
HPE Ethernet 10Gb 2-port 562SFP+ Adapter	727055-B21
HPE Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
HPE Ethernet 10Gb 2-port 530T Adapter	656596-B21
1 Gigabit Ethernet adapters	
HPE Ethernet 1Gb 4-port 366T Adapter	811546-B21
HPE Ethernet 1Gb 2-port 361T Adapter	652497-B21
HPE Ethernet 1Gb 2-port 332T Adapter	615732-B21
HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21
FlexibleLOM Adapters	
HPE Ethernet 10/25Gb 2-port 640FLR-SFP28 Adapter	817749-B21
HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter	817709-B21

Core Options

HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter	727054-B21
HPE Ethernet 10Gb 2-port 562FLR-T Adapter	817745-B21
HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
HPE FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
NOTE: Delayed availability.	
HPE Ethernet 1Gb 4-port 331FLR Adapter	629135-B22

HPE InfiniBand

HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter	764284-B21
HPE InfiniBand EDR 100Gb 1-port 841QSFP28 Adapter	872725-B21
HPE InfiniBand EDR 100Gb 2-port 841QSFP28 Adapter	872726-B21
HPE InfiniBand EDR/Ethernet 100Gb 2-port 840QSFP28 Adapter	825111-B21

NOTE: For additional InfiniBand information: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154440**.

HPE Power Supplies

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 Gen10 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 (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.
To review the power requirements for your selected system, please use the **HPE Power Advisor Tool**.
For information on power specifications and technical content visit **HPE Server power supplies**.

HPE Flex Slot Platinum Hot-plug Power supplies

HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21

Additional Options

Embedded Management

HPE iLO Advanced

HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features	512485-B21
HPE iLO Advanced Flexible Quantity License with 1yr Support on iLO Licensed Features	512486-B21
HPE iLO Advanced AKA Tracking License with 1yr Support on iLO Licensed Features	512487-B21
HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A
HPE iLO Advanced Flexible Quantity License with 3yr Support on iLO Licensed Features	BD506A
HPE iLO Advanced AKA Tracking License with 3yr Support on iLO Licensed Features	BD507A
HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE
HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features	E6U64ABE
HPE iLO Advanced Premium Security Edition License with 1yr Support on Licensed Features	Q7E31A
HPE iLO Advanced Premium Security Flex Qty License with 1yr Support on Licensed Features	Q7E32A
HPE iLO Advanced Premium Security Edition Electronic License with 1yr Support on Licensed Features	Q7E32AAE
HPE iLO Advanced Premium Security Edition License with 3yr Support on Licensed Features	Q7E33A
HPE iLO Advanced Premium Security Flex Qty License with 3yr Support on Licensed Features	Q7E34A
HPE iLO Advanced Premium Security Edition Electronic License with 3yr Support on Licensed Features	Q7E34AAE
HPE iLO Advanced Premium Security AKA Tracking License with 1yr Support on Licensed Features	Q7E35A
HPE iLO Advanced Premium Security AKA Tracking License with 3yr Support on Licensed Features	Q7E36A

HPE iLO Scale-Out

HPE iLO Scale-out Flexible Quantity License with 3yr Support on iLO Licensed Features	BD776A

HPE Converged Infrastructure Management Software

HPE OneView Advanced (with HPE iLO Advanced)

HPE OneView including 3yr 24x7 Support Physical 1-server LTU	E5Y34A
HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y35AAE

HPE OneView Advanced (without HPE iLO Advanced)

HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU	P8B24A
HPE OneView w/o iLO including 3yr 24x7 Support Track 1-server LTU	P8B25A
HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU	P8B26AAE
HPE OneView Physical Media Kit LTU	E5Y37A

NOTE: Licenses ship without media. The HPE OneView Media Kit can be ordered separately, or can be downloaded at: **https://www.hpe.com/us/en/integrated-systems/software.html.**

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses

Additional Options

with a single activation key.
NOTE: Licenses ship without media. The HPE OneView Media Kit can be ordered separately, or can be downloaded at: **https://www.hpe.com/us/en/integrated-systems/software.html**.

HPE Security

HPE 1U Gen10 Bezel Kit	867998-B21
HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21

NOTE: HPE Trusted Platform Module 2.0 option works with Gen10 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants.
NOTE: HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

HPE Gen10 TPM 1.2 FIO Setting	872108-B21

NOTE: This is a FIO setting to allows the TPM 2.0 module to operate in a TPM 1.2 mode.

HPE Storage Controllers

NOTE: For additional details, please see HPE Smart Array Gen10 Controllers Data Sheet at:
https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00017196ENW

HPE Flexible Smart Array Controllers

HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller	804338-B21
HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller	804331-B21

HPE Smart Array Controllers

HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21
HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804394-B21
HPE 96W Smart Storage Battery (up to 20 Devices) with 145mm Cable Kit	P01366-B21

HPE Cable Options

HPE DL360 Gen10 SFF Internal Cable Kit	867990-B21

NOTE: For additional details and cabling matrix, please see:
http://www.hpe.com/info/CablingMatrixGen10

HPE Storage Options

QLogic Fibre Channel HBAs

HPE StoreFabric SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A

Converged Network Adapter

Additional Options

HPE StoreFabric CN1100R Dual Port Converged Network Adapter	QW990A

HPE Rack Options

Rail Kits

HPE 1U Gen10 SFF Ball Bearing Rail Kit	872252-B21

NOTE: HPE rail kits contain telescoping rails which allow for in-rack serviceability.
NOTE: 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 Racks

NOTE: Please see the **HPE Advanced Series Racks QuickSpecs** for information on additional racks options and rack specifications.

NOTE: Please see the **HPE Enterprise Series Racks QuickSpecs** for information on additional racks options and rack specifications.

NOTE: Please see the **HPE Standard Series Racks QuickSpecs** for information on additional racks options and rack specifications.

HPE Power Distribution Units (PDUs)

NOTE: Please see the **HPE Basic Power Distribution Units (PDU) QuickSpecs** for information on these products and their specifications.

NOTE: Please see the **HPE Metered Power Distribution Units (PDU) QuickSpecs** for information on these products and their specifications.

NOTE: Please see the **HPE Intelligent Power Distribution Unit (PDU) QuickSpecs** for information on these products and their specifications.

NOTE: Please see the **HPE Metered and Switched Power Distribution Units (PDU) QuickSpecs** for information on these products and their specifications.

HPE Support Services

Installation & Start-up Services

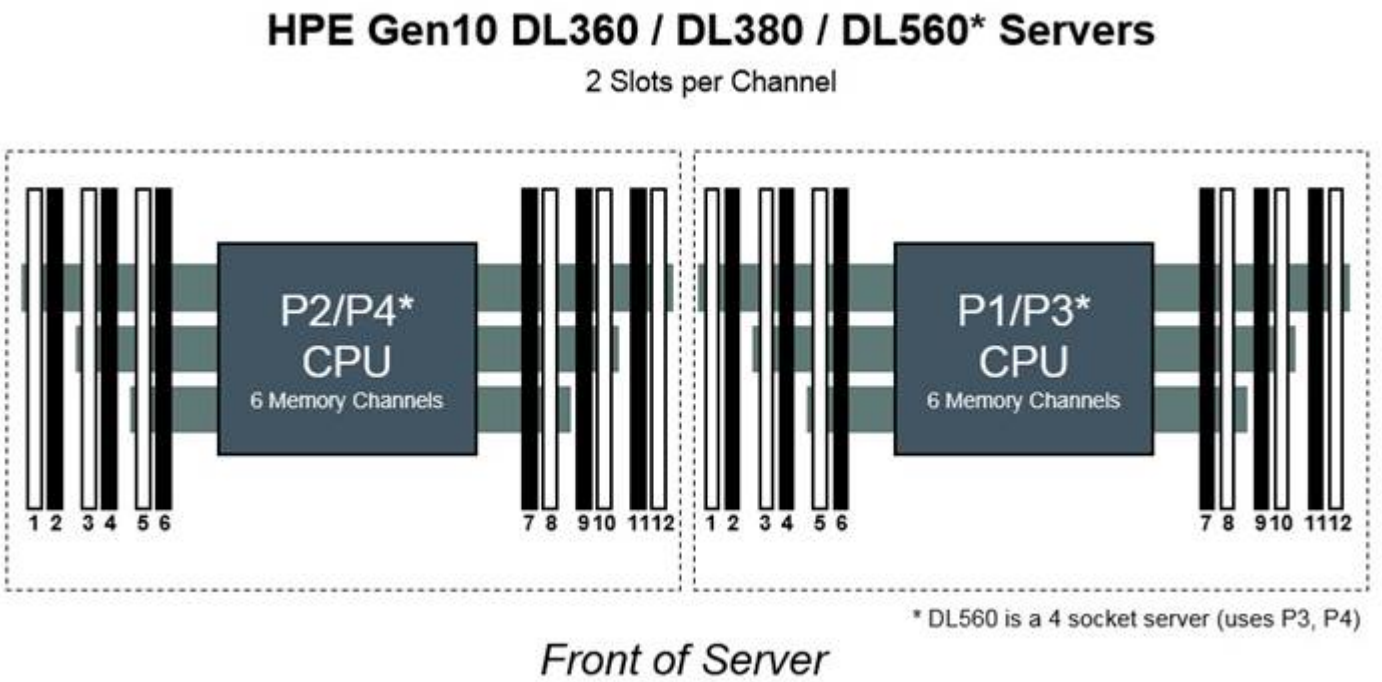
HPE Install ProLiant DL36x(p) Service	U4506E
HPE Installation and Startup DL36x(p) Service	U4507E

Proactive Care

HPE 3 Year Proactive Care 24x7 DL360 Gen10 Service	H8QF3E
HPE 3 Year Proactive Care 24x7 with DMR DL360 Gen10 Service	H8QF4E
HPE 3 Year Proactive Care 24x7 with CDMR DL360 Gen10 Service	H8QF5E
HPE 3 Year Proactive Care Call-To-Repair DL360 Gen10 Service	H8QG2E
HPE 3 Year Proactive Care Call-To-Repair 24x7 with DMR DL360 Gen10 Service	H8QG3E
HPE 3 Year Proactive Care Call-To-Repair with CDMR DL360 Gen10 Service	H8QG4E

Memory

Memory Population guidelines



HPE ProLiant Gen10 12 slot per CPU DIMM population order												
1 DIMM								8				
2 DIMMs								8		10		
3 DIMMs								8		10		12
4 DIMMs			3		5			8		10		
5 DIMMs			3		5			8		10		12
6 DIMMs	1		3		5			8		10		12
7 DIMMs	1		3		5		7	8		10		12
8 DIMMs			3	4	5	6	7	8	9	10		
9 DIMMs	1		3		5		7	8	9	10	11	12
10 DIMMs	1		3	4	5	6	7	8	9	10		12
11 DIMMs	1		3	4	5	6	7	8	9	10	11	12
12 DIMMs	1	2	3	4	5	6	7	8	9	10	11	12

General Memory Population Rules and Guidelines:

. 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.

Memory

. To maximize performance, it is recommended to balance the total memory capacity between all installed processors.

. When two processors are installed, balance the DIMMs across the two processors.

. White DIMM slots denote the first slot to be populated in a channel.

. Mixing of DIMM types (UDIMM, RDIMM, and LRDIMM) is not supported.

. 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 number of DIMM slots on the platform, the largest DIMM capacity qualified on the platform, the number and model of installed processors qualified on the platform.

. For details on the HPE Server Memory Options Population Rules, visit: **http://www.hpe.com/docs/memory-population-rules**

. To realize the performance memory capabilities listed in this document, HPE DDR4 SmartMemory is required. For additional information, please see the **HPE DDR4 SmartMemory QuickSpecs.**

DIMM Type	**Register DIMM (RDIMM)**			
HPE SKU P/N	876181-B21	815098-B21	835955-B21	815100-B21
SKU Description	HP 8GB 1Rx8 PC4-2666V-R Kit	HPE 16GB 1Rx4 PC4-2666V-R Kit	HPE 16GB 2Rx8 PC4-2666V-R Kit	HPE 32GB 2Rx4 PC4-2666V-R Kit
DIMM Rank ->	Dual Rank (2R)	Single Rank (1R)	Dual Rank (2R)	Dual Rank (2R)
DIMM Capacity ->	8GB	16GB	16GB	32GB
Voltage	1.2V	1.2V	1.2V	1.2V
DRAM depth [bit]	1G	2G	1G	2G
DRAM Width [bit]	x8	x4	x8	x4
DRAM Density	8Gb	8Gb	8Gb	8Gb
CAS Latency	19-19-19	19-19-19	19-19-19	19-19-19
DIMM Native Speed (MT/s)	2666 MT/s	2666 MT/s	2666 MT/s	2666 MT/s
Intel Xeon®Platinum/Gold 81xx/61xx Processors Officially Supported Memory Speed (MT/s)				
1 DIMM Per Channel	2666 MT/s	2666 MT/s	2666 MT/s	2666 MT/s
2 DIMM Per Channel	2666 MT/s	2666 MT/s	2666 MT/s	2666 MT/s
Intel Xeon®Gold/Silver 51xx/41xx Processors Officially Supported Memory Speed (MT/s)				
1 DIMM Per Channel	2400 MT/s	2400 MT/s	2400 MT/s	2400 MT/s
2 DIMM Per Channel	2400 MT/s	2400 MT/s	2400 MT/s	2400 MT/s
Intel Xeon®Bronze 31xx Processors Officially Supported Memory Speed (MT/s)				
1 DIMM Per Channel	2133 MT/s	2133 MT/s	2133 MT/s	2133 MT/s
2 DIMM Per Channel	2133 MT/s	2133 MT/s	2133 MT/s	2133 MT/s
HPE Server Memory Speed (MT/s): Intel Xeon®Platinum/Gold 81xx/61xx Processors *				
1 DIMM Per Channel	2666 MT/s	2666 MT/s	2666 MT/s	2666 MT/s
2 DIMM Per Channel	2666 MT/s	2666 MT/s	2666 MT/s	2666 MT/s
HPE Server Memory Speed (MT/s): Intel Xeon®Gold/Silver 51xx/41xx Processors *				
1 DIMM Per Channel	2400 MT/s	2400 MT/s	2400 MT/s	2400 MT/s
2 DIMM Per Channel	2400 MT/s	2400 MT/s	2400 MT/s	2400 MT/s
HPE Server Memory Speed (MT/s): Intel Xeon®Bronze 31xx Processors *				
1 DIMM Per Channel	2133 MT/s	2133 MT/s	2133 MT/s	2133 MT/s

Memory

2 DIMM Per Channel	2133 MT/s	2133 MT/s	2133 MT/s	2133 MT/s

NOTE: The maximum memory speed is a function of the memory type, memory configuration, and processor model.

For details on the HPE Server Memory speed, visit: **https://www.hpe.com/docs/memory-speed-table**

DDR4 memory options part number decoder

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

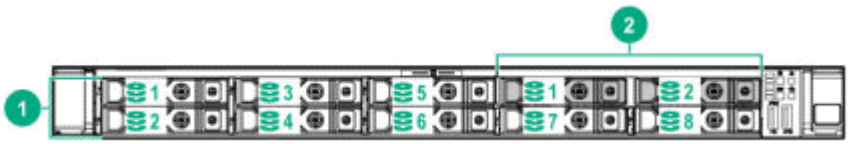
- 8GB = 8,192 MB
- 16GB = 16,384 MB
- 32GB = 32,768 MB

For more information on memory, please see the Memory Quickspecs: **HPE DDR4 SmartMemory**

Storage

8 SFF + ODD device bay numbering

8 SFF + 2 SFF device bay numbering



Item	Description
1	Bays 1-8
2	Bays 1 and 2

Technical Specifications

System Unit		
Dimensions (Height x Width x Depth)	4.29 x 43.46 x 70.7 cm 1.69 x 17.11 x 27.83 in	SFF Drives
Weight (approximate)	13.04 kg 28.74 lb	SFF minimum: One drive, one processor, one power supply, two heatsinks, one Smart Array controller, and five fans.
	16.27 kg 35.86 lb	SFF maximum: 10 drives, two processors, two power supplies, two heatsinks, one Smart Array controller and seven fans.
Input Requirements (per power supply)	Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
BTU Rating	Maximum	For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VDC) for China Only
Power Supply Output (per power supply)	Rated Steady-State Power	For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VDC) input for China only For 800W DC Power Supply: 800W (at -40 VDC), 800W (at -48 VDC), 800W (at -72 VDC)
System Inlet Temperature	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). 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
	Extended Ambient Operating Support	For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system 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.
	Operating	GR-63-CORE, Section 4.1.2: Shelf Level Operating Temperature and Humidity ETSI EN 300 019-2-3: Stationary Use at Weather Protected Locations, Class 3.1E
	Non-operating	GR-63-CORE, Section 4.1.1, Transportation and Storage Environment ETSI EN 300 019-2-1: Storage, Class 1.2 ETSI EN 300 019-2-2: Transportation, Class 2.3
Relative Humidity (non-condensing)	Operating	GR-63-CORE, Section 4.1.2: Shelf Level Operating Temperature and Humidity ETSI EN 300 019-2-3: Stationary Use at Weather Protected Locations, Class 3.1E
	Non-operating	GR-63-CORE, Section 4.1.1: Transportation and Storage Environment ETSI EN 300 019-2-1:Storage, Class 1.2
Altitude	Operating	GR-63-CORE, Section 4.1.3: Shelf Level Altitude
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
Emissions Classification (EMC)	FCC Rating	Class A
	Telecom	GR-1089-CORE, Section 3: Electromagnetic Interference ETSI EN 300 386: Electromagnetic Compatibility
	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.
NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.

For information on the HPE Smart Array E208i-a SR Gen10 Controller please refer to their **QuickSpecs**.
For information on the HPE Smart Array E208i-a SR G10 LH Controller please refer to their **QuickSpecs**.

Technical Specifications

For information on the HPE Smart Array E208i-p SR Gen10 Controller please refer to their **QuickSpecs**.
For information on the HPE Smart Array E208e-p SR Gen10 Controller please refer to their **QuickSpecs**.
For information on the HPE Smart Array P408i-a SR Gen10 Controller please refer to their **QuickSpecs**.
For information on the HPE Smart Array P408i-a SR G10 LH Controller please refer to their **QuickSpecs**.
For information on the HPE Smart Array P408i-p SR Gen10 Controller please refer to their **QuickSpecs**.
For information on the HPE Smart Array P408e-p SR Gen10 Controller please refer to their **QuickSpecs**.
For information on the HPE Smart Array P816i-a SR Gen10 Controller please refer to their **QuickSpecs**.
For information on the HPE Smart Array P816i-a SR G10 LH Controller please refer to their **QuickSpecs**.

Environment-friendly Products and Approach - End-of-life Management and Recycling	Hewlett Packard Enterprise offers **end-of-life product return, trade-in, and recycling programs**, in many geographic areas, for our products. 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.** 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
05-Mar-2018	Version 1	Created	New QuickSpecs.

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

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