RETIRED: This document has been officially retired, and the base products listed herein are now considered obsolete and are no longer available for sale. Consequently, the information contained within may no longer be current. This document is provided exclusively for reference and informational purposes.

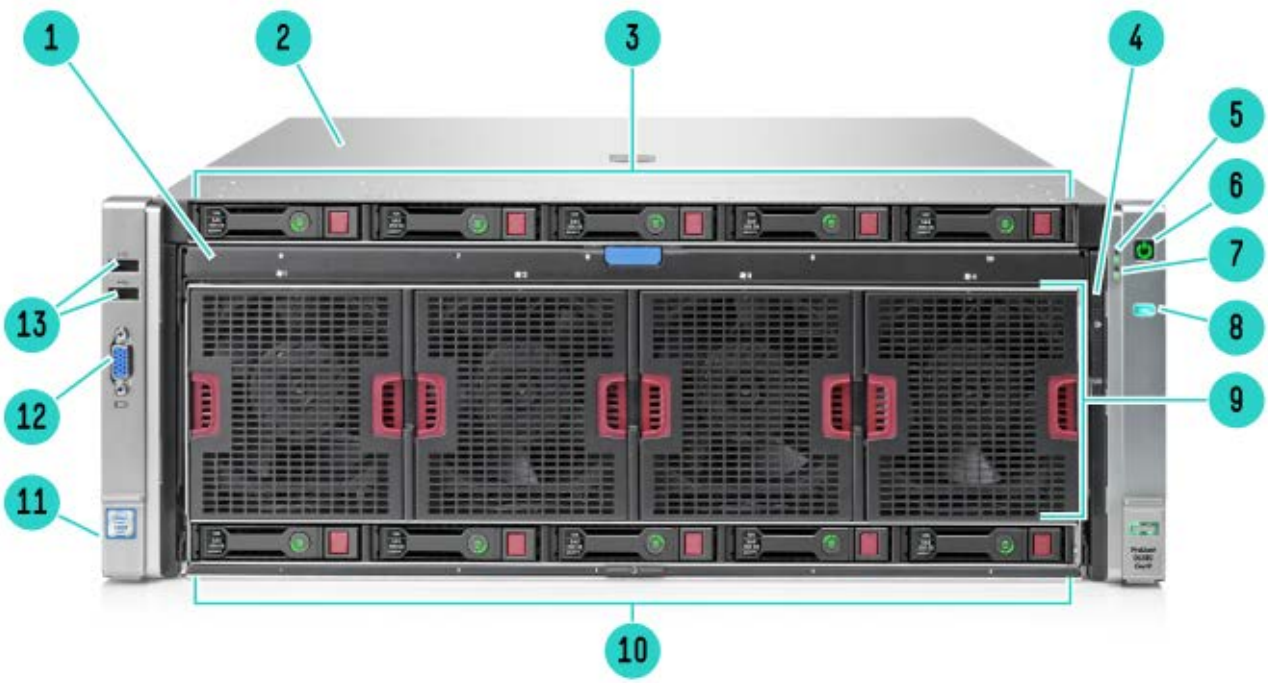
Overview

HPE ProLiant DL580 Generation9 (Gen9)

The HPE ProLiant DL580 Gen9 Server is the Hewlett Packard Enterprise four socket (4S) enterprise standard x86 server offering commanding performance, rock-solid reliability and availability, and compelling consolidation and virtualization efficiencies.

Supporting Intel® Xeon® E7-4800/8800 v4/v3 processors, the HPE DL580 Gen9 offers enhanced processor performance, up to 6 TBs of memory, greater IO bandwidth (9 PCIe Gen3.0 slots), and 12 Gb/s of SAS speeds. HPE ProLiant DL580 Gen9 has security and data protection features for system resiliency that your business can depend on. All, making it ideal for mission-critical enterprise, business intelligence, and database applications.

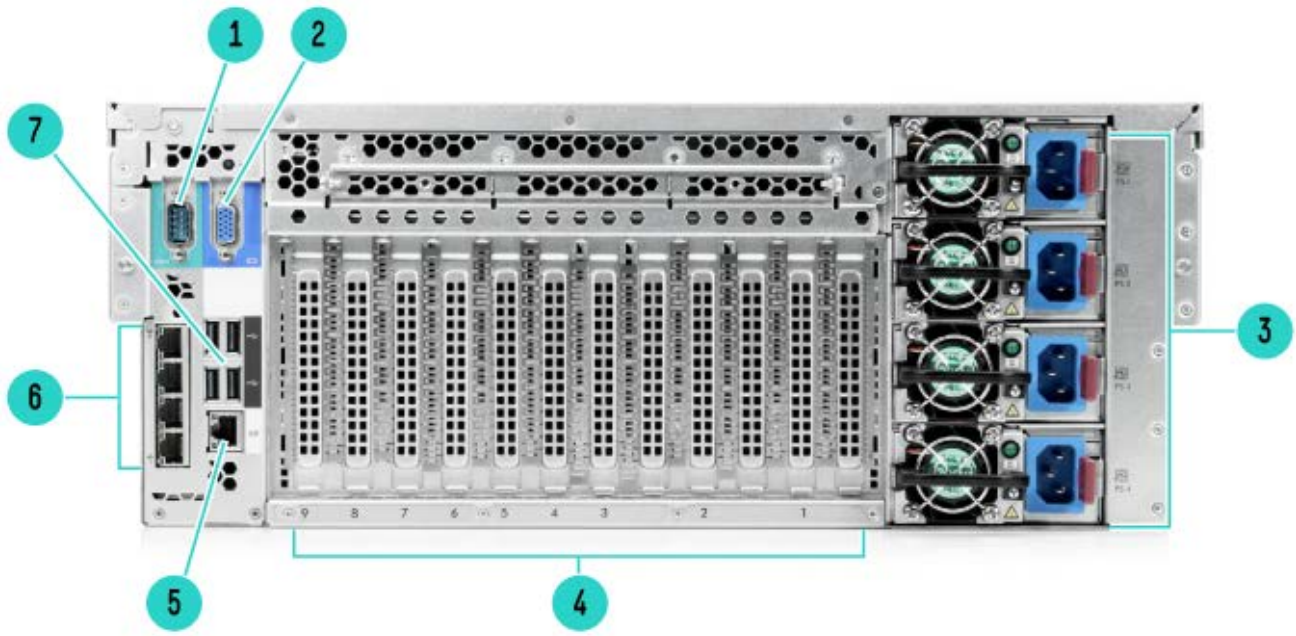
Whether needed for highly virtualized or cloud based deployments, with intelligence and simplicity of automated management with HPE OneView and HPE iLO 4 your business can achieve agile and lower cost infrastructure management.



Front View

1. CPU Memory Drawer Handle
2. Quick removal access panel
3. Drive bays 6-10
   NOTE: Drives installed in these bays require the optional SAS backplane and cables.
   NOTE: Optional NVMe drives are only supported in Drive bays 6-10.
4. Systems Insight Display
5. Health Status LED
6. Power On/Standby button and system power LED button
7. NIC status LED
8. UID button
9. Fans 1-4
10. Drive bays 1-5
11. Discovery services connectors
12. Video connector
13. USB connectors (2)

Overview

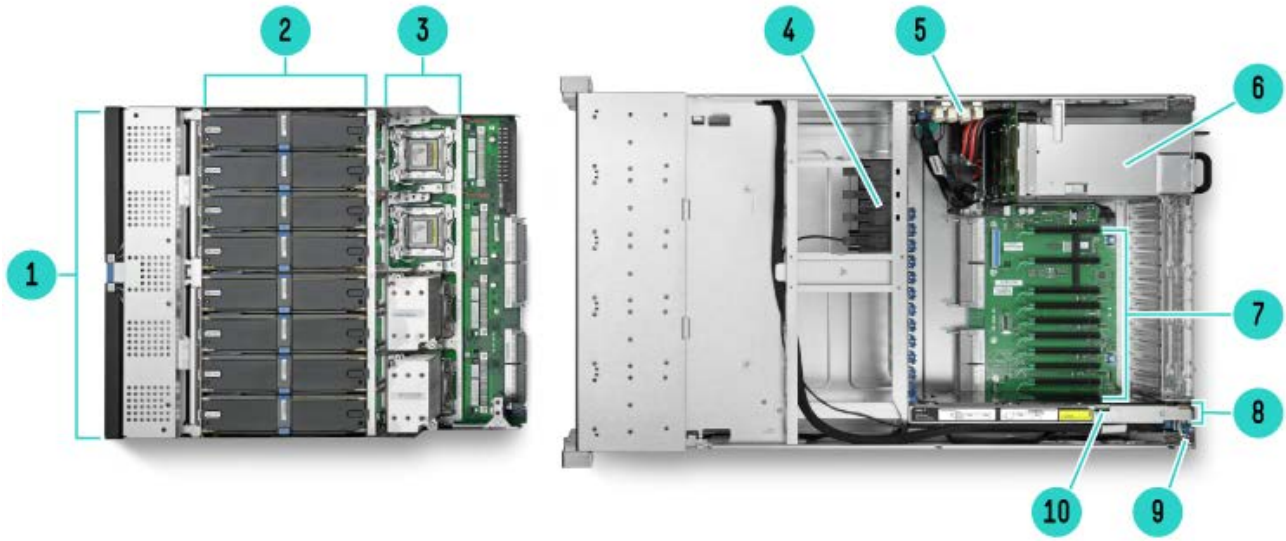


Rear View

1. Serial connector
2. Video connector
3. Power Supplies 1-4
4. PCI expansion slots 1-9
5. Dedicated iLO connector
6. FlexibleLOM ports 1-4
7. USB connectors (4)

NOTE: Port configuration is dependent on the installed FlexibleLOM and may differ from what is shown in the illustration.

Overview



Internal View

1. CPU Memory Drawer
2. Memory Cartridges 1-8
3. Processors 1-4
4. FBWC capacitor slots 1-4
5. I/O Card Auxiliary Power Connectors
6. Power Supplies
7. PCI expansion slots 1-9
8. FlexibleLOM connector
9. SPI board (houses iLO chip, FBWC, microSD slot, 2x USB slots, TPM, top SAS backplane connector)
10. MicroSD Slot

What's New

- New 128GB memory
- HPE Lockstep Memory Mode FIO Setting
- HPE 2.4TB SAS 12G Enterprise 10K SFF SC 512e DSF HDD

Standard Features

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

Processor
One or more of the following depending on model

Model	CPU frequency	Cores	L3 Cache	Power	QPI	DDR4 Hz
E7-8893v3	3.2GHz	4	45MB	140W	9.6GT/s	1866
E7-8891v3	2.8GHz	10	45MB	165W	9.6GT/s	1866
E7-8890v3	2.5GHz	18	45MB	165W	9.6GT/s	1866
E7-8880v3	2.3GHz	18	45MB	150W	9.6GT/s	1866
E7-8880Lv3	2.0GHz	18	45MB	115W	9.6GT/s	1866
E7-8870v3	2.1GHz	18	45MB	140W	9.6GT/s	1866
E7-8867v3	2.5GHz	16	45MB	165W	9.6GT/s	1866
E7-8860v3	2.2GHz	16	40MB	140W	9.6GT/s	1866
E7-4850v3	2.2GHz	14	35MB	115W	8.0GT/s	1866
E7-4830v3	2.1GHz	12	30MB	115W	8.0GT/s	1866
E7-4820v3	1.9GHz	10	25MB	115W	6.4GT/s	1866
E7-4809v3	2.0GHz	8	20MB	115W	6.4GT/s	1866
E7-8894v4	2.4GHz	24	60MB	165W	9.6GT/s	1866
E7-8893v4	3.2GHz	4	60MB	140W	9.6GT/s	1866
E7-8891v4	2.8GHz	10	60MB	165W	9.6GT/s	1866
E7-8890v4	2.2GHz	24	60MB	165W	9.6GT/s	1866
E7-8880v4	2.2GHz	22	55MB	150W	9.6GT/s	1866
E7-8870v4	2.1GHz	20	50MB	140W	9.6GT/s	1866
E7-8867v4	2.4GHz	18	45MB	165W	9.6GT/s	1866
E7-8860v4	2.2GHz	18	45MB	140W	9.6GT/s	1866
E7-4850v4	2.1GHz	16	40MB	115W	8.0GT/s	1866
E7-4830v4	2.0GHz	14	35MB	115W	8.0GT/s	1866
E7-4820v4	2.0GHz	10	25MB	115W	6.4GT/s	1866
E7-4809v4	2.1GHz	8	20MB	115W	6.4GT/s	1866

Chipset

Intel® C602J Chipset
Intel® Xeon® E7-4800/8800v3 Processor Family
Intel® Xeon® E7-4800/8800v4 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) 4GB NAND
NOTE: Read and learn more in the **iLO QuickSpecs**.

Memory
One of the following depending on model

Type:
HPE SmartMemory
DDR4 Registered (RDIMM) and Quad Rank Load Reduced (LRDIMM)
DIMM Slots Available 96
Maximum Capacity 12TB (96 x 128GB)

Standard Features

NOTE: Hewlett Packard Enterprise 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. For additional information, please see the **HPE SmartMemory QuickSpecs**.
NOTE: LRDIMM and RDIMM are distinct memory technologies and cannot be mixed within a server.
NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1866MHz, 1600MHz, or 1333MHz. Please see Memory Population Table below or the Online Memory Configuration Tool at: **HPE Server Memory Configurator**.

Network Controller

FlexibleLOM

HPE ProLiant Gen9 servers offer a new flexible network technology - FlexibleLOMs, which offers customers a choice of 1Gb, 10Gb, or 10Gb base-T Ethernet or converged networking in their embedded adapter:

HPE Ethernet 1Gb 4-port 331FLR FIO Adapter
HPE Ethernet 1Gb 4-port 366FLR FIO Adapter
HPE FlexFabric 10Gb 2-port 533FLR-T FIO Adapter
HPE FlexFabric 10Gb 2-port 534FLR-SFP+ FIO Adapter
HPE Ethernet 10Gb 2-port 546FLR-SFP+ FIO Adapter
HPE FlexFabric 10Gb 2-port 556FLR-SFP+FIO Adapter
HPE FlexFabric 10Gb 2-port 556FLR-T FIO Adapter
HPE Ethernet 10Gb 2-port 560FLR-SFP+ FIO Adapter
HPE Ethernet 10Gb 2-port 561FLR-T FIO Adapter
HPE Ethernet 10Gb 2-port 562FLR-SFP+FIO Adapter

NOTE: For additional details see the Networking Section of this document.
NOTE: Wake-on-LAN feature is not supported on the DL580 Gen9 with FlexibleLOMs.

Expansion Slots

Primary Riser (Standard)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	PCIe 3.0	x16	x16	C0/03/0	Full length/full height	Proc 4
2	PCIe 3.0	x16	x16	C0/02/0	Full length/full height	Proc 4
3	PCIe 3.0	x16	x16	80/03/0	Full length/full height	Proc 3
4	PCIe 3.0	x8	x16	80/02/0	Full length/full height	Proc 3
5	PCIe 3.0	x8	x16	80/02/1	Full length/full height	Proc 3
6	PCIe 3.0	x16	x16	40/03/0	Full length/full height	Proc 2
7	PCIe 3.0	x8	x16	40/02/0	Full length/full height	Proc 2

Standard Features

8	PCIe 3.0	x8	x16	40/02/1	Full length/full height	Proc 2
9	PCIe 3.0	x16	x16	00/03/0	Full length/full height	Proc 1

NOTE: PCIe slot availability is dependent on the number of processors installed.
NOTE: Inserting cards with PCI bridges may alter the actual bus assignment number.
NOTE: Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).
NOTE: Bus Width Indicates the number of physical electrical lanes running to the connector.
NOTE: When populating the second optional riser slot, the second processor must be installed.
NOTE: All slots support PCIe cards to 150W or more depending on card but an additional Power Cord Option is required (PN 669777-B21). See Option Section below for offering.
NOTE: Double wide PCIe cards are only supported in risers with the Processors leveraging the High Performance Heatsink.
NOTE: Up to 9 slots supported; all full-length/full-height. Standard: 4 PCI-E 3.0 x8, 5 PCI-E 3.0 x16.

Internal Storage Devices
One of the following depending on model

Hard Disk Drive Backplane	Internal SAS lower and upper backplanes support up to ten SFF hard disk drives or solid state drives or Express Bays (NVMe drives) **NOTE:** For Factory Integrated models, five (5) lower drive bays ship standard and five (5) upper drive bays can be ordered separately with a drive backplane kits. For Pre-configured models, please refer to the pre-configured models section below.
Diskette Drive	None
Optional Optical Drive	External
Hard Drives	None ship standard

Maximum Internal Storage

	CAPACITY	CONFIGURATION
Hot Plug SFF SAS	24TB	10 x 2.4TB
Hot Plug SFF SAS SSD	38.4TB	10 x 3.84TB
Hot Plug SFF SATA SSD	38.4TB	10 x 3.84TB
Hot Plug SFF NVMe PCIe SSD	8TB	5 x 1.6TB

NOTE: Optional support for 5 NVMe SSDs or 5 SFF drives are also available.

Power Supply
One of the following depending on model

HPE 1500W Common Slot Platinum Plus Hot Plug Power Supply
HPE 1500W Common Slot 48VDC Hot Plug Power Supply
NOTE: 1500W power supply supports high line voltage only.
HPE 1200W Common Slot Platinum Plus Hot Plug Power Supply
NOTE: A minimum of two (2) power supplies are required. Four (4) 1500W power supplies offers N+N redundancy for highly loaded configurations.
Prior to making a power supply selection it is highly recommended that the HPE Power Advisor is run to determine the right size power supply for your server configuration. The HPE Power Advisor is located at: **http://www.hpe.com/info/hppoweradvisor**.

The Hewlett Packard Enterprise Common Slot (CS) power supplies allow for commonality of power supplies across a wide range of ProLiant and Integrity servers, as well as HPE Storage solutions, and are designed to provide the highest power supply efficiency without degrading system performance. Hewlett

Standard Features

Packard Enterprise CS power supplies are tested by the Electric Power Research Institute (EPRI) and certified through the ECOS 80 Plus power supply program. HPE CS power supply options provide efficiency ratings of up to 94% (80 Plus Platinum) and are available. All Hewlett Packard Enterprise Common Slot power sources are UL, CE Mark Compliant, hot-plug and support redundant configurations.
HPE CS Platinum Plus power supplies are required when enabling HPE's Intelligent Power Discovery (IPD) solution. IPD is the first technology to create an automated, energy-aware network between IT systems and facilities. This allows your company to reclaim millions of dollars in wasted power capacity and downtime costs across data centers. For more information on the Hewlett Packard Enterprise IPD solution, go to **HPE Intelligent Power Distribution Units**.

NOTE: Mixing of power supplies in the same server is not supported. All power supplies must be of the same output and efficiency rating. If non-matched power supplies are inserted you will get errors and operation will fail.

Required Cabling	**Server Power Cords** Server ships with high-voltage server to PDU power cord. **NOTE:** If customers require a local power cord, they can check the power cord matrix for the appropriate county specific SKU. Please see the **power cord matrix** for details.

System Fans One of the following depending on model	**Non-redundant**	**Redundant**
	4 Hot Plug Fans (eight rotors with N+1 redundancy)	

Interfaces	Serial	1 back
	Video	1 front; 1 back
	FlexibleLOM Network Ports	Selection of FlexibleLOM options
	iLO 4 Remote Management	1 x 1Gbe dedicated
	Micro SD Slot	1 internal
	NOTE: Dual microSD USB option kit also available (741279-B21).	
	USB 2.0 Ports	8 total: 2 front; 4 back; 2 internal

Operating Systems and Virtualization Software Support for ProLiant Servers	**Microsoft Windows Server** **Red Hat Enterprise Linux (RHEL)** **SUSE Linux Enterprise Server (SLES)** **VMware** **CentOS** **Oracle Linux** **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, please visit our Support Matrix at: **http://www.hpe.com/info/ossupport** and our driver download page **http://h20565.www2.hpe.com/hpsc/swd/public/readIndex?sp4ts.oid=8090151**.

Upgradeability	Upgradeable to 4 processors Up to 96 DDR4 DIMM slots 9 PCIe Gen3 expansion slots **NOTE:** PCIe slot availability is dependent on the number of processors installed. Please refer to the "Expansion Slots" section for more details.

Standard Features

10 SFF internal HDD/SSD SAS drive bays or 5 SFF Internal Express Bays + 5 SFF Internal HDD/SSD drive bays

NOTE: Five drive bays come standard. An optional five SAS drive or five Express backplane kit with five drive bays can be ordered for ten drives.

5 NVMe SSD drive bays

4 redundant hot-plug power supplies

Industry Standard Compliance

ACPI 2.0. Compliant

PCIe 2.0 Compliant

PXE Support

WOL Support

NOTE: Not supported with FlexLOMs on DL580 Gen9.

Physical Address Extension (PAE) Support

Microsoft® Logo certifications

USB 2.0 Support

ASHRAE A3/A4

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

Graphics

Integrated Matrox G200 video standard

- 16 MB Flash
- 256 MB DDR 3 with ECC (112 MB after ECC and video)

HPE iLO 4 On System Management Memory

- 16 MB Flash
- 256 MB DDR 3 with ECC (112 MB after ECC and video)

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 Gen9 platform defaults to UEFI and can be factory or 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/servers/uefi**.

UEFI enables numerous new capabilities specific to HPE ProLiant 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 RESTful API for iLO 4
- PXE boot support for IPv6 networks
- Boot support for option cards that only support a UEFI option ROM
- Network Stack configurations

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 Gen9 Server.

Form Factor

4U rack

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 **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**.
	RESTful API	RESTful API for iLO 4 is Redfish 1.0 conformance for simplified server management such as configuration and maintenance tasks based on modern industry standards. Learn more at **http://www.hpe.com/info/restfulapi**.
	Intelligent Provisioning	Hassle free server and OS provisioning for 1 or few servers with Intelligent Provisioning. Learn more at **http://www.hpe.com/servers/intelligentprovisioning**.
	Embedded Remote Support	The Hewlett Packard Enterprise embedded remote support, when 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 **http://www.hpe.com/info/insightonline/explore**.
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 **http://www.hpe.com/servers/smartupdatemanager**.
	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-HPE servers. HPE SIM also integrates with Smart Update Manager to provide quick and seamless firmware updates. Learn more at **http://www.hpe.com/servers/hpsim**.
	Scripting Tool Kit and Windows PowerShell	Provision 1 to many servers using your own scripts to discover and deploy them with Scripting Tool Kit (STK) for Windows and Linux or Scripting Tools for Windows PowerShell. Learn more at **http://www.hpe.com/servers/proliant/stk** or **http://www.hpe.com/servers/powershell**.
	RESTful Interface Tool	RESTful Interface tool is a scripting tool to provision using RESTful API for iLO 4 to discover and deploy servers at scale. Learn more at **http://www.hpe.com/info/resttool**.
	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**.
	HPE Insight Online	HPE Insight Online, available at no additional cost as part of your Hewlett Packard Enterprise warranty 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 **http://www.hpe.com/info/insightonline/explore**.

Standard Features

Security

Power-on password

Keyboard password

External USB port enable/disable

Network Server Mode

Serial interface control

Administrator's password

Trusted Platform Module (TPM)

TPM 2.0

NOTE: HPE Trusted Platform Module 2.0 Option (745823-B21) works with Gen9 servers with UEFI Mode not Legacy Mode. It is not compatible with HP ProLiant Gen8 servers or earlier generation variants. HPE Gen9 servers purchased earlier may need the latest firmware update to be compatible with the TPM 2.0 Option. The earlier HPE Trusted Platform Module Option (488069-B21) is the TPM 1.2 version, which is also available however TPM 2.0 has newer technology standards incorporated. The TPM 1.2 compatible server platforms include Gen8 and Gen9 servers. HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

Intel® Secure Key

HPE Secure Encryption (Smart Array Controller)

HPE Advanced Data Guard (Smart Array Controller)

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 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 HPE 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

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 **http://www.hpe.com/servers/iloadvanced**.
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 **http://www.hpe.com/info/insightcontrol**.
	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**.
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 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**	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 HPEC Server. A Cluster Platform Configurator simplifies ordering. **http://www.hpe.com/info/cmu**.
	HPE HPEC Interconnects	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 a Hewlett Packard Enterprise cluster. Flexible, validated solutions can be defined with the help of configuration tools. **https://www.hpe.com/info/hpc/solutions**.
	HPE Insight Cluster Management Utility	HPE Insight Cluster Management Utility (CMU) is a Hewlett Packard licensed and supported suite of tools that are used for lifecycle management of hyperscale clusters of Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. **http://www.hpe.com/info/cmu**.
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

Optional Features

defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPEC Clusters with InfiniBand Interconnects: **https://www.hpe.com/info/hpc/solutions**.

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 Hewlett Packard Enterprise 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 cost-effectively protect you against disaster and ensure business continuity.
- **Data Archive and Migration Software**
  Hewlett Packard Enterprise 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)**
  Hewlett Packard Enterprise 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 Hewlett Packard Enterprise 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 are available at **http://www.hpe.com/info/vsa1TB**.

NOTE: For more information about Storage Software including QuickSpecs, please see: **https://www.hpe.com/us/en/solutions/hpc-high-performance-computing/hpc-software.html**.

Solutions

Factory Express Portfolio 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 ProLiant Server Blades, HPE BladeSystem, HPE 9000 servers as well as the MSAxxxx, VA7xxx, EVA, 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**.

Optional Features

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. **http://ocs.ext.hpe.com/**.

Service and Support

HPE Support Services

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. HPE Support Services enable you to choose the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement to the support for need for your IT and business.

Connect your devices

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77%[1] reduction in down time, near 100%[2] diagnostic accuracy and 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 Hewlett Packard Enterprise support.

1- IDC 2 – HP CSC reports 2014 - 2015

Recommended Support

Standard: HPE Proactive Care* with 24x7 coverage, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to Hewlett Packard Enterprise, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This service combines three years proactive reporting and advice with our 24x7 coverage, four hour hardware response time when there is a problem. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers.

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

Optimized HPE Proactive Care* with 6 hour call-to-repair commitment, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to Hewlett Packard Enterprise, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This service combines three years' proactive reporting and advice with our highest level of hardware support – 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. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers.

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

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.

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

HPE Installation and Startup Service

Service and Support

Provides for the installation and startup of Hewlett Packard Enterprise technology including BladeSystems, C-Class enclosure, HPE ProLiant c-Class and Integrity server blades, storage blades, SAN switch blades, HPE Virtual Connect modules (Ethernet and Fibre Channel), Ethernet network interconnects, and InfiniBand, as well as the installation of one supported operating system type (Windows® or Linux).

HPE Technology Services Support Credits
Offer flexible services and technical skills to meet your changing IT demands. With a menu of service that is tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak performance of your IT. Offered as annual credits, you can plan your budgets while proactively responding to your dynamic business.

HPE Education Services

Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment. **http://www.hpe.com/ww/learn**

HPE Support Center

The HPE Support Center is a 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://www.hpe.com/support/hpesc**

The Hewlett Packard Enterprise 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, HPE Support Service or Hewlett Packard Enterprise contractual support agreement.

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

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

Pre-configured Models

	High Performance Models		Database Models
[SKU Number]	816815-B21	816816-B21	816814-B21
Model Name	HPE ProLiant DL580 Gen9 E7-8890v4 4P 256GB-R P830i/4G 534FLR-SFP 1500W RPS Server	HPE ProLiant DL580 Gen9 E7-4850v4 4P 128GB-R P830i/4G 534FLR-SFP 1200W RPS Server	HPE ProLiant DL580 Gen9 E7-8893v4 4P 256GB-R P830i/4G 534FLR-SFP 1500W RPS Server
Processor	Intel® Xeon® E7-8890v4	Intel® Xeon® E7-4850v4	Intel® Xeon® E7-8893v3
Number of Processors	Four		
Memory	256GB (16x16GB DIMMs) PC4-2400P-R DIMMs (DDR4) installed in (8) Memory Cartridges	128GB (8x16GB DIMMs) PC4-2400P-R DIMMs (DDR4) installed in (4) Memory Cartridges	256GB (16x16GB DIMMs) PC4-2133P-R DIMMs (DDR4) installed in (8) Memory Cartridges
Network Controller	HPE FlexFabric 10Gb 2P 534FLR-SFP+ Adapter		
Storage Controller	HPE Smart Array P830i/4GB FBWC 12Gbps SAS controller		
Hard Drive	5 SFF HDD/SSD drive bays. No drives ship standard.		
Optical Drive	None		
PCI-Express Slots	9 PCIe Gen3.0 I/O Expansion slots (5x16 slots, 4x8 slots)		
Power Supply	(4) HPE 1500W Common Slot Platinum Plus Hot Plug Power Supplies	(4) HPE 1200W Common Slot Platinum Plus Hot Plug Power Supplies	(4) HPE 1500W Common Slot Platinum Plus Hot Plug Power Supplies
Fans	4 hot plug fans (eight rotors with N+1 redundancy)		
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (standard), Insight Control (optional), HPE OneView (standard)		
Form Factor	Rack (4U), rail kit and cable management arm are included		
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response		

Pre-configured Models

	Base Models
[SKU Number]	816817-B21
Model Name	HPE ProLiant DL580 Gen9 E7-4809v4 2P 64GB-R P830i/2G 331FLR-SFP 1200W RPS Server
Processor	Intel® Xeon® E7-4809v4
Number of Processors	Two
Memory	64GB (4x16GB DIMMs) PC4-2400P-R DIMMs (DDR4) installed in (2) Memory Cartridges
Network Controller	HPE Ethernet 1Gb 4P 331FLR Adapter
Storage Controller	HPE Smart Array P830i/2GB FBWC 12Gbps SAS controller
Hard Drive	5 SFF HDD/SSD drive bays. No drives ship standard.
Optical Drive	None
PCI-Express Slots	9 PCIe Gen3.0 I/O Expansion slots (5x16 slots, 4x8 slots)
Power Supply	(2) HPE 1200W Common Slot Platinum Plus Hot Plug Power Supplies
Fans	4 Hot Plug Fans (eight rotors with N+1 redundancy)
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control (optional), HPE OneView (optional)
Form Factor	Rack (4U), rail kit and cable management arm are included
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

NOTE: For the Standard Features shipped in the "Factory Integrated Models," please see the "Configuration Information - Factory Integrated Models" section.
NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
NOTE: HPE does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
NOTE: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.
NOTE: Not all models are available in all regions. Check with your local country HPE offices for availability.

Country Code Key	xx1 = B21	Worldwide
	xx1 = 291	Japan
	xx1 = AA1	PRC

Configuration Information - Factory Integrated Models

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 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 the number of initial hard drives ordered with the server.
4. 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 ProLiant DL580 Gen9 Configure-to-order Server
SKU Number	793161-B21
Processor	4U Server Chassis with front-accessible processor and memory drawer
Storage Controller	Embedded HPE Smart Array 12G P830i Controller
PCIe	9 PCIe Gen3.0 I/O Expansion slots (5x16 slots, 4x8 slots)
Drive Cage	5 Hot-plug SAS/SATA SFF SSD or HDD Bays (Lower)
Fans	4 hot plug fans (eight rotors with N+1 redundancy), front accessible
Management	iLO Management (standard), Intelligent Provisioning (standard)
USB	8 USB 2.0 ports (2 front, 4 rear, 2 internal)

(Base Configuration Continued)
Intel® 602J Chipset
(2) video ports (1 front, 1 rear)
(1) microSD card slot
(1) Trusted Platform Module (TPM) connector
BIOS Legacy mode (field configurable) or Unified Extensible Firmware Interface (UEFI) mode (default)
Rack rails and cable management arm

NOTE: PCIe slot availability is dependent on the number of processors installed. Please refer to the "Expansion slots" section for more details.
NOTE: A minimum of two processors are required. The system may have three or four processors installed.
NOTE: A minimum of two memory cartridges are required (one per processor).
NOTE: A minimum of two memory DIMMs are required per cartridge (minimum of four DIMMs per server).
NOTE: A minimum of two power supplies are required.

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

HPE Processors Select two, three or four processors from Core Options-Processor section below.

- If two processors are desired, select one xxxxxx-L21 and one xxxxxx-B21.
- If three or four processors are desired, select additional xxxxxx-B21.
- Up to 4 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 the quantity and type of DIMMs installed.

Configuration Information - Factory Integrated Models

HPE Memory Depending on the memory configuration and processor model, the memory speed may run at 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 two or four power supplies from Core Options-Power Supplies section below.

Step 3: Choose Additional Factory Integratable 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.

Factory Settings HPE Lockstep Memory Mode FIO Setting

NOTE: A minimum of four DIMMs per cartridge is required and all installed cartridges must have identical DIMM configuration.

HPE Drives The HPE ProLiant Gen9 Smart Storage solutions are equipped with re-designed Small Form Factor (SFF 2.5 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 FlexibleLOM 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.
- Please see the QuickSpecs for Technical Specifications and additional information: **http://www.hpe.com/servers/ProLiantNICs**.

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.

- 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 Graphics Options Select one or more graphics adapter from Additional Options section below.

- Please see the HPE Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HPE Power Advisor is located at: **http://www.hpe.com/info/hppoweradvisor**.
- This section may contain FIO options, please see HPE Computation & Graphics Accelerators section below.

Configuration Information - Factory Integrated Models

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 (p/n 695539-001).
- See Hewlett Packard Enterprise 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 an HPE approved configurator. Contact your local sales representative for additional information.

Unique Options	HPE Lockstep Memory Mode FIO Setting	773559-B21
	NOTE: A minimum of four DIMMs per cartridge is required and all installed cartridges must have identical DIMM configuration.	
HPE Processors	**E7-8800v4 series Processors**	
	HPE DL580 Gen9 Intel Xeon E7-8893v4 (3.2GHz/4-core/60MB/140W) Processor Kit	816661-B21
	HPE DL580 Gen9 Intel Xeon E7-8893v4 (3.2GHz/4-core/60MB/140W) FIO Processor Kit	816661-L21
	HPE DL580 Gen9 Intel Xeon E7-8891v4 (2.8GHz/10-core/60MB/165W) Processor Kit	816659-B21
	HPE DL580 Gen9 Intel Xeon E7-8891v4 (2.8GHz/10-core/60MB/165W) FIO Processor Kit	816659-L21
	HPE DL580 Gen9 Intel Xeon E7-8890v4 (2.2GHz/24-core/60MB/165W) Processor Kit	816643-B21
	HPE DL580 Gen9 Intel Xeon E7-8890v4 (2.2GHz/24-core/60MB/165W) FIO Processor Kit	816643-L21
	HPE DL580 Gen9 Intel Xeon E7-8870v4 (2.1GHz/20-core/50MB/140W) Processor Kit	816647-B21
	HPE DL580 Gen9 Intel Xeon E7-8870v4 (2.1GHz/20-core/50MB/140W) FIO Processor Kit	816647-L21
	HPE DL580 Gen9 Intel Xeon E7-8867v4 (2.4GHz/18-core/45MB/165W) Processor Kit	816665-B21
	HPE DL580 Gen9 Intel Xeon E7-8867v4 (2.4GHz/18-core/45MB/165W) FIO Processor Kit	816665-L21
	HPE DL580 Gen9 Intel Xeon E7-8860v4 (2.2GHz/18-core/45MB/140W) Processor Kit	816649-B21
	HPE DL580 Gen9 Intel Xeon E7-8860v4 (2.2GHz/18-core/45MB/140W) FIO Processor Kit	816649-L21
	HPE DL580 Gen9 Intel Xeon E7-8880v4 (2.2GHz/22-core/55MB/150W) Processor Kit	816645-B21
	HPE DL580 Gen9 Intel Xeon E7-8880v4 (2.2GHz/22-core/55MB/150W) FIO Processor Kit	816645-L21
	E7-4800v4 series Processors	
	HPE DL580 Gen9 Intel Xeon E7-4809v4 (2.1GHz/8-core/20MB/115W) Processor Kit	816657-B21
	HPE DL580 Gen9 Intel Xeon E7-4809v4 (2.1GHz/8-core/20MB/115W) FIO Processor Kit	816657-L21
	HPE DL580 Gen9 Intel Xeon E7-4820v4 (2.0GHz/10-core/25MB/115W) Processor Kit	816655-B21
	HPE DL580 Gen9 Intel Xeon E7-4820v4 (2.0GHz/10-core/25MB/115W) FIO Processor Kit	816655-L21
	HPE DL580 Gen9 Intel Xeon E7-4830v4 (2.0GHz/14-core/35MB/115W) Processor Kit	816653-B21
	HPE DL580 Gen9 Intel Xeon E7-4830v4 (2.0GHz/14-core/35MB/115W) FIO Processor Kit	816653-L21
	HPE DL580 Gen9 Intel Xeon E7-4850v4 (2.1GHz/16-core/40MB/115W) Processor Kit	816651-B21
	HPE DL580 Gen9 Intel Xeon E7-4850v4 (2.1GHz/16-core/40MB/115W) FIO Processor Kit	816651-L21
HPE Memory	**NOTE:** Hewlett Packard Enterprise memory from previous generation servers is not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory	

Core Options

performance improvements and enhanced functionality listed in this document for Gen9. For additional information, please see the **HPE SmartMemory QuickSpecs**.
NOTE: LRDIMM and RDIMM are distinct memory technologies and cannot be mixed within a server.
NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1866MHz, 1600MHz, or 1333MHz. Please see Memory Population Table below or the Online Memory Configuration Tool at: **http://www.hpe.com/servers/ddr4memoryconfig**.

Registered DIMMs (RDIMMs)

HPE 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Registered Memory Kit	805347-B21
HPE 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726718-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit	805349-B21
HPE 16GB (1x16GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit	836220-B21
HPE 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726719-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit	805351-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	728629-B21

Load Reduced DIMMs (LRDIMMs)

HPE 64GB (1x64GB) Quad Rank x4 DDR4-2400 CAS-17-17-17 Load Reduced Memory Kit	805358-B21
HPE 64GB (1x64GB) Quad Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit	726724-B21
HPE 128GB (1x128GB) Octal Rank x4 DDR4-2400 CAS-20-18-18 Load Reduced Memory Kit	809208-B21

Core Options

	Memory Expansion Options	
	HPE DL580 Gen9 12 DDR4 DIMM Slots Memory Cartridge	788360-B21
	NOTE: Up to Eight (8) memory cartridges are supported for 96 DIMM slots. **NOTE:** A minimum of two memory cartridges are required (one per processor). **NOTE:** A minimum of two memory DIMMs are required per cartridge (minimum of four DIMMs per server).	
HPE Optical Drives	HPE Mobile USB DVD-RW Optical Drive	701498-B21
HPE Drives	**NOTE:** 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. **NOTE:** Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.	
	12G SAS Hot Plug SFF (2.5-inch) Midline Drives	
	HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	832514-B21
	12G SAS Hot Plug SFF (2.5-inch) Enterprise Drives	
	HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872479-B21
	HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870759-B21
	HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872477-B21
	HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870757-B21
	HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872475-B21
	HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-B21
	12G SAS Hot Plug SFF (2.5-inch) SC 512e Drives	
	HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	881457-B21
	HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD	765466-B21
	HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-B21
	HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765464-B21
	HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	870765-B21
	SSD Selection To streamline the configuration process for HPE ProLiant Gen9 servers and to provide the best product availability, HPE recommends SSDs from the list located here: **http://www.hpe.com/products/recommend**.	
	12G SAS Mixed Use Hot Plug SFF (2.5-inch) Solid State Drives	
	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872386-B21
	HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872382-B21
	HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872376-B21
	HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872374-B21

Core Options

12G SAS Read Intensive Hot Plug SFF (2.5-inch) Solid State Drives

HPE 15.3TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	870148-B21
HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	870144-B21
HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875330-B21
HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872394-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872392-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875326-B21
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875313-B21
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872390-B21
HPE 480GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875311-B21

12G SAS Write Intensive Hot Plug SFF (2.5-inch) Solid State Drives

HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873357-B21
HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873355-B21
HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873351-B21

6G SATA Read Intensive Hot Plug SFF (2.5-inch) Solid State Drives

HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04570-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877764-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06200-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04566-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06198-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877758-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04564-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06196-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877752-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04560-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06194-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877746-B21

Core Options

HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875503-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04556-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877740-B21
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 Firmware SSD	P00896-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872352-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875478-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877788-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872348-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875474-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877782-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872344-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875470-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877776-B21
HPE 240GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875483-B21
HPE 240GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	880295-B21
6G SATA Hot Plug SFF (2.5-inch) SC Read Intensive Solid State Drives	
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875513-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875511-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875509-B21

Core Options

	HPE NVMe PCIe Mixed Use SFF (2.5 inch) Solid State Drives	
	HPE 1.92TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875591-B21
	HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875597-B21
	HPE 960GB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875589-B21
	HPE 800GB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875595-B21
	HPE 480GB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875587-B21
	HPE 400GB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875593-B21
	HPE 375GB NVMe x4 Lanes Write Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	878014-B21
	NOTE: To support NVMe PCIe SSDs you need to select the SSD Express Bay Kit (788359-B21), maximum of 5 drives supported. **NOTE:** Hewlett Packard Enterprise has qualified the NVMe drive portfolio using the Operating System inbox drivers. For full details please see the Solid State Drive QuickSpecs: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154378**.	
	HPE PCIe Mixed Use HHHL Card	
	HPE 6.4TB PCIe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	877829-B21
	HPE 3.2TB PCIe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	877827-B21
	HPE 1.6TB PCIe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	877825-B21
	HPE PCIe Write Intensive HHHL Card	
	HPE 750GB PCIe x4 Lanes Write Intensive HHHL 3yr Wty Digitally Signed Firmware Card	878038-B21
	Hard Drive Kits	
	HPE ProLiant DL580 5 Small Form Factor Drive Backplane Cage Kit	739405-B21
	HPE Small Form Factor Hard Drive Blank Kit	666987-B21
	HPE DL580 Gen9 NVMe 5 Solid State Drive Express Bay Enablement Kit	788359-B21
HPE Networking	**1 Gigabit Ethernet adapters**	
	HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21
	HPE Ethernet 1Gb 4-port 366T Adapter	811546-B21
	HPE Ethernet 1Gb 2-port 332T Adapter	615732-B21
	HPE Ethernet 1Gb 2-port 361T Adapter	652497-B21
	10 Gigabit Ethernet adapters	
	HPE Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
	HPE Ethernet 10Gb 2-port 530T Adapter	656596-B21
	HPE Ethernet 10Gb 2-port 562SFP+ Adapter	727055-B21
	HPE Ethernet 10Gb 2-port 546SFP+ Adapter	779793-B21
	HPE Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21
	HPE Ethernet 10Gb 2-port 561T Adapter	716591-B21
	NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.	

Core Options

	FlexibleLOM Adapters	
	HPE Ethernet 1Gb 4-port 331FLR Adapter	629135-B22
	HPE Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
	HPE FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
	HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
	HPE FlexFabric 10Gb 4-port 536FLR-T Adapter	764302-B21
	HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter	727054-B21
	HPE Ethernet 10Gb 2-port 546FLR-SFP+ Adapter	779799-B21
	HPE FlexFabric 10Gb 2-port 556FLR-SFP+ Adapter	727060-B21
	HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21
	HPE Ethernet 10Gb 2-port 561FLR-T Adapter	700699-B21
	NOTE: Wake-On-LAN not supported with FlexibleLOMs on DL580 Gen9.	
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: **http://www.hpe.com/servers/ProLiantNICs**.	
	25 Gigabit Ethernet adapters	
	HPE Ethernet 10/25Gb 2-port 640FLR-SFP28 Adapter	817749-B21
	HPE Ethernet 10/25Gb 2-port 640SFP28 Adapter	817753-B21
HPE InfiniBand		
	HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter	764285-B21
	NOTE: UEFI and Legacy modes are supported with Ethernet and InfiniBand functionality.	
	HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter	764284-B21
	NOTE: UEFI and Legacy modes are supported with Ethernet and InfiniBand functionality.	
	HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+FLR-QSFP Adapter	764286-B21
	HPE InfiniBand EDR/Ethernet 100Gb 1-port 840QSFP28 Adapter	825110-B21
	HPE InfiniBand EDR/Ethernet 100Gb 2-port 840QSFP28 Adapter	825111-B21
	HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter	829335-B21
HPE Power Supplies	**HPE Common Slot Platinum Plus Power Supply Kits**	
	HPE 1500W Common Slot Platinum Plus Power Supply Kit	684532-B21
	HPE 1200W Common Slot Platinum Plus Hot Plug Power Supply Kit	656364-B21
	NOTE: 94% efficiency with support for HPE Power Discovery Services.	
	NOTE: Prior to making a power supply selection it is highly recommended that the HPE Power Advisor is run to determine the right size power supply for your server configuration. The HPE Power Advisor is located at: **http://www.hpe.com/info/hppoweradvisor**.	
	NOTE: Minimum of two (2) power supplies are required.	
	NOTE: All power supplies in a server should match. Mixing Power Supplies is not supported.	
	NOTE: Option Kits contain the specified power supply and a PDU IEC cable.	
	NOTE: 1500W Power Supplies only support High Line Voltage.	
	NOTE: HPE ProLiant servers ship with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). Full list of optional Hewlett Packard Enterprise **power cords**.	
	HPE NVIDIA Tesla M60 Reverse Air Flow Dual GPU PCIe Graphics Accelerator	M3X67A

Core Options

HPE Computation and Graphics Accelerators	**NOTE:** Up to 4 cards are supported on the DL580 Gen9. Supporting multiple number of cards on the DL580 Gen9 blocks some active IO cards as follows due to space constraints: For 2P config: Max of 2 double-wide cards are supported on slot 6 and slot 9 (slot 8 is blocked). For 3P config: Max of 3 double-wide cards are supported on slot 3, slot 6 and slot 9 (slot 5 and slot 8 are blocked). For 4P config: Max of 4 double wide cards are supported on Slot 1, Slot 3, Slot 6 and Slot 9 (slot 5 and slot 8 are blocked). **NOTE:** HPE DL580Gen9 M60 Reverse Air Flow Cable Kit (869724-B21) is required for Graphics cards.	
	HPE DL580 Gen9 M60 Reverse Air Flow Cable Kit	869724-B21

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 an HPE approved configurator. Contact your local sales representative for additional information.

HPE Insight Software	**HPE Insight Control**	
	HPE Insight Control including 1yr 24x7 Technical Support and Updates 1-server LTU	C6N27A
	HPE Insight Control including 1yr 24x7 TSU E-LTU	C6N28ABE
	HPE Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO LTU	C6N36A
	HPE Insight Control Upgrade from iLO Advanced including 1yr 24x7 Support E-LTU	C6N38ABE
	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**. **NOTE:** For additional license options please see the **HPE Insight Control QuickSpecs**.	
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 for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	E5Y43A
	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 Flexible Quantity E-LTU	P8B26AAE
	HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A
	HPE OneView Physical Media Kit LTU	E5Y37A
	NOTE: Full licenses of HPE OneView Advanced also provide the right-to-use HPE Insight Control without additional charge. **NOTE:** Server provisioning (via 'HPE Insight Control server provisioning') is licensed as part of HPE OneView Advanced and provides multi-server OS and driver provisioning. Media kit #BD883A can be ordered for a physical copy of this software (USB flash drive). **NOTE:** Licenses ship without media. The HPE OneView Media Kit can be ordered separately, or can be downloaded at: **http://www.hpe.com/info/hpeoneview**. **NOTE:** Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key. **NOTE:** Please see the **HPE OneView QuickSpecs** for Technical Specifications and additional information.	
HPE iLO Advanced License	**HPE iLO Advanced**	
	HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features	E6U64ABE
	HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE
	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A

Additional Options

	HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features	512485-B21
HPE Security	HPE Trusted Platform Module 2.0 Kit	745823-B21
	NOTE: HPE Trusted Platform Module 2.0 Option (745823-B21) works with Gen9 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants. HPE Gen9 servers purchased earlier may need the latest firmware update to be compatible with the TPM 2.0 Option. The earlier HPE Trusted Platform Module Option (488069-B21) is the TPM 1.2 version, which is also available however TPM 2.0 has newer technology standards incorporated. The TPM 1.2 compatible server platforms include Gen8 and Gen9 servers. HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.	
HPE Storage Controllers	**SAS Controllers**	
	HPE Smart Array Controllers	
	HPE Smart Array P431/4GB FBWC 12Gb 2-ports Ext SAS Controller	698532-B21
	NOTE: Please see the **HPE Smart Array P431 Controller QuickSpecs** for Technical Specifications and additional information.	
	HPE Smart Array 2GB 24in FIO Flashback Write Cache	758836-B21
	HP 4GB Flash Backed Write Cache FIO Kit for P-series Smart Array Controllers	698537-B21
	NOTE: A maximum of 4 HPE Smart Array Controllers (including embedded controller) can be installed.	
	HPE Smart Array P830/4GB FBWC 12Gb 2-ports Int SAS Controller	698533-B21
	NOTE: Please see the **HPE Smart Array P830 Controller QuickSpecs** for Technical Specifications and additional information.	
	HPE Smart Host Bus Adapters	
	HPE H241 12Gb 2-ports Ext Smart Host Bus Adapter	726911-B21
	NOTE: Please see the **HPE H241 Smart Host Bus Adapter QuickSpecs** for Technical Specifications and additional information.	
	HPE H240 12Gb 2-ports Int Smart Host Bus Adapter	726907-B21
	NOTE: Please see the **HPE H240 Smart Host Bus Adapter QuickSpecs** for Technical Specifications and additional information.	
	HPE H240 12Gb 2-ports Int FIO Smart Host Bus Adapter	761873-B21
	NOTE: Both Legacy and UEFI modes are supported.	
	Optional Upgrades	
	HPE DL580 PCIe Stand-up SAS Controller Upper Drive Backplane Cable Kit	748916-B21
	HPE DL580 Gen9 H240 Card Upper SAS Backplane Cable Kit	805356-B21
HPE Tape Backup	**NOTE:** For the complete range of tape drives, autoloaders, libraries and media see: **http://www.hpe.com/storage/storeever**. For hardware and software compatibility of HPE tape backup products see: **http://www.hpe.com/storage/spock**.	
	NOTE: For Internal drives to be connected to DL servers please make sure that you order rack mount kits as well.	
	HPE StoreEver LTO-7 Ultrium 15000 External Tape Drive	BB874A
	HPE LTO-7 Ultrium 15000 Internal Tape Drive	BB873A
	HPE StoreEver LTO-6 Ultrium 6250 External Tape Drive	EH970A
	HPE StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive	EH958B

Additional Options

	HPE DAT Autoloader	
	HPE StoreEver 1/8 G2 LTO-6 Ultrium 6250 Fibre Channel Tape Autoloader	C0H19A
	HPE StoreEver 1/8 G2 LTO-7 Ultrium 15000 FC Tape Autoloader	N7P34A
	HPE StoreEver 1/8 G2 LTO-7 Ultrium 15000 SAS Tape Autoloader	N7P35A
	HPE MSL2024 Tape Library	
	HPE StoreEver MSL2024 0-drive Tape Library	AK379A
	HPE MSL4048 Tape Library	
	HPE StoreEver MSL4048 0-drive Tape Library	AK381A
	HPE StoreEver MSL6480	
	HPE StoreEver MSL6480 Scalable Base Module	QU625A
	HPE StoreEver MSL6480 Scaleable Expansion Module	QU626A
	NOTE: Please see the **HPE StoreEver MSL6480 Tape Library QuickSpecs** for Technical Specifications and additional information.	
HPE Disk Backup	HPE D3700 Enclosure	QW967A
	HPE D3600 Enclosure	QW968A
	HPE StoreOnce 3100 8TB System	BB913A
	HPE StoreOnce 3540 24TB System	BB914A
	HPE StoreOnce 5100 48TB System	BB915A
	HPE StoreOnce 3520 12TB System	BB922A
	HPE RDX 3TB USB 3.0 Internal Disk Backup System	P9L71A
	HPE RDX+ 3TB USB 3.0 External Disk Backup System	P9L72A
	NOTE: For the complete range of RDX drives and media see: **https://www.hpe.com/us/en/product-catalog/storage/disk-based-backup-systems.html**. For hardware and software compatibility of Hewlett Packard Enterprise disk backup products see: **http://www.hpe.com/storage/spock**. **NOTE:** For Internal drives to be connected to DL servers please make sure that you order rack mount kit as well.	

Additional Options

HPE Storage Options	**HPE Converged Network Adapters**	
	HPE StoreFabric CN1100R 10GBASE-T Dual Port Converged Network Adapter	N3U52A
	HPE StoreFabric CN1100R Dual Port Converged Network Adapter	QW990A
	NOTE: FCOE boot from SAN is not supported with VMWare.	
	HPE StoreFabric CN1200E 10GBASE-T Dual Port Converged Network Adapter	N3U51A
	HPE StoreFabric CN1200E 10Gb Converged Network Adapter	E7Y06A
	NOTE: Both UEFI and Legacy mode are supported.	
	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 84Q 4-port 8Gb Fibre Channel Host Bus Adapter	P9D91A
	HPE StoreFabric SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter	P9D93A
	HPE StoreFabric SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A
	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
	HPE StoreFabric SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter	P9M75A
	HPE StoreFabric SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	P9M76A
	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 84E 4-port 8Gb Fibre Channel Host Bus Adapter	E7Y63A
	HPE StoreFabric SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter	C8R38A
	HPE StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter	C8R39A
	HPE StoreFabric SN1100E 4-port 16Gb Fibre Channel Host Bus Adapter	P9D99A
	HPE StoreFabric SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	Q0L11A
	HPE StoreFabric SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	Q0L12A
	HPE StoreFabric SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	Q0L13A
	HPE StoreFabric SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	Q0L14A

Additional Options

HPE Power Distribution Units (PDUs)	**HPE Basic Power Distribution Units (PDU)**	
	HPE 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A
	NOTE: Please see the **HPE Basic Power Distribution Units (PDU) QuickSpecs** for information on additional options and product specifications.	
	HPE Intelligent Power Distribution Unit (PDU)	
	HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF520A
	HPE Intelligent Modular 7.3kVA/60309 3-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU	AF525A
	HPE Intelligent Modular 3Ph 17.3kVA/IEC 60309 60A 4-wire 48A/208V (12) C19/Horizontal NA/JP PDU	AF535A
	HPE Intelligent Modular 7.3kVA/60309 3-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU Kit	AF534A
	HPE 5xC13 Intelligent PDU Extension Bar G2 Kit	AF547A
	HPE 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar	AF528A
	HPE Intelligent Modular 8.3kVA/CS8265C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF521A
	HPE Intelligent Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF522A
	HPE Intelligent Modular 3Ph 17.3kVA/60309 60A 4-wire 48A/208V (6) C19/Horizontal NA/JP PDU	AF523A
	HPE Intelligent Modular 3Ph 11kVA/60309 5-wire 16A/230V Outlets (6) C19/Horizontal INTL PDU	AF526A
	HPE Intelligent Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU	AF527A
	HPE Intelligent Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (12) C19/Horizontal INTL PDU	AF538A
	HPE Intelligent Modular 3Ph 14.4kVA/CS8365C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF533A
	NOTE: Please see the **HPE Intelligent Power Distribution Unit (PDU) QuickSpecs** for information on additional options and product specifications.	
HPE Rack Mount Consoles, KVM Switches, and Keyboards	**HPE Rack Mount Consoles**	
	HPE LCD8500 1U US Rackmount Console Kit	AF630A
	HPE LCD8500 1U JP Rackmount Console Kit	AF642A
	HPE LCD8500 1U INTL Rackmount Console Kit	AF644A
	HPE LCD8500 1U UK Rackmount Console Kit	AF631A
	HPE LCD8500 1U DE Rackmount Console Kit	AF632A
	HPE LCD8500 1U FR Rackmount Console Kit	AF633A
	HPE LCD8500 1U RU Rackmount Console Kit	AF643A
	HPE LCD8500 1U US TAA Rackmount Console Kit	AF645A
	NOTE: Please see the **HPE LCD8500 Console Kit QuickSpecs** for information on additional options and product specifications.	
	HPE KVM Switches	
	HPE 0x1x8 G3 KVM Console Switch	AF651A
	HPE 0x2x16 G3 KVM Console Switch	AF652A
	HPE 1x4 USB/PS2 KVM Console Switch	AF611A
	HPE KVM Console USB Interface Adapter	AF628A

Additional Options

	HPE KVM Console USB 2.0 Virtual Media CAC Interface Adapter	AF629A
	HPE KVM Console USB/Display Port Interface Adapter	AF654A
	HPE KVM Console USB 8-pack Interface Adapter	AF655A
	HPE USB Remote Access Key for G3 KVM Console Switches	AF650A
	HPE 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
	HPE 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A
	HPE 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
	HPE 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
	HPE 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A
	NOTE: To learn more, please visit the **HPE KVM Switches web page**.	
	HPE USB Keyboard and Mouse	
	HPE USB US Keyboard/Mouse Kit	631341-B21
	HPE USB UK Keyboard/Mouse Kit	631344-B21
	HPE USB FR Keyboard/Mouse Kit	631346-B21
	HPE USB ES Keyboard/Mouse Kit	631348-B21
	HPE USB DE Keyboard/Mouse Kit	631358-B21
	HPE USB JP Keyboard/Mouse Kit	631360-B21
	HPE USB IT Keyboard/Mouse Kit	631362-B21
	HPE USB CN Keyboard/Mouse Kit	631364-B21
	HPE USB AE Keyboard/Mouse Kit	638212-B21
	HPE USB RU Keyboard/Mouse Kit	638214-B21
	HPE USB IN Keyboard/Mouse Kit	672097-D63
	HPE USB AP/INTL Keyboard/Mouse Kit	672097-373
	HPE USB INTL Keyboard/Mouse Kit	672097-B33
	HPE USB PT Keyboard/Mouse Kit	672097-133
	HPE USB TR Keyboard/Mouse Kit	672097-143
	HPE USB CZ Keyboard/Mouse Kit	672097-223
	HPE USB FI Keyboard/Mouse Kit	672097-353
	HPE USB SE Keyboard/Mouse Kit	672097-103
	HPE USB CH Keyboard/Mouse Kit	672097-113
	HPE USB KR Keyboard/Mouse Kit	672097-KD3
	NOTE: Please see the **HPE USB Keyboard and Mouse QuickSpecs** for information on additional options and product specifications.	
	HPE Other Options	
	HPE Rack LED Light Kit	BW939A
	HPE Kit LCD 1.83m Latch Display Port Cable	G7T29A
HPE Uninterruptible Power Systems (UPS)	**HPE Rack-mountable UPS**	
	R7000 Uninterruptible Power System (UPS)	
	HPE R7000 4U 50A High Voltage NA/JP Uninterruptible Power System	AF462A
	HPE R7000 4U IEC-32A High Voltage INTL Uninterruptible Power System	AF463A
	R5000 Uninterruptible Power System (UPS)	
	HPE R5000 3U L630 High Voltage NA/JP Uninterruptible Power System	AF460A
	HPE R5000 3U IEC309-32A High Voltage INTL Uninterruptible Power System	AF461A

Additional Options

NOTE: Please see the **HPE Line Interactive Single Phase UPS QuickSpecs** for information on additional options and product specifications.

HPE UPS Options

HPE R/T3000 G4 Extended Runtime Module	J2R10A
HPE R/T2200 G4 Extended Runtime Module	J2R09A
HPE 2U Rack/Tower UPS Shipping Kit	L4Q11A

NOTE: To learn more, please visit the **HPE Uninterruptible Power Systems (UPS) web page**.

HPE USB and SD Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

HPE 32GB microSD Flash Memory Card	700139-B21
HPE 8GB microSD Flash Memory Card	726116-B21
HPE 8GB microSD Flash USB Drive	737953-B21
HPE 8GB Dual microSD Flash USB Drive	741279-B21

Memory

HPE SmartMemory

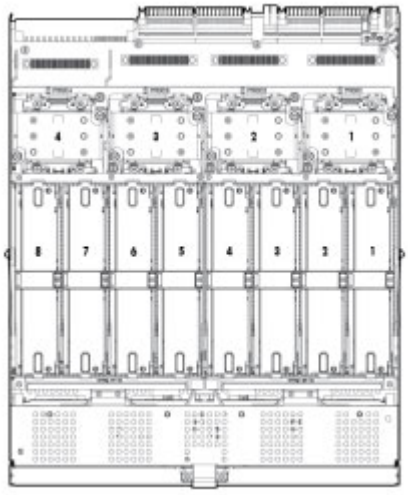
New HPE SmartMemory now provides additional protection for your servers. With HPE Authentication it can verify that you have true Hewlett Packard Enterprise Qualified Memory in your HPE ProLiant Gen9 server. With HPE SmartMemory, your new HPE ProLiant server can take advantage of additional Gen9 enhancements in performance, durability and future manageability support through HPE Active Health System.

For detailed memory configuration rules and guidelines, please use the Online DDR4 Memory Configuration Tool: **http://www.hpe.com/servers/ddr4memoryconfig**.

Memory Subsystem Architecture

As shown in the figure below, memory cartridge to processor association as follows:

- Memory cartridges installed without a corresponding processor are not utilized:
  - Processor 1 corresponds to memory cartridges 1 and 2.
  - Processor 2 corresponds to memory cartridges 3 and 4.
  - Processor 3 corresponds to memory cartridges 5 and 6.
  - Processor 4 corresponds to memory cartridges 7 and 8.



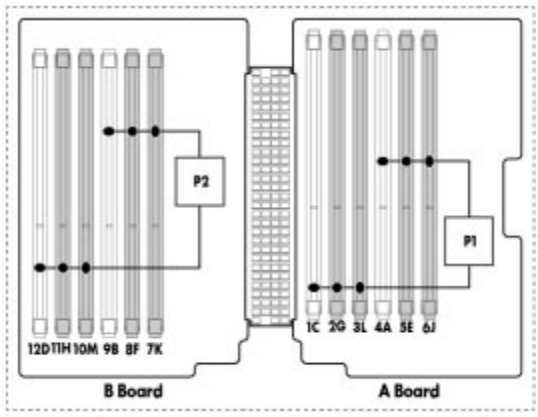
The server can operate in independent channel mode (performance) or combined channel mode (lockstep). Lockstep mode improves the system reliability and availability. If running with RDIMM (built with x4 DRAM devices), the system can survive the complete failure of two DRAM devices (DDDC). Running in independent mode, the server can only survive the complete failure of a single DRAM device (SDDC).

Memory performance depends on selected processor and whether the system is configured for independent channel mode (performance mode) or lockstep mode (RAS mode).

Memory

Memory Population guidelines

Each memory cartridge contains 12 DIMM slots as shown in figure below:



General Memory Population Rules and Guidelines:

- To maximize performance, install two memory cartridges per processor and balance the total memory capacity between all installed processors.
- When multiple processors are installed, HPE recommends installing the DIMMs in sequential alphabetical order: 4A, 9B, 1C, 12D, and so on.
- LRDIMMs support higher densities than single- and dual-rank RDIMMs, and higher speeds than quad-rank RDIMMs. This support enables you to install more high capacity DIMMs, resulting in higher system capacities and higher bandwidth.
- Do not mix LRDIMMs with any other DIMM type (RDIMM, LVDIMM).
- RDIMM population is limited to a maximum of eight logical ranks per channel. Therefore, only two quad rank RDIMMs are supported per channel. If there are more than eight physical ranks per channel, LRDIMMs rank multiplication provides support for three DIMMs per channel.
- **Performance or Independent Mode:** In this mode each DDR4 channel works independently and the SMI2 channel operates at twice the DDR4 speed (3200 MT/s max).
- **Lockstep mode**: In this mode, the memory controller operates two DDR4 channels behind one memory buffer as single channel and the SMI2 channel operates at the DDR4 transfer rate (1866 MT/s max).

NOTE: UDIMMs are not supported. This server does not support mixing LRDIMMs, RDIMMs, or UDIMMs. Attempting to mix any combination of these DIMMs can cause the server to halt during BIOS initialization. For detailed memory configuration rules and guidelines, use the Online DDR4 Memory Configuration Tool on the HPE website (**http://www.hpe.com/servers/ddr4memoryconfig**).

Memory

Intel Gen9 Supported Memory Bandwidth for HPE ProLiant Gen9 Intel® Xeon® E7-4800v3/v4 Series Processor Family - running in 1:1 "Lockstep" mode

Memory Bandwidth and Capacity						
[DIMM Type]	**Registered DIMMs (RDIMMs)**			**Load Reduced (LRDIMMs)**		
HPE SKU P/N	726718-B21	726719-B21	728629-B21	726722-B21	726724-B21	809208-B21
DIMM Rank	Single Rank	Dual Rank	Dual Rank	Quad Rank	Quad Rank	Octal Rank (8R)
DIMM Capacity	8GB	16GB	32GB	32GB	64GB	128 GB
Voltage	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V
SLOTS THAT CAN BE POPULATED						
96 slot servers	96	96	96	96	96	96
MAXIMUM CAPACITY (GB)						
	768	1536	3072	3072	6144	12288
POPULATED DIMM SPEED (MT/s)						
1 DIMM Per Channel	1866	1866	1866	1866	1866	1866
2 DIMM Per Channel	1866	1866	1866	1866	1866	1866
3 DIMM Per Channel	1600	1333	1333	1600	1600	1333

NOTE: The values shown in the table above are for Lockstep Mode. For Performance Mode (running in 2:1), the values are identical except Populated DIMM Speed MT/s is 1600 for 1 DIMM per Channel and 2 DIMM per Channel.

Intel Gen9 Supported Memory Bandwidth for HPE ProLiant Gen9 Intel® Xeon® E7-8800v3/v4 Series Processor Family - running in 1:1 "Lockstep" mode.

Memory Bandwidth and Capacity						
[DIMM Type]	**Registered DIMMs (RDIMMs)**				**Load Reduced (LRDIMMs)**	
HPE SKU P/N	805347-B21	805349-B21	836220-B21	805351-B21	805358-B21	809208-B21
DIMM Rank	Single Rank	Single Rank	Dual Rank	Dual Rank	Quad Rank	Octal Rank (8R)
DIMM Capacity	8GB	16GB	16GB	32GB	64GB	128 GB
Voltage	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V	Std Voltage 1.2V
DRAM Depth [bit]	1G	1G	2G	2G	2G	2G
DRAM Width [bit]	x8	x4	x4	x4	x4	x4
DRAM Density	8Gb	8Gb	4Gb	8Gb	8Gb	8Gb
CAS Latency	17-17-17	17-17-17	17-17-17	17-17-17	17-17-17	20-18-18

Memory

DIMM Native Speed (MT/s)	2400	2400	2400	2400	2400	2400
SLOTS THAT CAN BE POPULATED						
96 slot servers	96	96	96	96	96	96
MAXIMUM CAPACITY (GB)						
	768	1536	1536	3072	6144	12288
POPULATED DIMM SPEED (MT/s)						
1 DIMM Per Channel	1866	1866	1866	1866	1866	1866
2 DIMM Per Channel	1866	1866	1866	1866	1866	1866
3 DIMM Per Channel	1600	1600	1333	1333	1600	1333

NOTE: The values shown in the table above are for Lockstep Mode. For Performance Mode (running in 2:1), the values are identical except Populated DIMM Speed MT/s is 1600 for 1 DIMM per Channel and 2 DIMM per Channel.

DIMM slot and configuration diagram

The memory subsystem in this server is divided into channels. Each processor supports eight channels, and each channel supports three DIMM slots, as shown in the table below. White DIMM slots denote the first slot of a channel (Ch 4A, Ch 9B, Ch 1C, Ch 12D…).

	CPU 1		CPU 2		
	Slot #	Population order	Slot #	Population order	
Chnl 3	1	C	1	C	Chnl3
	2	G	2	G	
	3	L	3	L	

	CPU 1		CPU 2		
	Slot #	Population order	Slot #	Population order	
Chnl 1	4	A	4	A	Chnl 1
	5	E	5	E	
	6	J	6	J	

	CPU 1		CPU 2		
	Slot #	Population order	Slot #	Population order	
Chnl 2	7	K	7	K	Chnl 2
	8	F	8	F	
	9	B	9	B	

	CPU 1		CPU 2		
	Slot #	Population order	Slot #	Population order	
Chnl 4	10	M	10	M	Chnl 4
	11	H	11	H	
	12	D	12	D	

Memory

Memory Speed by Processor Model

Processor Models	Supported Memory Speeds
E7-4809v4, E7-4820v4, E7-4830v4, E7-4850v4, E7-4850v3, E7-4830v3, E7-4820v3, E7-4809v3	1600MT/s
E7-8893v4, E7-8891v4, E7-8860v4, E7-8867v4, E7-8870v4, E7-8880v4, E7-8890v4, E7-8890v3, E7-8894v4, E7-8880v3, E7-8870v3, E7-8860v3, E7-8891v3, E7-8893v3, E7-8880Lv3, E7-8867v3	1333/1600/1866MT/s

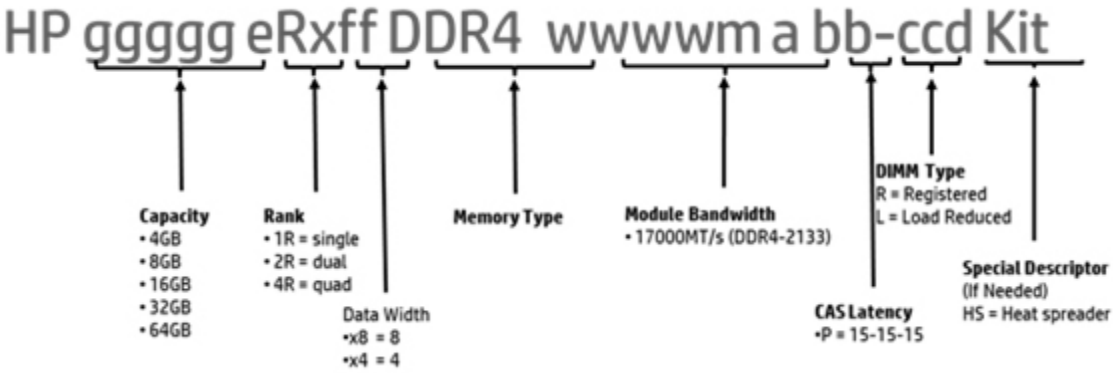
Standard and Maximum Memory Capacity (Pre-configured Models)

Pre Configured Models	Standard Memory	Maximum Memory Plus Optional Memory	Standard Memory Replaced with Optional Memory
E7-8893v4, E7-8893v3, E7-8890v4, E7-8890v3	256GB (16x16GB)	2816GB (80x32GB, 16x16GB)	12288GB (96x128GB)
E7-4850v4, E7-4850v3	128GB (8x16GB)	2944GB (88x32GB, 8x16GB)	12288GB (96x128GB)
E7-4809v4, E7-4809v3	64GB (4x16GB)	3008GB (92x32GB, 4x16GB)	12288GB (96x128GB)

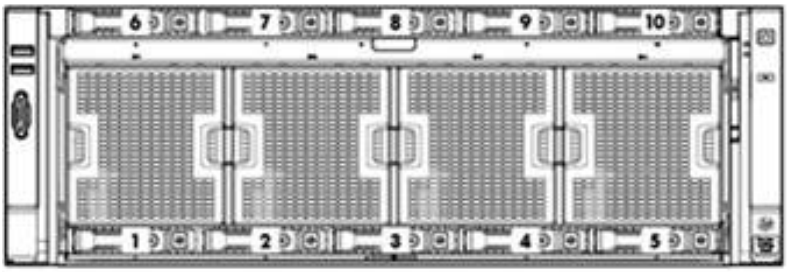
DDR4 memory options part number decoder

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
- 128GB = 131072MB



Storage



1-10 Ten (10) SFF Hot-plug HDD/SSD drive bays

NOTE: Drives installed in bays 6-10 require the optional SAS backplane kit.

NOTE: Optional NVMe drives are only supported in Drive bays 6-10.

Maximum Storage Capacity

NOTE: Optional support for 5 NVMe PCIe SSDs or 5 SFF drives are also available.

Hot Plug SFF SAS	20 TB (10 x 2.0 TB)
Hot Plug SFF SAS SSD	19.2 TB (10 x 1.92 TB)
Hot Plug SFF SATA SSD	38.4 TB (10 x 3.84 TB)
Hot Plug SFF NVMe PCIe SSD	8 TB (5 x 1.6 TB)

Technical Specifications

System Unit	**Dimensions** (H x W x D) (with bezel)	6.88" x 17.48" x 29" (17.5cm x 44.4cm x 73.6cm)	
	Weight (approximate)	Maximum: (all hard drives, power supplies, DIMMs and processors installed)	116.56 lb (52.87 kg)
		Minimum: (one hard drive, two power supplies, four DIMMs, and two processors installed)	70.94 lb (32.18 kg)
	Input Requirements (per power supply)	Rated Line Voltage	100 - 120 VAC (1200W PS only) 200 - 240 VAC (1200W & 1500W PS)
		Rated Input Current	9.2A (100 VAC), 6.6A (200 VAC) - 1200W PS8.3A (200 VAC) - 1500W PS
		Rated Input Frequency	50 to 60 Hz
		Rated Input Power	1000 W (120 VAC), 1320 W (230VAC)- 1200W PS 1652 W (at 230 VAC) - 1500W PS
	BTU Rating	Maximum	3408 BTU/hr (120 VAC), 4500 BTU/hr (at 230 VAC) - 1200W PS5637 BTU/hr (230 VAC) - 1500W PSVAC), 3112 BTU/hr (at 240 VAC) for China Only
	Power Supply Output (per power supply)	Rated Steady-State Power	800 W (100 VAC low line),900 W (120 VAC low line), 1200W (200 - 240 VAC) for 1200W PS
		Maximum Peak Power	1500W (200 - 240V) for 1500W PS1400W (at 240 VAC) input for China only
			NOTE: To review typical system power ratings use the HPE Power Advisor which is available online located at url: **http://www.hpe.com/info/hppoweradvisor**.
	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).
		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:

Technical Specifications

		http://www.hpe.com/servers/ashrae 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.
	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
Relative Humidity	Operating	10% to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
(non-condensing)	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	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. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).	
	Idle	
	LWAd	6.8 B
	LpAm	51.2
	Operating	
	LWAd	6.9 B
	LpAm	51.2
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.	

Technical Specifications

HPE Smart Array P830i	**Disk Drive and Enclosure Interface - Transfer rate**	12Gb/s SAS, 6Gb/s SAS & SATA	
	SAS Connectors	2 internal x8 Mini-SAS double-wide internal	
	Cache Memory Speed	DDR3L 1866 MT/s with 72-bit wide bus	
	Speed	12Gb/s per physical link	
	Cache Memory	FBWC cache is required. 2 GB is included with BTO models. For CTO, 2 GB or 4 GB FBWC cache is required.	
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space	
	RAID Support	RAID 6, 60 (Advanced Data Guarding)	
		RAID 5, 50 (Distributed Data Guarding)	
		RAID 1, 10 (Drive Mirroring), RAID 1 ADM, 10 ADM (Advanced Data Mirroring)	
		RAID 0 (Striping)	
HPE Ethernet 1Gb 4-port 331FLR 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 802.3x	
		IEEE 802.3ad 1000Base-TX	
		IEEE 802.3az	
		IEEE 1588	
	Data Transfer Method	PCI-Express 2.0 x4	
	Controller	BCM5719	
	Network Transfer Rate	10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Full-Duplex)	2000 Mb/s
	Connector	Four RJ-45	
	Cable Support	10 Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)
		100 Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)
		1000 Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)
HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	**Network Interface**	IEEE 802.3 SFP+ (SX, SR & LR)	
	Compatibility	IEEE 802.3	

Technical Specifications

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. **http://www.hpe.com/recycle** 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. **http://www.hpe.com/recycle**

Summary of Changes

Date	Version History	Action	Description of Change
01-Oct-2018	Version 26	Changed	Overview, Standard Features, Configuration Information, Core Options, Additional Options and Technical Specifications sections were updated. SKU descriptions were updated. Obsolete SKUs were removed.
06-Aug-2018	Version 25	Added	Added new Solid State Drives to the HPE Drives section.
		Changed	Pre-configured Models, Core Options, and Additional Options were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
04-Jun-2018	Version 24	Added	Added new Solid State Drives to the HPE Drives section. HPE Lockstep Memory Mode FIO Setting was added to Unique Options.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
02-Apr-2018	Version 23	Changed	SKU description were updated.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
05-Mar-2018	Version 22	Removed	Obsolete SKUs were removed from the QuickSpecs.
02-Oct-2017	Version 21	Added	Added 128GB memory. Added new Solid State Drives offering.
		Changed	Memory section was updated.
07-Aug-2017	Version 20	Added	Added new Solid State Drives to the HPE Drives section.
		Changed	Pre-Configured Models and HPE Networking section were revised.
05-Jun-2017	Version 19	Added	Added new Intel Xeon 8894 v4 processor. Added 12G SAS SSDs (MU and RI) support.
		Changed	Processors, Memory and HPE Drives were updated.
27-Mar-2017	Version 18	Changed	HPE Storage Options section was revised.
		Removed	Secondary Riser was removed from Expansion Slots.
17-Feb-2017	Version 17	Changed	HPE Memory section under Core Options was revised.
13-Feb-2017	Version 16	Added	Added new HDD and SSD offering to the HPE Drives section.
28-Nov-2016	Version 15	Added	Added new Hard Disk Drives and GPU options. Added new New 100Gb Omnipath networking card.
		Changed	HPE Computation and Graphics Accelerators, HPE Tape Backup
		Removed	Obsolete SKUs were removed from the QuickSpecs.
28-Oct-2016	Version 14	Removed	Obsolete Hard Drives were removed from the QuickSpecs.
26-Sep-2016	Version 13	Changed	HPE Converged Infrastructure Management Software was revised. Smart Buy models section was updated for the NA version.
15-Aug-2016	Version 12	Added	Added new InfiniBand and Storage options.
		Changed	Pre-configured Models and Memory were revised.
06-Jun-2016	Version 11	Added	Added new Processors, Memory, HPE Drives, and HPE Disk Backup options.
		Changed	HPE Processors, Chipset, Upgradeability, Graphics, Pre-configured Models, Configuration Information - Factory Integrated Models, HPE Memory, HPE Computation and Graphics Accelerators, and Storage sections were revised.
08-Apr-2016	Version 10	Changed	HPE Processors section was revised.
31-Mar-2016	Version 9	Added	Added new controllers, new HDD offering, new networking adapters, new security TPM module, and new transceiver.
		Changed	Network Controller, Embedded Management, Security, Service and Support, Pre-configured Models, and Storage Options sections were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
16-Feb-2016	Version 8	Added	New HDD offering was added to HPE Drives.

Summary of Changes

		Changed	Operating Systems and Virtualization Software Support for ProLiant Servers, Pre-configured Models, Configuration Information - Factory Integrated Models, HPE Power Distribution Units (PDUs), and Technical Specifications were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
17-Dec-2015	Version 7	Added	Smart Buy models were added to the NA version.
01-Dec-2015	Version 6	Added	New SSD offering was added to HPE Drives. New options added to HPE Infiniband, HPE PCIe Workload Accelerator Options, and HPE Tape Backup.
		Changed	On System Management Chipset, Maximum Internal Storage, Embedded Management, Server Utilities,
		Removed	Obsolete SKUs were removed from the QuickSpecs.
09-Oct-2015	Version 5	Changed	Memory, Maximum Internal Storage, HPE USB and SD Options, Storage, and Dimensions in Technical Specifications were revised.
02-Oct-2015	Version 4	Changed	HPE Memory section was revised.
28-Sep-2015	Version 3	Added	Added new 6Gb SATA Solid State Drives. Added new HPE OneView management software.
		Changed	Maximum Internal Storage, Interfaces, and HPE Memory were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
17-Aug-2015	Version 2	Added	New Hard Drives offering was added to Core Options.
		Changed	Upgradeability and FlexibleLOM under Standard Features were revised. HPE Memory, HP Networking, and HPE Graphic Options under Core Options were revised. Memory section was revised.
05-May-2015	Version 1	New	New QuickSpecs

hpe.com/qref/dl580gen9

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

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