

# QuickSpecs

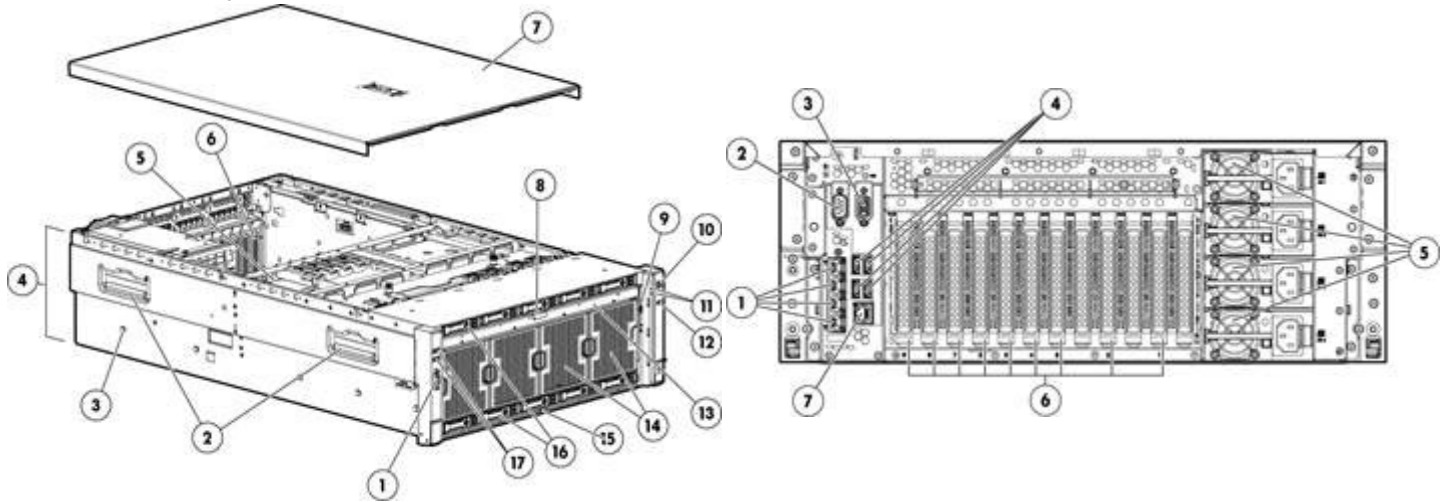
## HPE ProLiant DL580 Gen8

### Overview

#### HPE ProLiant DL580 Gen8

The HPE ProLiant DL580 Gen8 Server is an enterprise-grade four socket (4S) x86 server offering breakthrough performance, rock-solid reliability, and compelling consolidation and manageability efficiencies. It is ideal for mission-critical enterprise, business intelligence, and database applications.

Featuring Intel® Xeon® E7-4800/8800 v2 processors, the DL580 Gen8 offers blazing fast results with enhanced processor performance, more memory slots (96 DIMMs), greater IO bandwidth (9 PCIe Gen3.0 slots), and increased storage performance (12 Gbps SAS). HPE ProLiant DL580 Gen8 has security and data protection features for system resiliency that your business can depend on. With intelligent manageability through HPE OneView, iLO 4, and user-inspired features, you get faster, lower cost infrastructure management.



#### Front View:

1. One front video port
2. Server lifting handles
3. Universal Tool-less "Snap in" sliding rail solution
4. 4U (7" height) form factor
5. Support for up to four Intel® Xeon® 4800/8800 v2 Processors
6. Up to 9 slots supported; all full-length/full-height
7. Quick removal access panel
8. Quick release lever for Processor and Memory drawer
9. Slide out Systems Insight Display
10. Power button
11. Health and Network LEDs
12. Unit ID LED
13. Front accessible Processor and memory drawer
14. 4 Hot Plug Fans (eight rotors with N+1 redundancy)
15. Asset tag
16. Support for up to 10 Small Form-Factor (SFF) drives
17. Two front accessible USB 2.0 ports

#### Rear View:

1. NIC ports
2. Serial port
3. Video port
4. Four (4) USB ports
5. Hot Plug Redundant Power Supplies (2 or 4 depending on the model)
6. 9 PCIe 3.0 IO Expansion Slots
7. iLO connector

## Standard Features

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

### Processor

One or more of the following depending on model

#### Fifteen-Core Processors

Intel® Xeon® E7-4890v2 (2.8GHz/15-core/37.5MB/155W) Processor  
Intel® Xeon® E7-4880v2 (2.5GHz/15-core/37.5MB/130W) Processor  
Intel® Xeon® E7-4870v2 (2.3GHz/15-core/30MB/130W) Processor  
Intel® Xeon® E7-8880Lv2 (2.2GHz/15-core/37.5MB/105W) Processor

**NOTE:** This is a power optimized processor

#### Twelve-Core Processors

Intel® Xeon® E7-4860v2 (2.6GHz/12-core/30MB/130W) Processor  
Intel® Xeon® E7-4850v2 (2.3GHz/12-core/24MB/105W) Processor  
Intel® Xeon® E7-8857v2 (3.0GHz/12-core/30MB/130W) Processor

**NOTE:** This is frequency optimized processor suited high performance computing applications

#### Ten-Core Processors

Intel® Xeon® E7-4830v2 (2.2GHz/10-core/20MB/105W) Processor  
Intel® Xeon® E7-8891v2 (3.2GHz/10-core/37.5MB/155W) Processor

**NOTE:** This is a lower core, higher frequency processor for software licensing cost optimization

#### Eight-Core Processors

Intel® Xeon® E7-4820v2 (2.0GHz/8-core/16MB/105W) Processor

#### Six-Core Processors

Intel® Xeon® E7-4809v2 (1.9GHz/6-core/12MB/105W) Processor  
Intel® Xeon® E7-8893v2 (3.4GHz/6-core/37.5MB/155W) Processor

**NOTE:** This is a lower core, higher frequency processor for software licensing cost optimization

### Cache Memory

One of the following depending on model

37.5MB (1 x 37.5MB) Level 3 cache (E7-4890 v2, E7-8880Lv2, E7-4880v2, E7-8891v2, E7-8893v2)  
30MB (1 x 30MB) Level 3 cache (E7-8857v2, E7-4870v2, E7-4860v2)  
24MB (1 x 24MB) Level 3 cache (E7-4850v2)  
20MB (1 x 20MB) Level 3 cache (E7-4830v2)  
16MB (1 x 16MB) Level 3 cache (E7-4820v2)  
12MB (1 x 12MB) Level 3 cache (E7-4809v2)

### Chipset

Intel® C602J Chipset  
Intel® Xeon® E7-4800/8800 v2 Processor Family

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

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

### Upgradeability

Up to:  
Four (4) processors  
Ninety-six (96) DDR3 DIMM slots  
Nine (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.

Ten (10) SFF internal HDD/SSD drive bays

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

## Standard Features

Four (4) redundant hot-plug power supplies

### Memory

One of the following depending on model

Type	HPE SmartMemory DDR3 Registered (RDIMM) and Load Reduced (LRDIMM)
DIMM Slots Available	96 DIMM slots
Maximum	6TB (96 x 64GB)

**NOTE:** HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. 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 1600MHz, 1333MHz, or 1066MHz. Please see Memory Population Table below or the Online Memory Configuration Tool at: <http://www.hp.com/go/ddr3memory-configurator>.

### System Fault Management and Diagnostics

HPE ProLiant DL580 Gen8 offers advanced error recovery, component quarantine, fault tolerance and event reporting features to enable class-leading availability and rock-solid reliability that businesses can depend on. The DL580 Gen8 server firmware features advanced machine check architecture and memory fault tolerance capabilities that customers need for running their mission-critical applications. These advanced fault management features combine with quality components (HPE Qualified Options) and extensive qualification to provide a high degree of system availability.

#### HPE Advanced Error Recovery

Introduced with the HPE ProLiant DL580 Gen8, HPE Advanced Error Recovery enables applications to recover from uncorrectable errors found in processor, cache and memory during execution. The system firmware works with the operating system and/or hypervisor and/or end-application to enable the optimal recovery response so that the impact of the error can be avoided or minimized. Where such an error would have crashed the system in the past, with HPE Advanced Error Recovery, the system can continue to function with limiting the impact of the error to a killed/re-started thread, process and/or virtual machine.

#### NOTE:

- Supported on Intel® E7-4800/8800 v2 based systems only
- On select Operating Systems, Hypervisors and end-applications that support Intel Machine Check Architecture Recovery feature.
  - Windows Server 2012 R2 and Hyper-V 2012 R2
  - Windows Server 2012 (requires Microsoft hotfix 2901012) and Hyper-V 2012
  - Redhat Enterprise Linux 6.4 and later
  - SLES 11 SP3 and later

#### HPE Memory Quarantine

HPE Memory Quarantine Identifies memory regions containing uncorrectable hardware errors by using a patrol scrubber and isolates the bad memory location before it affects other data. If an error is found, the hardware attempts to correct it. If the hardware cannot correct the error, the platform firmware notifies the operating system. Depending on the state of the memory pages associated with the identified memory region, the OS or hypervisor may take those pages out of the available pool. If the memory pages are already committed to a virtual machine (VM), the OS or hypervisor may choose to shut down the associated VM (Guest OS) or cause a Machine Check Exception to the Guest OS. The associated VM (Guest OS) might in turn close down the affected thread or process or it might shut

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down on its own. You can restart the halted VM or process once you replace the bad memory at the server's next maintenance cycle.

### NOTE:

- **Supported on Intel® E7-4800/8800 and E7 v2 based systems only**
- **On select Operating Systems, Hypervisors and end-applications that support Machine Check Architecture Recovery functionality.**
  - **Windows Server 2012 R2 and Hyper-V 2012 R2**
  - **Windows Server 2012 (requires Microsoft hotfix 2901012) and Hyper-V 2012**
  - **Windows Server 2008 R2 and Hyper-V 2008 R2**
  - **Windows Server 2008 and Hyper-V 2008**
  - **Redhat Enterprise Linux 6.4**
  - **SLES 11 SP3**

### HPE Advanced Error Containment

The DL580 Gen8 features advanced PCIe error containment capability that prevents corrupted data propagation. If data corruption is found on the PCIe bus, the system re-sets the PCIe root port and re-starts the transaction. This feature helps protect customer data and prevents the error from creating a chain of failures across the datacenter.

### NOTE:

- **Supported on Intel® E7-4800/8800 and E7 v2 based systems only**

### HPE Advanced Fault Resiliency

- Double Data Device Correction (DDDC+1) - Detects and corrects up to two DRAM chip failures for every x4 DIMM plus single bit error in the server. DDDC requires memory lockstep mode and may impact performance to varying degrees depending on workload memory access characteristics.  
**NOTE: Supported on Intel® E7-4800/8800 based systems only.**
- Single Data Device Correction (SDDC+1) - Detects and corrects one DRAM chip failure for every x4 DIMM in the server. Further corrects single-bit errors after one DRAM chip failure. SDDC is supported in performance mode and does not impact system performance.  
**NOTE: Supported on Intel® E7-4800/8800 based systems only.**
- Online Memory Sparing - Tracks excessive number of correctable errors and copies the contents of an unhealthy rank to an available spare rank in advance of multi-bit or persistent single-bit failures that may result in future uncorrectable faults. Since a DIMM or a rank is needed to perform sparing, this technique reduces the total amount of available memory by the amount of memory used for sparing.
- Memory Mirroring - System maintains two copies of all data. If an uncorrectable memory error occurs, the system automatically retrieves the good data from the mirrored (redundant) copy. Memory Mirroring consumes 50% of the system memory capacity.

### NOTE: Memory mirroring will be supported in a system firmware update post initial launch.

- Redundant Interconnects and Failover - The DL580 Gen8 system and Intel® Xeon® E7-4800/8800 v2 processors combine to provide a high degree of fault tolerance and failover capabilities for key processor-processor or memory-processor links or clocks.
- Hot-plug redundant power supplies and hot-plug fans - The DL580 Gen8 server features N+N redundant power supplies and N+1 rotor (each fan module contains two rotors)

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redundancy to keep your system running in the unlikely case a power supply or rotor malfunctions.

- Each fan contains two independent rotors. If one rotor fails, system continues operation in a degraded condition with remaining rotors. If two rotors fail, system initiates an OS shutdown. Two rotor failures is a highly unlikely event.
- If a fan module (i.e. two rotors) is removed as a hot-plug event, the replacement fan module must be installed within approximately 60 seconds before the system initiates an OS shutdown.

### FlexibleLOM

HPE ProLiant Gen8 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 Ethernet 10Gb 2-port 533FLR-T FIO Adapter
- HPE FlexFabric 10Gb 2-port 534FLR-SFP+ FIO Adapter

**NOTE:** This adapter does not support FCOE Boot from SAN functionality on VMWare and FCOE with RHEL 5.9.

- HPE Ethernet 10Gb 2-port 560FLR-SFP+ FIO Adapter
- HPE Ethernet 10Gb 2-port 561FLR-T FIO Adptr
- HPE IB FDR/EN 40Gb 2P 544+FLR-QSFP Adptr

**NOTE:** For additional details see the Networking Section of this document.

**NOTE:** Wake-on-Lan feature is not supported on the DL580 Gen8 with FlexLOMs

### Expansion Slots

**NOTE:** Up to 9 slots supported; all full-length/full-height. Standard: 4 PCI-E 3.0 x8, 5 PCI-E 3.0 x16.

Processor	Expansion Slot #	Technology	Width	Connector Width*	Bus / Dev Number**	Form Factor	Notes
4	1	PCIe 3.0	x16	x16	C0/03/0	FH/FL	N/A
4	2	PCIe 3.0	x16	x16	C0/02/0	FH/FL	N/A
3	3	PCIe 3.0	x16	x16	80/03/0	FH/FL	N/A
3	4	PCIe 3.0	x8	x16	80/02/0	FH/FL	N/A
3	5	PCIe 3.0	x8	x16	80/02/1	FH/FL	N/A
2	6	PCIe 3.0	x16	x16	40/03/0	FH/FL	N/A
2	7	PCIe 3.0	x8	x16	40/02/0	FH/FL	N/A
2	8	PCIe 3.0	x8	x16	40/02/1	FH/FL	N/A
1	9	PCIe 3.0	x16	x16	00/03/0	FH/FL	N/A

**NOTE:** PCIe slot availability is dependent on the number of processors installed.

\* Default bus assignment. Inserting cards with PCI bridges may alter the actual bus assignment number.

\*\* Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).

FL= Full length; FH = Full height.

### Storage Controller

One of the following depending on model

HPE Smart Array P830i/2G FBWC Controller

The Flash Backed Write Cache (FBWC) increases cache data retention capabilities from two days of

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existing battery backed write cache (BBWC) to infinite data retention.

- Delivers 12 Gb/s line rate performance
- Standard on all Models
- Supports HPE Secure Encryption as an option
- Transportable data protection
- Increases overall controller performance

**NOTE:** Please refer to the HPE Smart Array P830 Controller QuickSpecs for more information.

### Internal Storage Devices

Hard Disk Drive Backplane Internal SAS lower and upper backplanes support up to ten SFF hard disk drives or solid state drives

**NOTE:** For CTO models, five (5) lower drive bays ship standard and five (5) upper drive bays can be ordered separately with a drive backplane kit. For pre-configured models, please refer to the pre-configured models section below.

Diskette Drive	None
Optional Optical Drive	None
Hard Drives	None ship standard

### Maximum Internal Storage

Hot Plug SFF SAS	12 TB	10 x 1.2 TB
Hot Plug SFF SAS SSD	16 TB	10 x 1.6 TB
Hot Plug SFF SATA SSD	8 TB	10 x 800 GB

### Interfaces

Serial	1
Video	1 front; 1 rear
Network RJ-45	4
iLO 4 Remote Management	1
micro-SD Slot	1
USB 2.0 Ports	8 total: 2 front; 4 rear; 2 internal

### Industry Standard Compliance

ACPI 2.0. Compliant  
 PCIE 2.0 Compliant  
 PXE Support  
 WOL Support  
**NOTE: Not supported with FlexLOMs on DL580 Gen8**  
 Physical Address Extension (PAE) Support  
 Microsoft® Logo certifications  
 USB 2.0 Support

### Server Power Cords

Server ships with high-voltage server to PDU power cord  
**NOTE:** For a full list of optional HPE power cords please go to:  
<http://www.hp.com/products/powercords>

### Common Slot Power Supply

One of the following depending on power requirements

HPE 1500W Common Slot Platinum Plus Hot Plug Power Supply  
 HPE 1200W Common Slot Platinum Plus Hot Plug Power Supply  
**NOTE: 1500W power supply supports high line voltage only**  
**NOTE: A minimum of two (2) power supplies are required. Four (4) 1500W power supplies offers N+N redundancy for highly loaded configurations.**

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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.hp.com/go/hppoweradvisor>.

The HPE 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. HPE 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 in three power output options - 460W, 750W, and 1200W - allowing the customer to "right-size" a power supply for their specific server configuration. All HPE 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 the HPE 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 HPE IPD solution, go to <http://www.hp.com/go/ipd>.

**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.

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### System Fans

4 Hot Plug Fans (eight rotors with N+1 redundancy)

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### Graphics

Integrated Matrox G200 video standard  
 1280 x 1024 (32 bpp)  
 1920 x 1200 (16 bpp)

HPE iLO 4 On System Management Memory  
 16 MB Flash  
 256 MB DDR 3 with ECC (112 MB after ECC and video)

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### Form Factor

4U rack

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### HPE Server UEFI ROM

#### Legacy Mode or Unified Extensible Firmware Interface (UEFI) Mode

Hewlett Packard Enterprise's ProLiant System BIOS is an EDK2 UEFI solution, and adheres to the latest revisions of UEFI Class 2 specifications which supports both legacy boot and UEFI boot operation. The HPE ProLiant DL580 Gen8 defaults to legacy boot operation and can be factory or field configured for UEFI boot operation.

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

**NOTE:** For more information on the HPE ProLiant System BIOS and UEFI, see the UEFI Information Library: <http://www.hp.com/go/uefi/docs>.

**NOTE:** HPE UEFI FIO Setting (758959-B21) can be selected to configure the system in UEFI mode in the factory.



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To modify the server configuration ROM default settings, press F9 in the HPE ProLiant POST screen to enter the UEFI System Utilities screen. By default, the System Utilities menus are in the English language.

UEFI enables numerous new capabilities, including both industry standard functionality and features specific to HPE ProLiant servers. Following are some of the features that UEFI enables and that the HPE ProLiant DL580 Gen8 can support when configured for UEFI boot operation:

- Secure Boot - A new feature in which the system firmware, option card firmware, operating systems, and software collaborate to greatly enhance platform security.
- Operating system specific functionality - Microsoft Windows 2012 supports several features only when installed in UEFI mode.
- Support for > 2.2 TB (using GPT) boot drives - Such drives could previously only be used for boot drives when using RAID solutions such as HPE Smart Array.
- UEFI Shell - Provides a pre-boot environment for running scripts and tools. The HPE ProLiant UEFI Shell provides both standard capabilities as well as numerous enhancements.
- PXE boot support for IPv6 networks.
- PXE Multicast Boot allowing for faster PXE deployments for large numbers of servers.
- Boot support for option cards that only support a UEFI option ROM.

### NOTE:

- **When the server is configured for UEFI Boot Mode, PXE servers must be configured with a UEFI boot image.**
- **When the server boots in UEFI mode, it does not boot media with a legacy OS installation. This includes DOS targets and Windows or Linux systems installed in Legacy mode. The reverse is also true for servers that boot in Legacy mode.**
- **If Microsoft Windows 2008 or Windows 2008 R2 is used in UEFI Boot Mode, UEFI Optimized Mode must be disabled (this option is enabled by default). This is required to work around an issue in Windows 2008 / 2008 R2 that requires legacy BIOS components necessary for video operations in Windows.**

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### Operating Systems and Virtualization Software Support for ProLiant Servers

[Microsoft Windows Server](#)  
[Red Hat Enterprise Linux \(RHEL\)](#)  
[SUSE Linux Enterprise Server \(SLES\)](#)  
[VMware](#)

**NOTE:** For more information on the HPE Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: <http://www.hp.com/go/ossupport> and our driver download page <http://www.hp.com/support/DL580Gen8>

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### On System Management

#### HPE iLO Management

HPE iLO Management is a comprehensive set of embedded management features supporting the complete lifecycle of the server, from initial deployment, through ongoing management, to service alerting and remote



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support. HPE iLO Management Engine comes standard on all HPE ProLiant Gen8 servers. The HPE iLO Management portfolio includes:

**HPE iLO:** The HPE iLO (Integrated Lights-Out) management processor is the core foundation for the HPE iLO Management Engine

**HPE Agentless Management:** Provides built in server health monitoring and alerting capability without OS agents, that starts working the moment a power cord and an Ethernet cable are connected.

**HPE Active Health System:** Always on, continuous monitoring for increased stability and shorter downtimes; 100% configuration history; Health and service alerts and easy export and upload to Service and Support.

**HPE Intelligent Provisioning:** Lets customers provision and configure a single server without any separate media.

To start Intelligent Provisioning:

Press the F10 key during the ProLiant Gen8 server boot

Process. Please go to the Intelligent Provisioning website at

<http://www.hp.com/go/intelligentprovisioning> for additional

information and to view usage videos. Use the Service Pack for ProLiant (SPP) at <http://www.hp.com/go/spp> to get firmware and software updates.

**HPE iLO Mobile App:** 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.hp.com/go/ilo/mobileapp>

**NOTE:** For more information, visit: <http://www.hp.com/go/ilo> or HPE iLO Management Engine technologies whitepaper

### HPE Insight Management

### HPE Service Pack for ProLiant

HPE Service Pack for ProLiant (SPP) and HPE Smart Update Manager (HPE SUM) provide a comprehensive approach to firmware and system software maintenance. Together they provide better operating stability and ensure maximum uptime. The SPP will be updated at a predictable cadence, typically coinciding with new Hewlett Packard Enterprise server hardware launches. By enabling firmware to be updated online and integrating firmware and system software updates in one operation, HPE SUM and the SPP offer faster updates of individual servers and dramatically faster updates of entire BladeSystem enclosures. Further improving system uptime and stability is the fact that Hewlett Packard Enterprise provides 12 months of support for each Service Pack for ProLiant release.

The user experience around HPE SUM and the SPP has been improved in several ways, starting with the web download. A single web page provides access to a single download containing both the latest version of HPE SUM and the latest SPP. Optional smaller subsets with only specific types of servers or specific operating systems are offered to save on download time. The HPE SUM application provides a straightforward, intuitive user interface that guides the user through the steps of discovery, analyses and update, providing comprehensive information on available updates, criticality and interdependencies. This information is also available in reports. By providing the option of multiple local or shared repositories which can be easily updated from hp.com, HPE SUM provides the tools to optimize stability and consistency throughout the company. While HPE SUM and the SPP recommend the combinations of firmware and system software that Hewlett Packard Enterprise has found to be the best practice, the application gives customers the flexibility to set their own specific

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baseline.

The Service Pack for ProLiant has been rigorously tested with specific attention for interaction between firmware, drivers and agents both within the server as well as in interaction with the BladeSystem enclosure components (Onboard Administrator and Virtual Connect). This testing ensures the highest quality as well as providing the input for HPE SUM to deploy updates taking into account all interdependencies, when determining the correct updates and order of update deployment.

**NOTE:** The Service Pack for ProLiant (which includes HPE SUM) can be downloaded from <http://www.hp.com/go/spp/download>. More information can be found: <http://www.hp.com/go/SmartUpdate>, <http://www.hp.com/go/spp> and <http://www.hp.com/go/hpsum>

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### Intelligent Manageability

HPE Systems Insight Manager  
SmartStart  
Redundant ROM  
Remote Flash ROM  
Management Agents  
Integrated Management Log (IML)  
Automatic Server Recovery-2 (ASR-2)  
ROM-Based Setup Utility (RBSU)  
Dynamic Sector Repairing (with Smart Array Controllers)  
Drive Parameter Tracking (with Smart Array Controllers)  
Pre-Failure Warranty (covers processors, SAS hard drives and memory)  
Redundant/adaptive load balancing NIC Support  
Hot Spare Boot

**NOTE:** Upon the event of a failed processor in a multi-processing environment, the system will automatically reboot and use the remaining good processor(s).

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### HPE Insight Online

HPE Insight Online is a new capability available through the HPE Support Center portal for one stop, secure access to product and HPE support information specific to your IT environment. Insight Online can automatically display devices remotely monitored by HPE Insight Remote Support. With Insight Online's easy navigation you can efficiently track your IT support contracts and device status from anywhere and at anytime. <http://www.hp.com/go/insightonline>

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### HPE Proactive Insight experience

Prevent problems with innovative, automated monitoring tools and proactive services. The HPE Proactive Insight experience consist of using Insight Online, Insight Remote Support, and Proactive Care Support Service as one integrated solution. The Proactive Insight experience provides you with expert advice and personalized, cloud-based automated IT support, helping to prevent unplanned down time and solve problems quickly. For more information, visit: <http://www.hp.com/go/proactiveinsightexperience>

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### Security

Power-on password  
Keyboard password  
External USB port enable/disable  
Network Server Mode  
Serial interface control  
Administrator's password  
Trusted Platform Module (TPM)  
Intel® Secure Key  
HPE Secure Encryption (Smart Array Controller)

## Standard Features

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HPE Advanced Data Guard (Smart Array Controller)

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### Warranty

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

**NOTE: Server Warranty includes 3-Year Parts, 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 Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:**

**<http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>**

## Optional Features

### HPE Insight management

HPE Insight Control

HPE Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. For more information, see <http://www.hp.com/go/insightcontrol>.

HPE Insight Control includes one year of 24 x 7 HPE Software Technical Support and Update Service ensuring rapid access to Hewlett Packard Enterprise support staff and proactive delivery of software updates. For more information about this service, see:

<http://www.hp.com/services/insight>

HPE iLO Advanced

HPE Integrated Lights-Out Advanced License a product option, providing smart remote server management without compromise. iLO Advanced unlocks the full set of remote administration functionality for all HPE ProLiant servers by activating the full Virtual Keyboard Video and Mouse remote console, multi-user collaboration, console record and replay, GUI-based and scripted virtual media and virtual folders, and enhanced security and power management functionality. For more information, see:

<http://www.hp.com/go/iloadvance>

HPE Matrix Operating Environment

The HPE Matrix Operating Environment (Matrix OE) for ProLiant and Integrity servers is an integrated command center that helps you instantly adjust to dynamic business demands. This advanced infrastructure management software lets you reduce the cost of common data center tasks by up to 40 percent while keeping pace with your changing business. The HPE Matrix OE includes the automated provisioning, optimization, and recovery management capabilities for HPE CloudSystem Matrix, the ideal platform for private cloud and Infrastructure as a Service (IaaS).

**NOTE:** For more information, visit: <http://www.hp.com/go/matrixoe>

### 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 HPC Server. A Cluster Platform Configurator simplifies ordering. <http://www.hp.com/go/clusters>

HPE HPC 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 an HPE cluster. Flexible, validated solutions can be defined with the help of configuration tools.

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

HPE Insight Cluster Management Utility

HPE Insight Cluster Management Utility (CMU) is an HPE-licensed and HPE-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.hp.com/go/cmu>

### Storage Software

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

## Optional Features

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, HPE data protection and recovery software will cost-effectively protect you against disaster and ensure business continuity.
- **Data Archive and Migration Software**  
The HPE storage software enables you to comply with data retention and retrieval requirements, improve application performance, and reduce costs by efficiently migrating infrequently accessed or less valuable data to lower cost storage.
- **Storage Resource Management Software (SRM)**  
The HPE storage resource management software reduces operational costs and provides the command and control foundation you need to efficiently manage and visualize your physical and virtual environments.
- **Data Replication Software**  
Hewlett Packard Enterprise offers array-based and host-based replication software for use in disaster recovery, testing, application development and reporting.
- **Storage Device Management Software**  
Maximize your investment in HPE storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.
- **HPE StoreVirtual VSA**  
With HPE StoreVirtual VSA you can use the power of virtualization to turn a set of heterogeneous and disconnected physical disk drives in your servers and storage devices into a single pool of logical storage capacity.

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

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### 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.hp.com/go/factory-express>.

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### HPE Simple Configurator

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 the HPE Customer Business Center or an Authorized Partner for assistance. <http://www.hp.com/products/configurator>

## Service and Support

### Service and Support **HPE Technology Services for Industry Standard Servers**

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

### **Protect your business beyond warranty with HPE Pointnext operational services**

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

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## Recommended HPE Pointnext operational services for your Hewlett Packard Enterprise product

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

HPE Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to Hewlett Packard Enterprise. This Care Pack Service combines three years' proactive reporting and advice with our highest level reactive coverage and enhanced escalation management, the Hewlett Packard Enterprise 24x7, six hour call-to-repair hardware commitment. Hewlett Packard Enterprise is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers. Service includes 24x7 collaborative software support for leading industry standard software running on your HPE ProLiant server.

<https://www.hpe.com/h20195/v2/getpdf.aspx/4aa3-8855enw.pdf>

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

HPE Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to Hewlett Packard Enterprise. This Care Pack Service combines three years' proactive reporting and advice with our 24x7 coverage and enhanced escalation management, four hour hardware response time and two hour call back for software questions on leading industry standard software running on your HPE ProLiant server. <https://www.hpe.com/h20195/v2/getpdf.aspx/4aa3-8855enw.pdf>

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### Related Services **HPE ProLiant 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.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf>

### **Factory Express for Servers and storage**

HPE Factory Express offers configuration, customization, integration and deployment services for Hewlett Packard Enterprise servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. For more information on Factory Express services for your specific server model please contact your sales representative or go to:

<http://www.hp.com/go/factory-express>

### **Data Privacy Services**

Protect your data through better media management. HPE Data privacy services help manage and protect sensitive data to reduce the risk of unauthorized access to private information and help meet compliance requirements. Our retention services allow you to keep drives and other devices upon failure, our removal services provide convenient data sanitization and our recovery services allow you

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## Service and Support

to safely retire IT assets and capture any remaining value from the hardware.

<http://www.hp.com/services/dataprivacy>

Additional HPE Pointnext operational services can be found at: <http://www.hp.com/go/cpc>

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### Get connected to Hewlett Packard Enterprise to improve your support experience

Prevent problems with innovative, automated monitoring tools and proactive services. Combining Proactive Care Services with our remote support technology such as Insight Online provides you with expert advice and personalized, cloud-based automated IT support, helping to prevent unplanned down time and solve problems quickly. For more information, visit:

<http://www.hp.com/go/proactiveinsightexperience>

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### HPE Support Center

Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers. Learn more

<http://www.hp.com/go/hpsc>

Hewlett Packard Enterprise's 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 personalize IT support anywhere, anytime.

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

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

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### 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.

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### For more information

To learn more on HPE ProLiant servers and HPE BladeSystem servers, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit: <http://www.hp.com/services/proliant>



## Pre-configured Models

**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:** Hewlett Packard Enterprise 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.

## High Performance Models

<b>HP ProLiant DL580 Gen8 E7-4890v2 4P 128GB-R P830i SAS 5 SFF 1500W RPS Server</b> 728544-001	<b>Processor(s)</b>	(4) Intel® Xeon® E7-4890v2 (2.8GHz/15-core/37.5MB/155W) Processors
	<b>Cache Memory</b>	37.5MB (1 x 37.5MB) Level 3 cache
	<b>Memory</b>	128GB (16 x 8GB DIMMs) PC3-14900R DIMMs (DDR3) installed in (8) Memory Cartridges
	<b>IO Expansion</b>	(9) PCIe Gen3.0 I/O Expansion slots (5 x16 slots; 4 x8 slots)
	<b>Network Controller</b>	HPE FlexFabric 10Gb 2P 534FLR-SFP+ Adapter
	<b>Storage Controller</b>	HPE Smart Array P830i/2GB FBWC 12 Gbps SAS controller
	<b>Bays and Hard Drives</b>	Ten (10) SFF HDD/SSD drive bays. No drives ship standard
	<b>Optical Drive</b>	None
	<b>Power Supply</b>	(4) HPE 1500W Common Slot Platinum Plus Hot Plug Power Supplies
	<b>Fans</b>	4 Hot Plug Fans (eight rotors with N+1 redundancy)
	<b>Integrated Lights Out</b>	Integrated Lights-Out 4 (iLO 4) ships standard
	<b>Insight Control</b>	HPE Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates
	<b>Form Factor</b>	Rack 4U (rail kit and cable management arm is included)
	<b>BIOS</b>	Legacy BIOS (default) or UEFI BIOS (field configurable)
<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response	

<b>HP ProLiant DL580 Gen8 E7-4850v2 4P 128GB-R P830i/2G 534FLR-SFP+ 1500W RPS Svr</b> 728546-001	<b>Processor(s)</b>	(4) Intel® Xeon® E7-4850v2 (2.3GHz/12-core/24MB/105W) Processors
	<b>Cache Memory</b>	24MB (1 x 24MB) Level 3 cache
	<b>Memory</b>	128GB (16 x 8GB DIMMs) PC3-14900R DIMMs (DDR3) installed in (8) Memory Cartridges
	<b>IO Expansion</b>	(9) PCIe Gen3.0 I/O Expansion slots (5 x16 slots; 4 x8 slots)
	<b>Network Controller</b>	HPE FlexFabric 10Gb 2P 534FLR-SFP+ Adapter
	<b>Storage Controller</b>	HPE Smart Array P830i/2GB FBWC 12 Gbps SAS controller
	<b>Bays and Hard Drives</b>	Ten (10) SFF HDD/SSD drive bays. No drives ship standard
	<b>Optical Drive</b>	None
	<b>Power Supply</b>	(4) HPE 1500W Common Slot Platinum Plus Hot Plug Power Supplies
	<b>Fans</b>	4 Hot Plug Fans (eight rotors with N+1 redundancy)
	<b>Integrated Lights Out</b>	Integrated Lights-Out 4 (iLO 4) ships standard
	<b>Insight Control</b>	HPE Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates

## Pre-configured Models

<b>Form Factor</b>	Rack 4U (rail kit and cable management arm is included)
<b>BIOS</b>	Legacy mode (default) or UEFI BIOS (field configurable)
<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

## Base Models

**HP ProLiant DL580  
Gen8 E7-4809v2 2P  
64GB-R P830i/2G  
331FLR 1200W PS  
Server**  
728547-001

<b>Processor(s)</b>	(2) Intel® Xeon® E7-4809v2 (1.9GHz/6-core/12MB/105W) Processors
<b>Cache Memory</b>	12MB (1 x 12MB) Level 3 cache
<b>Memory</b>	64GB (8 x 8GB DIMMs) PC3-14900R DIMMs (DDR3) installed in (4) Memory Cartridges
<b>IO Expansion</b>	(9) PCIe Gen3.0 I/O Expansion slots (5 x16 slots; 4 x8 slots) <b>NOTE: PCIe slot availability is dependent on the number of processors installed. Please refer to the expansion slots section for more details.</b>
<b>Network Controller</b>	HPE Ethernet 1Gb 4P 331FLR Adptr
<b>Storage Controller</b>	HPE Smart Array P830i/2GB FBWC 12 Gbps SAS controller
<b>Bays and Hard Drives</b>	Five (5) lower drive bays. No drives ship standard
<b>Optical Drive</b>	None
<b>Power Supply</b>	(2) HPE 1200W Common Slot Platinum Plus Hot Plug Power Supplies
<b>Fans</b>	4 Hot Plug Fans (eight rotors with N+1 redundancy)
<b>Integrated Lights Out</b>	Integrated Lights-Out 4 (iLO 4) ships standard
<b>Form Factor</b>	Rack 4U (rail kit and cable management arm is included)
<b>BIOS</b>	Legacy mode (default) or UEFI BIOS (field configurable)
<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

Smart Buy Models

<p><b>HP ProLiant DL580 Gen8 E7-4830v2 2P 64GB-R P830i/2G 331FLR 1200W RPS Server/S-Buy</b> 746081-S01</p>	<p><b>Processor(s)</b> (2) Intel® Xeon® E7-4830v2 (2.2GHz/10-core/20MB/105W) Processors</p> <p><b>Cache Memory</b> 20MB (1 x 20MB) Level 3 cache</p> <p><b>Memory</b> 64GB (8 x 8GB DIMMs) PC3-14900R DIMMs (DDR3) installed in (4) Memory Cartridges</p> <p><b>IO Expansion</b> (9) PCIe Gen3.0 I/O Expansion slots (5 x16 slots; 4 x8 slots) <b>NOTE: PCIe slot availability is dependent on the number of processors installed. Please refer to the expansion slots section for more details.</b></p> <p><b>Network Controller</b> HPE Ethernet 1Gb 4P 331FLR Adapter</p> <p><b>Storage Controller</b> HPE Smart Array P830i/2GB FBWC 12 Gbps SAS controller</p> <p><b>Bays and Hard Drives</b> Five (5) SFF drive bays, upgradeable to ten (10). No drives ship standard</p> <p><b>Optical Drive</b> None</p> <p><b>Power Supply</b> Two (2) HPE 1200W Common Slot Platinum Plus Hot Plug Power Supplies</p> <p><b>Fans</b> Four (4) Hot Plug Fans (eight rotors with N+1 redundancy)</p> <p><b>Integrated Lights Out</b> Integrated Lights-Out 4 (iLO 4) ships standard</p> <p><b>Form Factor</b> Rack 4U (rail kit and cable management arm is included)</p> <p><b>BIOS</b> Legacy BIOS (default) or UEFI BIOS (field configurable)</p> <p><b>Warranty</b> Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response</p>
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<p><b>HP ProLiant DL580 Gen8 E7-4870v2 2P 64GB-R P830i/2G 331FLR 1200W RPS Server/S-Buy</b> 746080-S01</p>	<p><b>Processor(s)</b> (2) Intel® Xeon® E7-4870v2 (2.3GHz/15-core/30MB/130W) Processors</p> <p><b>Cache Memory</b> 30MB (1 x 30MB) Level 3 cache</p> <p><b>Memory</b> 64GB (8 x 8GB DIMMs) PC3-14900R DIMMs (DDR3) installed in (4) Memory Cartridges</p> <p><b>IO Expansion</b> (9) PCIe Gen3.0 I/O Expansion slots (5 x16 slots; 4 x8 slots) <b>NOTE: PCIe slot availability is dependent on the number of processors installed. Please refer to the expansion slots section for more details.</b></p> <p><b>Network Controller</b> HPE Ethernet 1Gb 4P 331FLR Adapter</p> <p><b>Storage Controller</b> HPE Smart Array P830i/2GB FBWC 12 Gbps SAS controller</p> <p><b>Bays and Hard Drives</b> Five (5) SFF drive bays, upgradeable to ten (10). No drives ship standard</p> <p><b>Optical Drive</b> None</p> <p><b>Power Supply</b> Two (2) HPE 1200W Common Slot Platinum Plus Hot Plug Power Supplies</p> <p><b>Fans</b> Four (4) Hot Plug Fans (eight rotors with N+1 redundancy)</p> <p><b>Integrated Lights Out</b> Integrated Lights-Out 4 (iLO 4) ships standard</p> <p><b>Form Factor</b> Rack 4U (rail kit and cable management arm is included)</p> <p><b>BIOS</b> Legacy BIOS (default) or UEFI BIOS (field configurable)</p> <p><b>Warranty</b> Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response</p>
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## Smart Buy Models

**HP ProLiant DL580  
Gen8 E7-4890v2 2P  
64GB-R P830i/2G  
331FLR 1200W RPS  
Server/S-Buy  
728551-S01**

<b>Processor(s)</b>	(2) Intel® Xeon® E7-4890v2 (2.8GHz/15-core/30MB/155W) Processors
<b>Cache Memory</b>	30MB (1 x 30MB) Level 3 cache
<b>Memory</b>	64GB (8 x 8GB DIMMs) PC3-14900R DIMMs (DDR3) installed in (4) Memory Cartridges
<b>IO Expansion</b>	(9) PCIe Gen3.0 I/O Expansion slots (5 x16 slots; 4 x8 slots) <b>NOTE: PCIe slot availability is dependent on the number of processors installed. Please refer to the expansion slots section for more details.</b>
<b>Network Controller</b>	HPE Ethernet 1Gb 4P 331FLR Adapter
<b>Storage Controller</b>	HPE Smart Array P830i/2GB FBWC 12 Gbps SAS controller
<b>Bays and Hard Drives</b>	Five (5) SFF drive bays, upgradeable to ten (10). No drives ship standard
<b>Optical Drive</b>	None
<b>Power Supply</b>	Two (2) HPE 1200W Common Slot Platinum Plus Hot Plug Power Supplies
<b>Fans</b>	Four (4) Hot Plug Fans (eight rotors with N+1 redundancy)
<b>Integrated Lights Out</b>	Integrated Lights-Out 4 (iLO 4) ships standard
<b>Form Factor</b>	Rack 4U (rail kit and cable management arm is included)
<b>BIOS</b>	Legacy BIOS (default) or UEFI BIOS (field configurable)
<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

## Configuration Information - Factory Integrated Models

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

**NOTE:** Factory Integrated Models must start with a CTO Server

**NOTE:** FIO indicates that this option is only available as a factory installable option.

### Step 1: Base Configuration

<b>HPE Models</b>	HP ProLiant DL580 Gen8 Configure-to-order Server	728551-B21
	<b>Factory Integrated Models ship with:</b>	
	4U Server Chassis with front-accessible processor and memory drawer	
	Intel® 602J Chipset	
	Embedded HPE Smart Array 12 G P830i Controller	
	<b>NOTE: FBWC is required and should be selected separately when ordering</b>	
	(5) Hot-plug SAS/SATA SFF SSD or HDD Bays (Lower)	
	(9) PCIe Gen3.0 I/O Expansion slots (5 x16 slots; 4 x8 slots)	
	(8) USB 2.0 ports (2 front, 4 rear, 2 internal)	
	(2) video ports (1 front, 1 rear)	
	(1) microSD card slot	
	(1) Trusted Platform Module (TPM) connector	
	4 Hot Plug Fans (eight rotors with N+1 redundancy), front accessible	
	BIOS Legacy mode(default) or Unified Extensible Firmware Interface (UEFI) mode (Optional)	
	HPE Integrated Lights-Out 4 (iLO4) standard management	
	HPE iLO4 Embedded Remote Support Technology	
	HPE Insight Control Server Provisioning	
	HPE Insight Online	
	HPE Active Health System	
	System Insight Display	
	Rack rails and cable management arm	
	<b>NOTE: PCIe slot availability is dependent on the number of processors installed. Please refer to the "Expansion slots" section for more details.</b>	
	<b>NOTE: A minimum of two processors are required. The system may have three or four processors installed.</b>	
	<b>NOTE: A minimum of two memory cartridges are required (one per processor).</b>	
	<b>NOTE: A minimum of two memory DIMMs are required per cartridge (minimum of four DIMMs per server).</b>	
	<b>NOTE: A minimum of two power supplies are required.</b>	

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

<b>HPE Processors</b>	<b>NOTE:</b> All processor kits contain one processor. A minimum of two processors are required. Select one xxxxxx-L21 and one xxxxxx-B21. Two, three, and four processor configurations are supported.	
	<b>Fifteen-Core Processors</b>	
	HP DL580 Gen8 Intel Xeon E7-4890v2 (2.8GHz/15-core/37.5MB/155W) FIO Processor Kit	728955-L21
	HPE DL580 Gen8 Intel Xeon E7-4890v2 (2.8GHz/15-core/37.5MB/155W) Processor	728955-B21

**Configuration Information - Factory Integrated Models**

Kit	
HP DL580 Intel Xeon E7-4880v2 (2.5GHz/15-core/37.5MB/130W) FIO Processor Kit	728957-L21
HPE DL580 Gen8 Intel Xeon E7-4880v2 (2.5GHz/15-core/37.5MB/130W) Processor Kit	728957-B21
HP DL580 Gen8 Intel Xeon E7-4870v2 (2.3GHz/15-core/30MB/130W) FIO Processor Kit	728959-L21
HPE DL580 Gen8 Intel Xeon E7-4870v2 (2.3GHz/15-core/30MB/130W) Processor Kit	728959-B21
HP DL580 Gen8 Intel Xeon E7-8880Lv2 (2.2GHz/15-core/37.5MB/105W) FIO Processor Kit	728953-L21
HPE DL580 Gen8 Intel Xeon E7-8880Lv2 (2.2GHz/15-core/37.5MB/105W) Processor Kit	728953-B21
<b>Twelve-Core Processors</b>	
HP DL580 Gen8 Intel Xeon E7-4860v2 (2.6GHz/12-core/30MB/130W) FIO Processor Kit	728963-L21
HPE DL580 Gen8 Intel Xeon E7-4860v2 (2.6GHz/12-core/30MB/130W) Processor Kit	728963-B21
HP DL580 Gen8 Intel Xeon E7-4850v2 (2.3GHz/12-core/24MB/105W) FIO Processor Kit	728965-L21
HPE DL580 Gen8 Intel Xeon E7-4850v2 (2.3GHz/12-core/24MB/105W) Processor Kit	728965-B21
HP DL580 Gen8 Intel Xeon E7-8857v2 (3.0GHz/12-core/30MB/130W) FIO Processor Kit	728961-L21
HPE DL580 Gen8 Intel Xeon E7-8857v2 (3.0GHz/12-core/30MB/130W) Processor Kit	728961-B21
<b>Ten-Core Processors</b>	
HP DL580 Gen8 Xeon E7-8891v2 (3.2GHz/10-core/37.5MB/155W) FIO Processor Kit	728967-L21
HPE DL580 Gen8 Intel Xeon E7-8891v2 (3.2GHz/10-core/37.5MB/155W) Processor Kit	728967-B21
HP DL580 Gen8 Xeon E7-4830v2 (2.2GHz/10-core/20MB/105W) FIO Processor Kit	728969-L21
HPE DL580 Gen8 Intel Xeon E7-4830v2 (2.2GHz/10-core/20MB/105W) Processor Kit	728969-B21
<b>Eight-Core Processors</b>	
HP DL580 Gen8 Intel Xeon E7-4820v2 (2.0GHz/8-core/16MB/105W) FIO Processor Kit	728971-L21
HPE DL580 Gen8 Intel Xeon E7-4820v2 (2.0GHz/8-core/16MB/105W) Processor Kit	728971-B21

## Configuration Information - Factory Integrated Models

### Six-Core Processors

HP DL580 Gen8 Intel Xeon E7-4809v2 (1.9GHz/6-core/12MB/105W) FIO Processor Kit	728975-L21
HPE DL580 Gen8 Intel Xeon E7-4809v2 (1.9GHz/6-core/12MB/105W) Processor Kit	728975-B21
HP DL580 Gen8 Intel Xeon E7-8893v2 (3.4GHz/6-core/37.5MB/155W) FIO Processor Kit	728973-L21
HPE DL580 Gen8 Intel Xeon E7-8893v2 (3.4GHz/6-core/37.5MB/155W) Processor Kit	728973-B21

### HPE Memory

**NOTE:** HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the [HPE SmartMemory QuickSpecs](#).

**NOTE:** LRDIMM, RDIMM, UDIMM, and HDIMMs are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen8 servers support LRDIMM, RDIMM and UDIMMs.

#### Registered DIMMs (RDIMMs)

HPE 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit	731761-B21
HPE 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	731765-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit	708641-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713985-B21

#### Load Reduced DIMMs (LRDIMMS)

HPE 32GB (1x32GB) Quad Rank x4 PC3-14900L (DDR3-1866) Load Reduced CAS-13 Memory Kit	708643-B21
HP 64GB (1x64GB) Octa Rank x4 PC3-12800L (DDR3-1600) Load Reduced CAS-11 Memory Kit	700838-B21

#### Memory Expansion Options

HP DL580 Gen8 12 DIMM Slots Memory Cartridge	732411-B21
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**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).

### FlexibleLOMs

**NOTE:** 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.

**NOTE:** For 10Gb adapters, a minimum of two Gigabytes (2 GB) of server memory



**Configuration Information - Factory Integrated Models**

is required per each adapter.

**NOTE:** Wake-on-Lan feature is not supported on the DL580 Gen8 with FlexLOMs.

HPE Ethernet 1Gb 4-port 331FLR FIO Adapter 684208-B21

HPE Ethernet 1Gb 4-port 366FLR FIO Adapter 684217-B21

HPE FlexFabric 10Gb 2-port 556FLR-SFP+ FIO Adapter 732456-B21

**NOTE:** This adapter does not support FCOE Boot from SAN functionality on VMWare and FCOE functionality with RHEL 5.9

HPE Ethernet 10Gb 2-port 560FLR-SFP+ FIO Adapter 684218-B21

HP Ethernet 10Gb 2-port 561FLR-T FIO Adapter 700700-B21

HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter 764285-B21

**HPE Power Supplies**

**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.hp.com/go/hppoweradvisor>.

**HPE Common Slot Platinum Plus Power Supply Kits**

**NOTE:** 94% efficiency with support for HPE Power Discovery Services.

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:** Minimum of two (2) power supplies are required.

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). For a full list of optional HPE power cords please go to <http://www.hp.com/products/powercords>

**Storage Controller  
FBWC**

HP 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:** One Flash Backed Write Cache is required for P830i SAS Controller

**NOTE:** Max of 4 capacitor modules can be installed.

**Step 3: Choose Additional Factory Integratable Options (only one of the following from each list unless otherwise noted)**

**Converged  
Infrastructure  
Management Software**

**HPE OneView with iLO Advanced - Server hardware required on same purchase order**

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

## Configuration Information - Factory Integrated Models

### **HPE OneView without iLO Advanced - Server hardware required on same purchase order**

HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU P8B31A

**NOTE: OneView is supported in Legacy BIOS mode only.**

### **HPE Insight Software**

HPE Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO LTU C6N36A

HPE Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO E-LTU C6N36ABE

### **Factory Settings**

HP UEFI FIO Setting 758959-B21

**NOTE: For factory configuration of the server in UEFI mode.**

HP 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.**

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## **Step 4: Choose Additional Options for Factory Integration from Core and Additional Options Sections below.**

## Core Options

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

HPE Processors	Fifteen-Core Processors	
	HPE DL580 Gen8 Intel Xeon E7-4890v2 (2.8GHz/15-core/37.5MB/155W) Processor Kit	728955-B21
	HPE DL580 Gen8 Intel Xeon E7-4880v2 (2.5GHz/15-core/37.5MB/130W) Processor Kit	728957-B21
	HPE DL580 Gen8 Intel Xeon E7-4870v2 (2.3GHz/15-core/30MB/130W) Processor Kit	728959-B21
	HPE DL580 Gen8 Intel Xeon E7-8880Lv2 (2.2GHz/15-core/37.5MB/105W) Processor Kit	728953-B21
	Twelve-Core Processors	
	HPE DL580 Gen8 Intel Xeon E7-4860v2 (2.6GHz/12-core/30MB/130W) Processor Kit	728963-B21
	HPE DL580 Gen8 Intel Xeon E7-4850v2 (2.3GHz/12-core/24MB/105W) Processor Kit	728965-B21
	HPE DL580 Gen8 Intel Xeon E7-8857v2 (3.0GHz/12-core/30MB/130W) Processor Kit	728961-B21
	Ten-Core Processors	
	HPE DL580 Gen8 Intel Xeon E7-8891v2 (3.2GHz/10-core/37.5MB/155W) Processor Kit	728967-B21
	HPE DL580 Gen8 Intel Xeon E7-4830v2 (2.2GHz/10-core/20MB/105W) Processor Kit	728969-B21
	Eight-Core Processors	
	HPE DL580 Gen8 Intel Xeon E7-4820v2 (2.0GHz/8-core/16MB/105W) Processor Kit	728971-B21
	Six-Core Processors	
	HPE DL580 Gen8 Intel Xeon E7-4809v2 (1.9GHz/6-core/12MB/105W) Processor Kit	728975-B21
	HPE DL580 Gen8 Intel Xeon E7-8893v2 (3.4GHz/6-core/37.5MB/155W) Processor Kit	728973-B21

## HPE Memory

**NOTE:** HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the [HPE SmartMemory QuickSpecs](#).

**NOTE:** LRDIMM, RDIMM, UDIMM, and HDIMMs are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen8 servers support LRDIMM, RDIMM and UDIMMs.

### Registered DIMMs (RDIMMs)

**Core Options**

HPE 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713985-B21

HPE 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 731765-B21

HPE 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 731761-B21

HPE 16GB (1x16GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 708641-B21

**Load Reduced DIMMs (LRDIMMS)**

HPE 32GB (1x32GB) Quad Rank x4 PC3-14900L (DDR3-1866) Load Reduced CAS-13 Memory Kit 708643-B21

HP 64GB (1x64GB) Octa Rank x4 PC3-12800L (DDR3-1600) Load Reduced CAS-11 Memory Kit 700838-B21

**Memory Expansion Options**

HP DL580 Gen8 12 DIMM Slots Memory Cartridge 732411-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 Non Leaded System DVD RW Drive 701498-B21

**HPE Hard 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 with SmartDrive SFF (2.5-inch) Enterprise Drives**

HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD 759212-B21

HPE 450GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD 759210-B21

HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD 759208-B21

**12G SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise Drives**

HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD 781518-B21

HPE 900GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD 785069-B21

HPE 600GB SAS 12G Enterprise 10K SFF (2.5in ) SC 3yr Wty HDD 781516-B21

HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD 785067-B21

Core Options

**12G SAS Hot Plug SFF (2.5-inch) SC HDD**

HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e HDD 791034-B21

**12G SAS Hot Plug SFF (2.5-inch) SC SSD**

HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD 802891-B21

HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 802586-B21

HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 802582-B21

HPE 200GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 802578-B21

**12G SAS SFF (2.5in) RI-3 SC Solid State Drives**

HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD 816576-B21

HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD 816572-B21

HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD 816568-B21

HPE 480GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD 816562-B21

**12G SAS SFF (2.5in) MU-3 SC Solid State Drives**

HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD 822567-B21

HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD 822563-B21

HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD 822559-B21

HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD 822555-B21

**12G SAS Hot Plug SFF (2.5-inch) SC HDD**

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

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

HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e HDD 748387-B21

**6G SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise Drives**

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Dual Port Enterprise 3yr Warranty Hard Drive 718162-B21

HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652589-B21

HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652583-B21

HP 450GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652572-B21

HP 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652564-B21

HP 300GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652611-B21

HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 652605-B21

## Core Options

### **6G SAS Hot Plug SmartDrive SFF (2.5-inch) Midline Drives**

HPE 1TB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive 652749-B21

HPE 500GB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive 652745-B21

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111744>

### **6G SAS ME Hot Plug SFF (2.5-inch) Enterprise Mainstream H2 Solid State Drives**

HPE 200GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 779164-B21

HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 779168-B21

HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 779172-B21

HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD 779176-B21

### **12G SAS SFF (2.5-in) MDL SC HDD**

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

### **6G SATA 2.5in WI-PLP SC Solid State Drives**

HPE 1.2TB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD 804677-B21

HPE 800GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD 804671-B21

HPE 400GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD 804665-B21

HPE 200GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD 804639-B21

### **6G SATA 2.5in MU-PLP SC Solid State Drives**

HPE 1.6TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD 804631-B21

HPE 800GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD 804625-B21

HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD 832414-B21

HPE 200GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD 804613-B21

### **6G SATA 2.5in RI-PLP SC Solid State Drives**

HPE 1.6TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD 804605-B21

HPE 800GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD 804599-B21

HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD 804593-B21

HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD 804587-B21

Core Options

HPE 120GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	804581-B21
HPE 80GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	804575-B21
<b>6G SATA Hot Plug SFF (2.5-inch) SC HDD</b>	
HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765455-B21
HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765453-B21
<b>6G SATA Hot Plug SFF (2.5-inch) RI SC Solid State Drives</b>	
HP 480GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive	789145-B21
<b>6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives</b>	
HP 600GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	739898-B21
<b>6G SATA Hot Plug SFF (2.5-inch) SC Midline HDD</b>	
HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	655710-B21
HPE 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655708-B21
<b>6G SATA Value Endurance Hot Plug SFF (2.5-inch) SC Enterprise Value M1 SSD</b>	
HPE 120GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	764923-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	764925-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	764927-B21
HPE 800GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	764929-B21
<b>6G SATA Value Endurance Hot Plug SFF (2.5-inch) SC Enterprise Value G1 SSD</b>	
HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive	756657-B21
<b>6G SATA Hot Plug RI-3 SFF (2.5-inch) SC Solid State Drives</b>	
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816929-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816919-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816909-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816899-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816889-B21
HPE 120GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD	816879-B21



## Core Options

### 6G SATA Hot Plug MU-3 SFF (2.5-inch) SC Solid State Drives

HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	817011-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	816995-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	816985-B21
HPE 240GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	816975-B21
HPE 120GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD	816965-B21

### 12G SAS Enterprise Performance, Mainstream and Value Solid State Drives

HP 1.6TB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	762263-B21
HPE 800GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD	762261-B21
HP ProLiant DL580 5 Small Form Factor Drive Backplane Cage Kit	739405-B21
HPE Small Form Factor Hard Drive Blank Kit	666987-B21
HP DL580 PCIe Stand-up SAS Controller Upper Drive Backplane Cable Kit	748916-B21
<b>NOTE: This cable is required when ordering one of the following Smart Array Controllers for installation in a PCIe slot.</b>	
HPE Smart Array P830/4GB FBWC 12Gb 2-ports Int PCIe x8 SAS Controller	698533-B21
HPE Smart Array P430/4GB FBWC 12Gb 1-port Int SAS Controller	698530-B21
HPE Smart Array P430/2GB FBWC 12Gb 1-port Int SAS Controller	698529-B21

## HPE Networking

### 10 Gigabit Ethernet Adapters

**NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.**

HPE Ethernet 10Gb 2-port 561T Adapter	716591-B21
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### FlexibleLOM Adapters

HP Ethernet 1Gb 4-port 331FLR Adapter	629135-B21
HPE Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
HPE Ethernet 10Gb 2-port 546SFP+ Adapter	779793-B21
HPE Ethernet 10Gb 2-port 546FLR-SFP+ Adapter	779799-B21
HPE Ethernet 10Gb 2-port 557SFP+ Adapter	788995-B21

**NOTE: This adapter does not support FCOE Boot from SAN functionality on VMWare and FCOE functionality with RHEL 5.9.**

HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21
HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter	764285-B21

## Core Options

**NOTE:** Wake-On-LAN not supported with FlexLOMs on DL580 Gen8

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information: <http://www.hp.com/go/ProLiantNICs>

### HPE Power Supplies

**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.hp.com/go/hppoweradvisor>.

#### HPE Common Slot Platinum Plus Power Supply Kits

**NOTE:** 94% efficiency with support for HPE Power Discovery Services.

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:** All power supplies in a server should match. Mixing Power Supplies is not supported.

**NOTE:** Option Kits contain specified power supply and 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). For a full list of optional HPE power cords please go to <http://www.hp.com/products/powercords>

### HPE Graphic Options

**NOTE:** Up to five cards are supported on the DL580 Gen8. Supporting multiple number of cards on the DL580 Gen8 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 5 double wide cards are supported on Slot 1, Slot 3, Slot 2, Slot 6 and Slot 9 (slot 5 and slot 8 are blocked).

**NOTE:** HPE DL580/DL585/DL980 Power Cable Kit (631660-B21) is required for Graphics cards. Each cable kit has two 8-pin connectors (one 150W and other 225W) and can support up to two cards. For three cards, two cable kits are required. For five cards, three cable kits are required. The cards pull up to 75W of power from the IO slot and the rest from the auxiliary power connectors.

**NOTE:** Both UEFI mode and Legacy Mode are supported.

NVIDIA Quadro K6000 PCI-E Graphics Adapter

730874-B21

**NOTE:** Supported at Gen2 speeds

NVIDIA Tesla K40C 12GB Computational Accelerator

753960-B21

**NOTE:** Supported at Gen2 speeds

NVIDIA GRID K2 Reverse Air Flow Dual GPU PCIe Graphics Accelerator

753958-B21

**NOTE:** Only three cards are supported with MS Windows Server 2012 R2

### Auxiliary Power Cables

**NOTE:** The DL580 Gen8 supports six auxiliary power connectors

HPE DL580/DL585/DL980 Power Cable Kit

631660-B21

NOTE:NOTE: Order with GPGPUs for providing additional power to the IO cards.

## Core Options

## Additional Options

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

<b>HPE Insight Software</b>	<b>HPE Insight Control</b>	
	HPE Insight Control including 1yr 24x7 Technical Support and Updates 1-server LTU	C6N27A
	HPE Insight Management Media Kit	C6N31A
	HPE Insight Control including 1yr 24x7 TSU E-LTU	C6N28ABE

**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:

<http://www.hp.com/go/insightupdates>.

**NOTE:** For additional license options please see the QuickSpecs at:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123391>

### **HPE Integrated Lights-Out (iLO) Advanced for ProLiant**

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

**NOTE:** For additional license options please see the QuickSpecs at:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154343>

**NOTE:** For more information, visit: <http://www.hp.com/go/ilo>

### **Converged Infrastructure Management Software**

<b>HPE OneView</b>	
HPE OneView with iLO Advanced	
HPE OneView Physical Media Kit LTU	E5Y37A
HPE OneView including 3yr 24x7 Support Physical 1-server LTU	E5Y34A
HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y35AAE
HPE Operations Analytics for HPE OneView LTU	K8G29A
HPE Operations Analytics for HPE OneView E-LTU	K8G29AAE

## Additional Options

### HPE OneView without 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

**NOTE:** OneView is supported in Legacy BIOS mode only.

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111367>

### HPE I/O Accelerator Options

#### Second Generation Accelerators

HP 1.3TB HH/HL Value Endurance (VE) PCIe Workload Accelerator 763834-B21

HP 1.6TB HH/HL Value Endurance (VE) PCIe Workload Accelerator 763836-B21

HP 3.2TB HH/HL Value Endurance (VE) PCIe Workload Accelerator 763838-B21

HP 6.4TB FH/HL Value Endurance (VE) PCIe Workload Accelerator 763840-B21

HPE 1.0TB HH/HL Light Endurance (LE) PCIe Workload Accelerator 775666-B21

HPE 1.3TB HH/HL Light Endurance (LE) PCIe Workload Accelerator 775668-B21

HPE 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator 775670-B21

HPE 5.2TB FH/HL Light Endurance (LE) PCIe Workload Accelerator 775672-B21

HPE 1.3TB Read Intensive-2 HH/HL PCIe Workload Accelerator 831733-B21

HPE 1.6TB Read Intensive-2 HH/HL PCIe Workload Accelerator 831735-B21

HPE 3.2TB Read Intensive-2 HH/HL PCIe Workload Accelerator 831737-B21

HPE 6.4TB Read Intensive-2 FH/HL PCIe Workload Accelerator 831739-B21

HP 1205GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers 673646-B21

**NOTE:** Both Legacy and UEFI BIOS modes are supported.

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111683>

### HPE Storage Controllers

#### SAS Controllers

##### Smart Array P430 Controller

HPE Smart Array P430/2GB FBWC 12Gb 1-port Int SAS Controller 698529-B21

HPE Smart Array P430/4GB FBWC 12Gb 1-port Int SAS Controller 698530-B21

##### Smart Array P431 Controller

HPE Smart Array P431/2GB FBWC 12Gb 2-ports Ext SAS Controller 698531-B21

HPE Smart Array P431/4GB FBWC 12Gb 2-ports Ext SAS Controller 698532-B21

##### Smart Array P830 Controller

HPE Smart Array P830/4GB FBWC 12Gb 2-ports Int PCIe x8 SAS Controller 698533-B21

## Additional Options

### Optional Upgrades

HP Secure Encryption per Svr Entitlement	C9A82AAE
HPE Smart Array SR SmartCache (Single Key/Single Server) LTU	D7S26A
HPE Smart Array SR SmartCache (Single Key/Multiple Servers) LTU	D7S27A
HPE Smart Array SR SmartCache (Single Key/Multiple Servers) E-LTU	D7S27AAE

**NOTE:** A maximum of four HPE Smart Array Controllers (including embedded controller) can be installed

**NOTE:** For more information about HPE SmartCache, go to <http://www.hp.com/go/smartcache>

**NOTE:** Both Legacy and UEFI modes are supported

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111382>

(Smart Array P430 Controller)

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111365>

(Smart Array P431 Controller)

<https://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04227582>

(Smart Array P830 Controller)

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123148>

(SmartCache)

### HPE Tape Backup

**NOTE:** For the complete range of tape drives, autoloaders, libraries and media see: <http://www.hp.com/go/tape>. For hardware and software compatibility of HPE tape backup products see: <http://www.hp.com/storage/SPOCK> and <http://www.hp.com/go/ebs>.

**NOTE:** For Internal drives to be connected to DL servers please make sure that you order rack mount kit as well.

HPE StoreEver LTO-6 Ultrium 6250 Tape Drive in a 1U Rack Mount Kit	COL99A
HPE StoreEver LTO-6 Ultrium 6650 SAS Internal Tape Drive	EH963A
HPE StoreEver LTO-6 Ultrium 6650 SAS External Tape Drive	EH964A
HPE StoreEver LTO-6 Ultrium 6250 Internal Tape Drive	EH969A
HPE StoreEver LTO-6 Ultrium 6250 External Tape Drive	EH970A
HPE StoreEver 1/8 G2 LTO-6 Ultrium 6250 Fibre Channel Tape Autoloader	COH19A

### HPE Tape Storage Systems

#### HPE StoreEver MSL6480

HPE StoreEver MSL6480 Scalable Base Module	QU625A
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**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111416>

### HPE Disk Backup

**NOTE:** For the complete range of RDX drives and media see:

## Additional Options

<http://www.hp.com/go/rdx>. For hardware and software compatibility of HPE disk backup products see: <http://www.hp.com/storage/SPOCK>.

**NOTE:** For Internal drives to be connected to DL servers please make sure that you order rack mount kit as well.

HP RDX+ 500GB External Backup System	B7B66B
HP RDX+ 1TB External Backup System	B7B69B
HPE RDX 2TB USB3.0 External Disk Backup System	E7X53B
HPE RDX500 USB3.0 Internal Disk Backup System	B7B64A
HPE RDX1000 USB3.0 Internal Disk Backup System	B7B67A
HPE RDX 2TB USB3.0 Internal Disk Backup System	E7X52A
HPE RDX+ External Docking System	C8S07B

**NOTE:** Please see the QuickSpecs for additional part numbers, Technical Specifications, and additional information:  
<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111633>

### HPE Disk Storage Systems

#### Disk Enclosures

HP D2600 w/12 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 48TB Bundle	E7W32A
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**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111697>

### HPE Converged Network Adapters

HPE StoreFabric CN1100R Dual Port Converged Network Adapter	QW990A
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**NOTE:** FCOE boot from SAN is not supported with VMWare.

HPE StoreFabric CN1200E 10Gb Converged Network Adapter	E7Y06A
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**NOTE:** Both UEFI and Legacy mode are supported.

### HPE Infiniband Options

HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter	764284-B21
HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+FLR-QSFP Adapter	764286-B21

**NOTE:** UEFI and Legacy modes are supported with Ethernet and Infiniband functionality.

HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter	764285-B21
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**NOTE:** UEFI and Legacy modes are supported with Ethernet and Infiniband functionality.

HPE InfiniBand FDR 2-port 545QSFP Adapter	702211-B21
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**NOTE:** Legacy and UEFI modes are supported

### HPE Storage Options

#### Storage Fibre Channel HBA



## Additional Options

**NOTE:** The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see:

<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

### QLogic Fibre Channel HBAs

HPE 81Q 8Gb 1-port PCIe Fibre Channel Host Bus Adapter	AK344A
HPE 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ764A
HPE StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter	QW971A
HPE StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter	QW972A

### Emulex Fibre Channel HBAs

HPE 81E 8Gb 1-port PCIe Fibre Channel Host Bus Adapter	AJ762B
HPE 82E 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ763B
HPE StoreFabric SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter	C8R38A
HPE StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter	C8R39A

**NOTE:** Both Legacy and UEFI mode is supported.

## HPE Uninterruptible Power Systems

### HPE Rack-mountable UPS

#### HPE R1500 Uninterruptible Power Supply (UPS)

HPE R1500 G4 NA Uninterruptible Power System	J2Q99A
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**NOTE:** Please see the QuickSpecs for additional information:

<http://www8.hp.com/h20195/v2/GetHTML.aspx?docname=c0428336>

#### HPE R/T2000 Uninterruptible Power System (UPS)

HPE R/T2200 G4 NA/JP Uninterruptible Power System	J2R00A
HPE R/T2200 G4 Extended Runtime Module	J2R09A
HPE 2U Rack/Tower UPS Shipping Kit	L4Q11A

#### HPE R/T3000 Uninterruptible Power System (UPS)

HPE R/T3000 G4 Low Voltage NA/JP Uninterruptible Power System	J2R01A
HPE R/T3000 G4 High Voltage NA/JP Uninterruptible Power System	J2R02A
HPE R/T3000 G4 Extended Runtime Module	J2R10A

**NOTE:** Please see the QuickSpecs for additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04155328>

#### R5000 Uninterruptible Power System (UPS)

HPE R5000 3U L630 High Voltage NA/JP Uninterruptible Power System	AF460A
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## Additional Options

**NOTE:** Please see the QuickSpecs for additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04155299>

### R7000 Uninterruptible Power System (UPS)

HPE R7000 4U 50A High Voltage NA/JP Uninterruptible Power System AF462A

HPE R5KVA and R7KVA 3U Extended Runtime Module AF464A

**NOTE:** Please see the QuickSpecs for additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04155297>

### HPE Rackmountable 3 Phase Uninterruptible Power Systems (UPS R8000/3 and R12000/3)

HPE R8000/3 8000kVA Three Phase NA 6U Rackmount Uninterruptible Power System AF431A

HPE R12000/3 12000VA Three Phase NA 6U Rackmount Uninterruptible Power System AF429A

**NOTE:** Please see the QuickSpecs for additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04128337>

**NOTE:** For additional information on HPE Uninterruptible Power Systems please go to: <http://www.hp.com/servers/rackups>.

**NOTE:** For additional information on sizing your server, please reference: <http://www.upssizer.com>.

**NOTE:** Please see the UPS and PDU cable matrix's on the HPE Power Protection and Management page. Under Power Cords, click on the "HPE Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link:

<http://www.hp.com/products/powercords>.

## HPE Basic Power Distribution Units (PDU)

### HPE Basic Power Distribution Unit: 1U/0U Version

HPE Basic 1.9kVA/L5-20P 16A/120V Outlets (12) 5-20R/Horizontal NA/JP PDU H5M54A

HPE Basic 3.6kVA/60320 C20 Detachable 16A/230V Outlets (12) C13/Horizontal WW PDU H5M56A

### HPE Basic Power Distribution Unit: Half Height Version

HPE Basic 2.8kVA/L5-30P 24A/120V Outlets (18) 5-20R/Vertical NA/JP PDU H5M55A

HPE Basic 4.9kVA/60320 C20 Detachable 16A/230V Outlets (20) C13/Vertical WW PDU H5M57A

HPE Basic 4.9kVA/L6-30P 24A/208V Outlets (20) C13/Vertical NA/JP PDU H5M58A

HPE Basic 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13/Vertical NA/JP PDU H5M61A

### HPE Basic Power Distribution Unit: Mid Height Version

HPE Basic 4.9kVA/L6-30P 24A/208V Outlets (24) C13 (6) C19/Vertical NA/JP PDU H5M59A

HPE Basic 8.3kVA/CS8265C 40A/208V Outlets (30) C13 (6) C19/Vertical NA PDU H5M60A

HPE Basic 9.2kVA/50A Terminal Block 40A/230V Outlets (30) C13 (6) C19/Vertical WW PDU H5M75A

HPE Basic 3Ph 5.7kVA/ L21-20P 16A/120-208V Outlets (24) C13 (3) 5-20R/Vertical NA/JP PDU H5M63A

HPE Basic 3Ph 8.6kVA/L21-30P 24A/120-208V Outlets (24) C13 (3) C19 (3) 5- H5M64A

**Additional Options**

20R/Vertical NA/JP PDU	
HPE Basic 3Ph 8.6kVA/L15-30P 24A/208V Outlets (24) C13 (6) C19/Vertical NA/JP PDU	H5M62A
<b>HPE Basic Power Distribution Unit: Full Height Version</b>	
HPE Basic 3Ph 11kVA/60309 16A/240V Outlets (36) C13 (6) C19/Vertical NA PDU	H5M67A
<b>HPE Basic Power Distribution Unit: 480/277 Volt Version</b>	
HPE 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A

**NOTE:** Please see the QuickSpecs for additional information:  
<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111250>

**NOTE:** Additional HPE Power Distribution Units are available. For a complete list of all HPE PDUs and additional information please visit:  
[http://www.hp.com/go/rackandpower.](http://www.hp.com/go/rackandpower)

**HPE Metered Power Distribution Units (PDU)**

<b>HPE Remote Monitored Power Distribution Unit: 1U Version</b>	
HPE Metered 2.8kVA/L5-30P 24A/120V Outlets (12) 5-20R/Horizontal NA/JP PDU	D9N43A
HPE Metered 3.6kVA/60320 C20 Detachable 16A/230V Outlets (12) C13/Horizontal WW PDU	D9N46A
HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (12) C13/Horizontal NA/JP PDU	D9N44A
<b>HPE Remote Monitored Power Distribution Unit: Half Height Version</b>	
HPE Metered 3.6kVA/60320 C20 Detachable 16A/230V Outlets (16) C13/Vertical WW PDU	D9N45A
<b>HPE Remote Monitored Power Distribution Unit: Mid Height Version</b>	
HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (4) C19/Vertical NA/JP PDU	D9N47A
HPE Metered 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13 (3) C19/Vertical NA/JP PDU	D9N51A
HPE Metered 3Ph 5.7kVA/L21-20P 16A/120-208V Outlets (13) C13 (3) 5-20R/Vertical NA/JP PDU	D9N52A
HPE Metered 3Ph 8.6kVA/L21-30P 24A/120-208V Outlets (18) C13 (3) C19 (3) 5-20R/Vertical NA/JP PDU	D9N53A
<b>HPE Remote Monitored Power Distribution Unit: Full Height Version</b>	
HPE Metered 8.3kVA/CS8265C 40A/208V Outlets (30) C13 (3) C19/Vertical NA PDU	D9N49A
HPE Metered 3Ph 14.4kVA/CS8365C 40A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	D9N58A
HPE Metered 3Ph 16.6kVA/60309 32A-30A 5-wire 24A/230V Outlets (30) C13 (3) C19/Vertical NA/JP PDU	D9N61A
HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (24) C13 (3) C19/Vertical NA/JP PDU	D9N54A
HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	D9N59A
HPE Metered 3Ph 16.6kVA/60309 32A-30A 5-wire 24A/230V Outlets (12) C13 (12) C19/Vertical NA/JP PDU	D9N62A
HPE Metered 3Ph 19.9kVA/L22-30P 24A/277V Outlets (30) RF-203P-HP/Vertical NA PDU	D9N63A
<b>HPE Environmental Sensor for Remote Monitored PDUs</b>	
HP Environmental Sensor for Remote Monitored and Managed PDUs	E2D53A

## Additional Options

**NOTE:** Please see the QuickSpecs for additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04229513>

<b>HPE Intelligent Power Distribution Unit (PDU)</b>	<b>iPDU Core Units</b>	
	HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF520A
	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 14.4kVA/CS8365C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF533A
	HPE Intelligent Modular 3Ph 17.3kVA/60309 60A 4-wire 48A/208V (6) C19/Horizontal NA/JP PDU	AF523A
	HPE Intelligent Modular 3Ph 11kVA/L22-20P 16A/240V Outlets (6) C19/Horizontal NA/JP PDU	AF900A
	HPE Intelligent Modular 3Ph 17.3kVA/60309 30A 5-wire 24A/240V (6) C19/Horizontal NA/JP PDU	AF901A
	HPE Intelligent Modular 3Ph 17.3kVA/IEC 60309 60A 4-wire 48A/208V (12) C19/Horizontal NA/JP PDU	AF535A
	HPE Intelligent Modular 3Ph 17.3kVA/IEC 60309 30A 5-wire 24A/240V (12) C19/Horizontal NA/JP PDU	AF537A
	<b>iPDU Kits with Standard Extension Bars</b>	
	HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (6) C19/Horizontal NA/JP PDU	AF531A
	HPE Intelligent Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (20) C13 (6) C19/Horizontal NA/JP PDU	AF532A
	<b>iPDU Extension Bars</b>	
	HPE 5xC13 Intelligent PDU Extension Bar G2 Kit	AF547A
	HPE 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar	AF528A

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04128194>

**NOTE:** Additional HPE Power Distribution Units are available. For a complete list of all HPE PDUs and additional information please visit:

<http://www.hp.com/go/rackandpower>

<b>HPE Rack Options</b>	<b>HPE Location Discovery Services</b>	
	HPE 36U Location Discovery Kit	BW945A
	HPE 42U Location Discovery Kit	BW946A
	HPE 47U Location Discovery Kit	BW947A

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04123199>

## Additional Options

### HPE USB Keyboard and Mouse

HPE USB US Keyboard/Mouse Kit

631341-B21

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04168349>

### HPE Server Console Switch G2 with Virtual Media & CAC

HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software

AF618A

HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software

AF619A

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04168373>

### HPE IP Console Switch G2 with Virtual Media & CAC

HP 1x4 USB/PS2 KVM Console Switch

AF611A

HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software

AF620A

HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software

AF621A

HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software

AF622A

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04230853>

## HPE USB and SD Options

### HPE Flash Media Kits for USB Drives

**NOTE:** Hewlett Packard Enterprise qualified blank USB key for use with HPE ProLiant servers that support the VMware virtualization environment and other Hewlett Packard Enterprise value-add software. Hewlett Packard Enterprise recommends this industry standard USB flash device for use with VMware ESXi. USB device must be installed in the internal slot of the ProLiant server for use with VMware ESXi. Refer to HPE VMware Getting Started Guide for installation instructions.

HPE 8GB USB Enterprise Mainstream Flash Media Drive Key Kit

737953-B21

### HPE Enterprise Mainstream Flash Media Kits for Memory Cards

HPE 8GB microSD Enterprise Mainstream Flash Media Kit

726116-B21

HPE 32GB microSD Mainstream Flash Media Kit

700139-B21

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123175>

## HPE Pointnext operational services

### Proactive Care

**NOTE:** Collaborative Support plus Proactive services delivered by the onshore, local language Advanced Solution Center (ASC), end-to-end case ownership from a Technical Solution Specialists and Technical Account Manager who remotely delivers firmware/software revision management, proactive scans and incident trend reports. Recommended for customers running a virtualized infrastructure and/or customers who desire an enhanced call support

## Additional Options

### experience.

HPE 3 year Proactive Care 24x7 ProLiant DL58x Service	U2Z68E
HPE 3 year Proactive Care 24x7 with DMR ProLiant DL58x Service	U2Z71E
HPE 3 year Proactive Care Call to Repair ProLiant DL58x Service	U2Z74E
HPE 3 year Proactive Care Call to Repair 24x7 with DMR ProLiant DL58x Service	U2Z77E

### Installation Services

**NOTE:** Reduce the time required to get your system up and running and help minimize disruptions to your business.

HPE Install ProLiant DL58x Service	U4617E
HPE Installation and Startup ProLiant DL58x Service	U4618E
HPE Insight Control Startup Service	UF369E
HPE Systems Insight Manager (SIM) Startup Service	UA041E

**NOTE:** For more information, customer/resellers can contact:  
<http://www.hp.com/services/carepack>

## Memory

### HPE SmartMemory

New HPE SmartMemory now provides additional protection for your servers. With HPE Authentication it can verify that you have true HPE Qualified Memory in your HPE ProLiant Gen8 server. With HPE SmartMemory your new HPE ProLiant server can take advantage of additional Gen8 enhancements in performance, durability and future manageability support through HPE Active Health System.

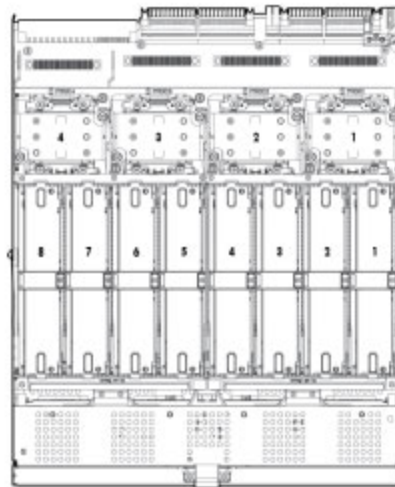
For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool:

<http://www.hp.com/go/ddr3memory-configurator>

### Memory Sub-system Architecture

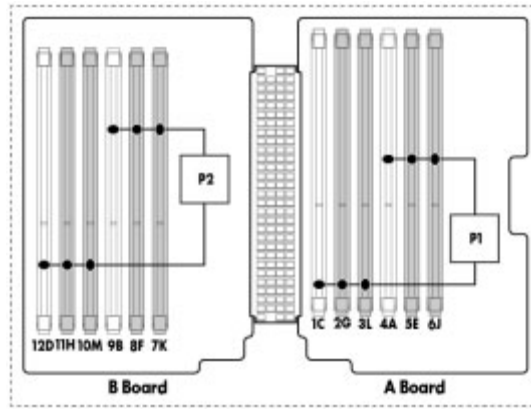
As shown in the figure above, memory cartridge to processor association as follows:

- 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.
  - NOTE: Memory cartridges 5 and 6 are not recognized if processor 3 is not installed.**
  - Processor 4 corresponds to memory cartridges 7 and 8.
  - NOTE: Memory cartridges 7 and 8 are not recognized if processor 4 is not installed.**



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

## Memory



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...).

Channel	Population order	Slot number
1	A	4
	E	5
	J	6
2	B	9
	F	8
	K	7
3	C	1
	G	2
	L	3
4	D	12
	H	11
	M	10

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).

Max memory speed	Processors
1600MHz	E7-8893 V2, E7-8891 v2, E7-8880L v2, E7-8857 v2, E7-4890 v2, E7-4880 v2, E7-4870 v2, E7-4860 v2
1333MHz	E7-4850 v2, E7-4830 v2, E7-4820 v2
1066MHz	E7-4809 v2

### Independent channel mode (Performance mode):

In this mode each DDR3 channel works independently and the SMI2 channel operates at twice the DDR3 speed (2667 MT/s max). The server supports the following DIMM speeds as shown below in the table.

DIMM type	DIMM rank	Voltage	1 DIMM per channel	2 DIMMs per channel	3 DIMMs per channel
RDIMM	Single-rank (4 GB)	LV	1333	1066	1066
RDIMM	Single-rank (4 GB)	STD	1333	1333	1333
RDIMM	Single-rank (8 GB)	LV	1333	1066	1066



## Memory

RDIMM	Single rank (8 GB)	STD	1333	1333	1333
RDIMM	Dual-rank (16 GB)	LV	1333	1066	1066
RDIMM	Dual-rank (16 GB)	STD	1333	1333	1333
LRDIMM	Quad-rank (32GB)	STD	1333	1333	1333
LRDIMM	Octal-rank (64GB)	STD	1066	1066	1066

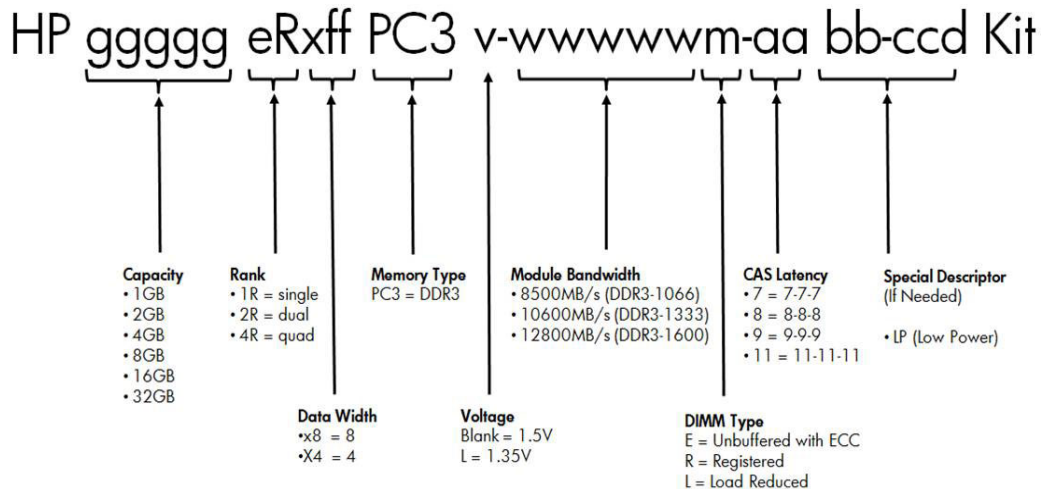
### Lockstep mode:

In this mode, the memory controller operates two DDR3 channels behind one memory buffer as single channel and the SMI2 channel operates at the DDR3 transfer rate (1600 MT/s max).

The server supports the following DIMM speeds as shown below in the table.

DIMM type	DIMM rank	Voltage	1 DIMM per channel	2 DIMMs per channel	3 DIMMs per channel
RDIMM	Single-rank (4 GB)	LV	1333	1066	1066
RDIMM	Single-rank (4 GB)	STD	1600	1600	1333
RDIMM	Single-rank (8 GB)	LV	1333	1066	1066
RDIMM	Single-rank (8 GB)	STD	1600	1600	1333
RDIMM	Dual-rank (16 GB)	LV	1333	1066	1066
RDIMM	Dual-rank (16 GB)	STD	1600	1600	1333
LRDIMM	Quad-rank (32GB)	STD	1600	1600	1333
LRDIMM	Octal-rank (64GB)	STD	1066	1066	1066

### DIMM Classification and Identification



### Memory Population 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, Hewlett Packard Enterprise 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.
- Lockstep mode requires specific population requirements. See lock-step configuration below for more information.

**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.

## Memory

For detailed memory configuration rules and guidelines, use the Online DDR3 Memory Configuration Tool on the HPE website (<http://www.hp.com/go/ddr3memory-configurator>).

### Online Sparing Configuration Guidelines

Online spare memory provides protection against degraded DIMMs by reducing the likelihood of uncorrected memory errors. This protection is available without any operating system support.

Online spare memory protection dedicates one rank of each memory channel for use as spare memory. The remaining ranks are available for OS and application use. If correctable memory errors occur at a rate higher than a specific threshold on any of the non-spare ranks, the server automatically copies the memory contents of the degraded rank to the online spare rank. The server then deactivates the failing rank and automatically switches over to the online spare rank.

For Online Spare memory mode configurations, observe the following guidelines:

- Observe the general DIMM slot population guidelines.
- Each channel must have a valid online spare configuration.
- Each channel can have a different valid online spare configuration.
- Each populated channel must have a spare rank.
- A single dual-rank DIMM is not a valid configuration.
- LRDIMMs are treated as dual-rank DIMMs.

### HPE Memory

**NOTE:** HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the HPE SmartMemory QuickSpecs at:

<https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111535>

**NOTE:** LRDIMM, RDIMM, UDIMM, and HDIMMs are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen8 servers support LRDIMM, RDIMM and UDIMMs.

#### Registered DIMMs (RDIMMs)

HPE 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713985-B21

HPE 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 731765-B21

HPE 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 731761-B21

HPE 16GB (1x16GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 708641-B21

#### Load Reduced DIMMs (LRDIMMS)

HPE 32GB (1x32GB) Quad Rank x4 PC3-14900L (DDR3-1866) Load Reduced CAS-13 Memory Kit 708643-B21

HP 64GB (1x64GB) Octa Rank x4 PC3-12800L (DDR3-1600) Load Reduced CAS-11 Memory Kit 700838-B21

#### Memory Expansion Options

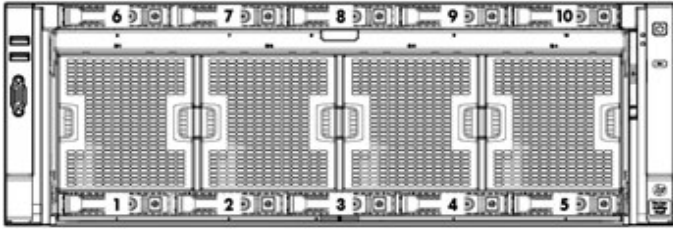
HP DL580 Gen8 12 DIMM Slots Memory Cartridge 732411-B21

## Memory

**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).

## 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.

### Maximum Internal Storage

Hot Plug SFF SAS	12TB	10 x 1.2TB
Hot Plug SFF SAS SSD	16TB	10 x 1.6TB
Hot Plug SFF SATA SSD	8TB	10 x 800GB

## Technical Specifications

<b>System Unit</b>	<b>Dimensions</b> (H x W x D) (with bezel)	6.88" x 17.48" x 29" (17.5cm x 44.4cm x 73.6cm)		
	<b>Weight</b> (approximate)	Maximum	116.56.0 lb (52.87 kg)	
		(all hard drives, power supplies, DIMMs and processors installed)		
		Minimum	70.94 lb (32.18 kg)	
		(one hard drive, two power supplies, four DIMMs, and two processors installed)		
	<b>Input Requirements</b> (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	
	<b>BTU Rating</b>	Maximum	3408 BTU/hr (120 VAC), 4500 BTU/hr (at 230 VAC) - 1200W PS 5637 BTU/hr (230 VAC) - 1500W PS	
<b>Power Specifications</b>	<p><b>NOTE:</b> To review typical system power ratings use the HPE Power Advisor which is available online located at url:  <a href="http://www.hp.com/go/proliant-energy-efficient">http://www.hp.com/go/proliant-energy-efficient</a> or  <a href="http://www.hp.com/go/hppoweradvisor">http://www.hp.com/go/hppoweradvisor</a></p> <p>- Click on the system of interest. Example: DL580 G8                      - Follow the instructions of the next screens.</p>			
<b>Power Supply Output</b> (per power supply)	Rated Steady-State Power	800 W (100 VAC low line), 900 W (120 VAC low and Maximum Peak Power line), 1200W (200 - 240 VAC) for 1200W PS 1500W (200 - 240V) for 1500W PS		
<b>System Inlet Temperature</b>	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 304.8 m (1.8°F per every 1000 ft) above sea level to a maximum of 3048 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).		
	Non-operating	-40° to 70°C (-40° to 158°F). Maximum rate of change is 20°C/hr (36°F/hr).		
<b>Relative Humidity</b> (non-condensing)	Operating	10% to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.		
	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.		

## Technical Specifications

<b>Altitude</b>	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).
<b>Acoustic Noise</b>	<p>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 24°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.</p> <p>Typical configuration (Two Intel® Xeon® E7-4890 v2 processors, 8x16 GB DIMMs, five HDDs, Eight fans, Four power supplies)</p> <p>Idle</p> <ul style="list-style-type: none"> <li>• LWAd – 6.8 B</li> <li>• LpAm – 51.2</li> </ul> <p>Operating</p> <ul style="list-style-type: none"> <li>• LWAd – 6.9 B</li> <li>• LpAm – 51.2</li> </ul> <p>Performance Configuration (Four Intel® Xeon® E7-4890 v2 processors, 16x16 GB DIMMs, Ten HDDs, Eight fans, Four power supplies)</p> <p>Idle</p> <ul style="list-style-type: none"> <li>• LWAd – 6.7 B</li> <li>• LpAm – 50.7</li> </ul> <p>Operating</p> <ul style="list-style-type: none"> <li>• LWAd – 6.9 B</li> <li>• LpAm – 51.3</li> </ul>	
<b>Emissions Classification (EMC)</b>	<b>FCC Rating</b>	Class A
	<b>Normative Standards</b>	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.

<b>HPE Smart Array P830i</b>	<b>Dimensions</b>	Embedded
	<b>Disk Drive and Enclosure Interface - Transfer rate</b>	12 Gb/s SAS, 6 Gb/s SAS & SATA
	<b>SAS Connectors</b>	2 internal x8 Mini-SAS double-wide internal
	<b>Cache Memory Speed</b>	DDR2-1866MHz with 72-bit wide bus at 14.9 GB/s (4 GiBytes Cache Module)
	<b>SAS Speed</b>	12Gb/s per physical link
	<b>Cache Memory</b>	FBWC cache is required. 2GB is included with BTO models. For CTO, 2GB or 4GB FBWC cache is required.

Technical Specifications

<b>Logical Drives Supported</b>	Up to 64 logical volumes
<b>Host Memory Addressing</b>	64-bit, supporting greater than 4GiB server memory space
<b>RAID Support</b>	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)

<b>HPE Ethernet 1Gb 4-port 331FLR Adapter</b>	<b>HPE Flexible Network Technology</b>	HPE Flexible Network Technology consists of replaceable network solutions to meet customer requirements now and in the future.	
	<b>Network Interface</b>	10Base-T/100Base-TX/1000Base-TX	
	<b>Compatibility</b>	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 802.1as IEEE 802.1q 100Base-TX	
	<b>Data Transfer Method</b>	PCI-Express 2.0 x4	
	<b>Controller</b>	BCM5719	
	<b>Network Transfer Rate</b>	10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Full-Duplex)	2000 Mb/s
	<b>Connector</b>	RJ-45	
	<b>Cable Support</b>	10Base-T	Categories 3, 4, or 5 UTP; up to 328 ft (100 m)
	100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)	
	1000Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)	

<b>HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter</b>	<b>HPE Flexible Network Technology</b>	HPE Flexible Network Technology consists of replaceable network solutions to meet customer requirements now and in the future.	
	<b>Network Interface</b>	IEEE 802.3 SFP+ (SX, SR & LR)	
	<b>Compatibility</b>	802.3, 802.3ae, 802.3x, 802.2x, 802.3ad, 802.1Qaz, 802.1Qau, 802.1Qbb, 802.1Qbg, 802.1ax	
	<b>Data Transfer Method</b>	PCI-Express 2.0 x8	
	<b>Controller</b>	Broadcom BCM57810S chipset	
	<b>Network Transfer Rate</b>	Two ports, each at 20 Gbps full duplex; 40 Gbps aggregate full duplex theoretical bandwidth.	
	<b>Connector</b>	Two SFP+	
<b>Cable Support</b>	Maximum distances for CAT6 cable are 30 meters (98 feet). Maximum distances for CAT6a are 100 meters (328 feet).		

<b>HPE Ethernet 10Gb 2-</b>	<b>HPE Flexible Network</b>	HPE Flexible Network Technology consists of replaceable network
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## Technical Specifications

<b>port 560FLR-SFP+ Adapter</b>	<b>Technology</b>	solutions to meet customer requirements now and in the future.	
	<b>Network Interface</b>	SFP+ for Direct Attach Cable copper or fiber	
	<b>Compatibility</b>	802.3, 802.1ab, 802.3x, 802.3ad, 802.1p/ 802.1q, 802.3ae, 802.1Qau	
	<b>Data Transfer Method</b>	PCI-Express 2.0 x8	
	<b>Controller</b>	Intel® 82599 Controller	
	<b>Network Transfer Rate</b>	Two ports, each at 20 Gbps full duplex; 40 Gbps aggregate full duplex theoretical bandwidth.	
	<b>Connector</b>	Two SFP+	
	<b>Cable Support</b>	10Base-T	Categories 3, 4, or 5 UTP; up to 328 ft (100 m)
	100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)	
	1000Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)	

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## Summary of Changes

Date	Version History	Action	Description of Change
23-Oct-2017	From Version 22 to 23	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
31-Mar-2016	From Version 21 to 22	Changed	Memory section was revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
16-Feb-2016	From Version 20 to 21	Changed	Additional Options section was revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
17-Dec-2015	From Version 19 to 20	Added	Smart Buy models were added to the NA version.
01-Dec-2015	From Version 18 to 19	Added	New Hard Drives offering was added to HPE Hard Drives section.
		Changed	What's New was updated.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
28-Sep-2015	From Version 17 to 18	Added	Added new 6Gb SATA Solid State Drives. Added new HPE OneView management software.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
17-Aug-2015	From Version 16 to 17	Added	New Solid State Drives offering was added to HPE Hard Drives section.
01-Jun-2015	From Version 15 to 16	Added	New Hard Drives were added to Core Options.
		Removed	Obsolete SKUs were removed from Core Options and Additional Options.
15-Apr-2015	From Version 14 to 15	Changed	Version updated to sync content in Product Bulletin and QuickSpecs online.
09-Feb-2015	From Version 13 to 14	Added	SKUs added on HPE Uninterruptible Power Systems: J2Q99A, J2R00A, J2R01A, J2R02A, J2R03A, J2R04A, J2R05A, J2R09A, J2R10A, and L4Q11A. SKUs added on HPE Hard Drives: 779164-B21, 779168-B21, 779172-B21, 779176-B21, 764923-B21, 764925-B21, 764927-B21, and 764929-B21.
19-Dec-2014	From Version 12 to 13	Changed	Changes made to NA version only. Matching version numbers
01-Dec-2014	From Version 11 to 12	Changed	Core Options and Memory sections were updated
		Added	SKU Added on Hard Drives: 757339-B21
01-Nov-2014	From Version 10 to 11	Changed	Service and Support section was updated
29-Sep-2014	From Version 9 to 10	Added	SKUs added on HPE Hard Drives: 756657-B21, 756636-B21, 756621-B21, and 756601-B21.
09-Sep-2014	From Version 8 to 9	Changed	Overview and Additional Options sections were updated
		Removed	Obsolete SKU was removed: AF902A.
		Added	SKUs added: 732456-B21, 655710-B21, 655708-B21, and E7Y06A.
18-Aug-2014	From Version 7 to 8	Changed	What's New, Configuration Information (Memory, FlexibleLOM), Core Options (Memory, Hard Drives, Networking, HPE Graphics Options, HPE I/O Accelerators Options), Additional Options (HPE Power Cords, HPE Converged Network Adapters, HPE Infiniband Options, HPE Storage Options, HPE USB and SD Options) and Memory sections were revised.
14-Jul-2014	From Version 6 to 7	Changed	Correction made to the Technical Specifications section.
27-Jun-2014	From Version 5 to 6	Added	What's new section was added Acoustic noise in Technical Specifications section was added
		Changed	FlexibleLOM in standard features section was updated FlexibleLOM in Configuration Information-Factory Integrated Models was updated HPE Networking in Core Options was updated HPE Storage Options in additional options was updated

## Summary of Changes

10-Jun-2014	From Version 4 to 5	Changed	Memory, Networking, Hard Drives, Storage Controllers, HPE Basic and Remote Monitoring Power Distribution Units were revised.
31-Mar-2014	From Version 3 to 4	Changed	Changes were made throughout.
07-Mar-2014	From Version 2 to 3	Changed	Changes were made in the Smart Buy section of the North America and Canada versions.
01-Mar-2014	From Version 1 to 2	Changed	Changes were made in the North America and Canada versions.



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

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