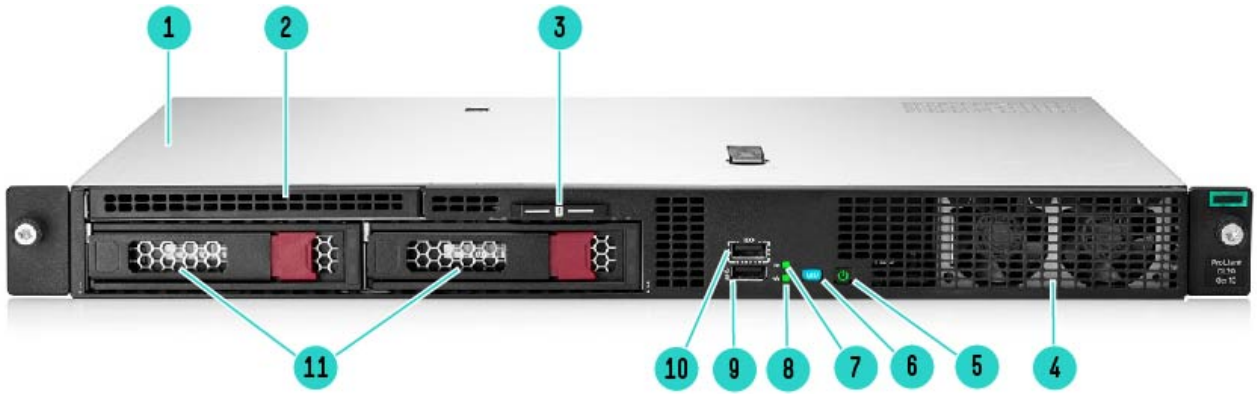
RETIRED: This document has been officially retired, and the base products listed herein are now considered obsolete and are no longer available for sale. Consequently, the information contained within may no longer be current. This document is provided exclusively for reference and informational purposes.

Overview

The U.S. version of QuickSpecs is no longer being updated, please reference the Worldwide QuickSpecs for latest information

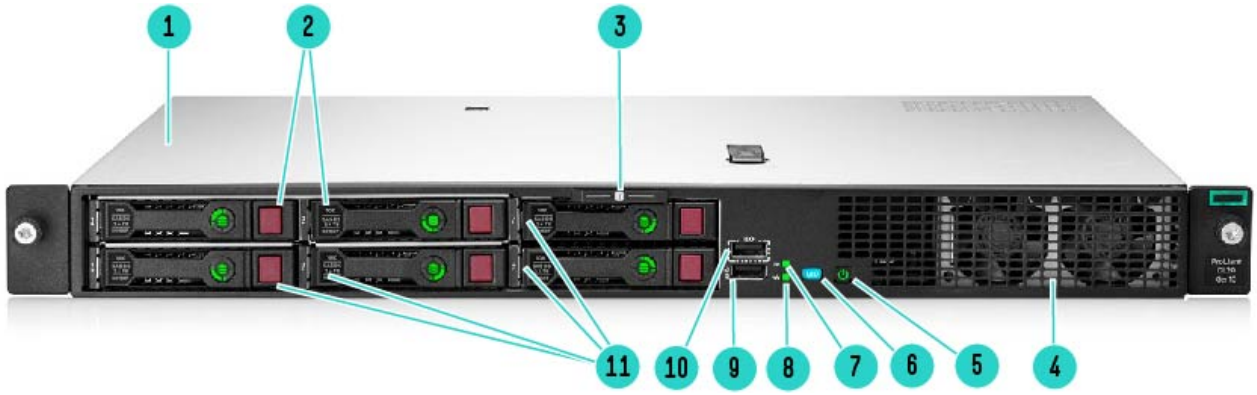
HPE ProLiant DL20 Gen10 Server

The dense and compact HPE ProLiant DL20 Gen10 Server powered by Intel® Xeon® E Processor, Pentium and Core i3 processors provides a unique blend of enterprise class capabilities & value. It offers outstanding configuration flexibility to cater to a wide variety of business requirements at an affordable price point. Deploy this dense platform for diverse workloads in space constrained environments and maintain it with ease by automating the most essential server lifecycle management tasks with HPE iLO 5.



2 LFF Front View

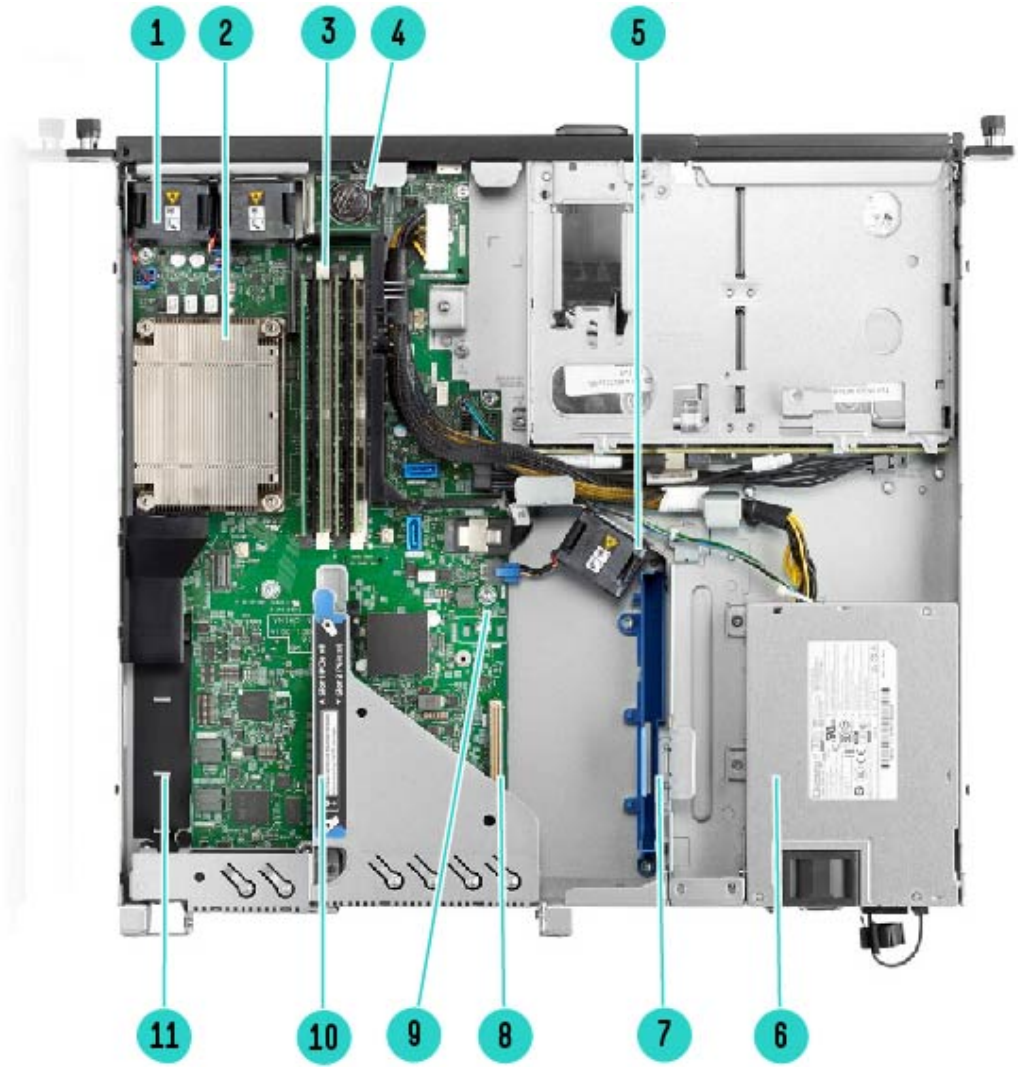
1. Access Panel
2. Optical drive bay
3. Serial number/iLO information pull tab
4. Front Fan Assembly
5. System Power LED
6. UID LED
7. Health LED
8. NIC Status LED
9. USB 3.0 Port
10. iLO Service Port (USB)
11. Two-bay LFF hot-plug drive bays



4 (+2) SFF Front View

1. Access Panel
2. 2 SFF hot plug drive bays (optional)
3. Serial number/iLO information pull tab
4. Front Fan Assembly
5. System Power LED
6. UID LED
7. Health LED
8. NIC Status LED
9. USB 3.0 Port
10. iLO Service Port (USB)
11. 4 SFF hot plug drive bays

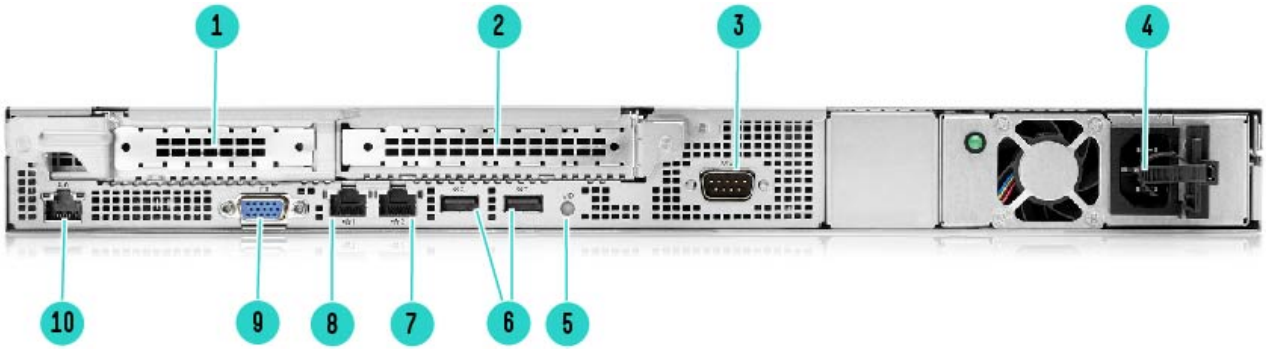
Overview



Internal View - Standard for all DL20 Gen10

1. Fan cage shown with 2 fans
2. Processor shown with heat sink
3. Four DDR4 DIMM Slots
4. System Battery
5. Central fan assembly (3rd fan)
6. Power Supply (1x290W)
7. Optional Smart Storage Battery
8. Modular Smart Array connector
9. Optional TPM 2.0
10. PCIe Riser
11. Option: Dedicated iLO/M.2 SSD

Overview



Rear View – Standard for all DL20 Gen10

1. Slot 1 PCIe 3.0
2. Slot 2 PCIe 3.0
3. Option: Serial Port
4. 290W Non hotplug Power Supply
5. UID LED
6. Two USB 3.0 Ports
7. NIC Port (1Gb)
8. NIC port (1Gb) /iLo port
9. VGA port
10. Option: Dedicated iLO Management Port

What's New

- Introducing support for Intel® Xeon® E Processors and 2666MHz UDIMM with support for Intel® Software Guard Extensions. Intel® SGX is an architecture extension designed to increase the security of application code and data.
- Storage Enhancements in the form of increased capacity of up to 6 SFF drives & M.2 SSDs for boot
- Dedicated iLO Management Port as an option kit for faster and more secure data transmission
- More choice of Power Supplies with 500W 94% efficiency and 800W 48VDC 96% efficiency Flex Slot Redundant Power Supplies
- Warranty increased from 1yr to 3yrs (parts, labor & Onsite support)
- New SMB focussed solutions

Platform Information

Platform Information

Form Factor
1U rack

Chassis Types
4 SFF with options supporting: +2 SFF
2 LFF Hot Plug
2 LFF Non Hot Plug

System Fans
Includes 3 standard single rotor non-hot plug and non-redundant fans
NOTE: This applies for all three chassis: 2LFF NHP, 2LFF HP and 4SFF HP

Standard Features

Standard Features

Processors – Intel® Xeon® processor E-Series processor family is designed to deliver the best combination of performance, built-in capabilities, and cost-effectiveness. The product also supports Intel® Pentium® and Intel® Core-i3 dual core processors. Choose one of the following processors based on the model.

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

NOTE: This table covers the public Intel offering only.

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	DDR4	Intel® SGX
G5400	3.7GHz	2	4MB	58W	2400	No
i3-8300	3.7GHz	4	8MB	62W	2400	No
E-2124	3.3GHz	4	8MB	71W	2666	No
E-2126G	3.3GHz	6	12MB	80W	2666	No
E-2134	3.5GHz	4	8MB	71W	2666	No
E-2136	3.3GHz	6	12MB	80W	2666	No
E-2144G	3.6GHz	4	8MB	71W	2666	No
E-2174G	3.8GHz	4	8MB	71W	2666	Yes
E-2186G	3.8GHz	6	12MB	95W	2666	Yes

Chipset

Intel® C242 Chipset

NOTE: For more information regarding Intel® chipsets, please see the following URL: **http://www.intel.com/products/server/chipsets/**.

On System Management Chipset

HPE iLO 5 ASIC

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

Memory

Type		HPE DDR4 Unbuffered (UDIMM)
DIMM Slots Available	4	4 DIMM slots per processor, 2 channels per processor, 2 DIMMs per channel
Maximum capacity (UDIMM)	64 GB	4 x 16 GB UDIMM @ 2666 MT/s

NOTE: For General Server Memory and DIMM Population Rules and Guidelines for Gen10 see details here: **http://www.hpe.com/docs/memory-population-rules**.

Memory Protection

ECC

Standard Features

Network Controller

HPE Ethernet 1Gb 2-port 332i network Adapter or BCM5720.
The HPE ProLiant DL20 Gen10 server offers the customer a dual-port NIC standard with the option to upgrade with a variety of networking options.

Expansion Slots

Primary FIO LP Riser	Expansion Slots #	Technology	Bus Width	Connector Width	Processor	Slot Form Factor
	1	PCIe 3.0	X8	X8	CPU1	Low profile
	2	PCIe 3.0	x8	X16	CPU1	Full height half length

Flexible LOM Riser	Expansion Slots #	Technology	Bus Width	Connector Width	Processor	Slot Form Factor
	1	PCIe 3.0	X8	X8	CPU 1	Flexible LOM
	2	PCIe 3.0	X8	x16	CPU 1	Full height half length

NOTE: This riser is mandatory for installing FlexibleLOMs.
NOTE: Bus Width indicates the number of physical electrical lanes running to the connector.

Storage Controllers

Software RAID

HPE Smart Array S100i SR Gen10 SW RAID
NOTE: HPE Smart Array S100i SR Gen10 SW RAID will operate in UEFI mode only. For legacy support an additional controller will be needed, and for CTO orders please also select the Legacy mode settings (758959-B22).
NOTE: HPE Smart Array S100i SR Gen10 SW RAID is off by default and must be enabled by selecting 784308-B21.
NOTE: The S100i is a 14-port SATA controller, but only 12 ports are accessible as 2 are leveraged to support the 2 M.2 options on the Primary Riser.
NOTE: The S100i supports windows only.
NOTE: For Linux users, HPE offers a solution that uses in-distro open-source software to create a two-disk RAID 1 boot volume. For more information visit: **https://downloads.linux.hpe.com/SDR/project/lsrrb/**

Essential RAID Controllers

HPE Smart Array E208i-a SR G10 LH Controller
HPE Smart Array E208e-p SR Gen10 Controller

Performance RAID Controllers

HPE Smart Array P408i-a SR G10 LH Controller
HPE Smart Array P408e-p SR Gen10 Controller
NOTE: For additional details, please see **HPE Smart Array Gen10 Controllers Data Sheet**.

Internal Storage Devices

Optical Drive	Available on 4 SFF and 2 LFF CTO Servers as an option (DVD-ROM or DVD-RW)
Hard Drives	None ship standard

Standard Features

Maximum Storage

STORAGE	CAPACITY	CONFIGURATION
Hot Plug SFF SAS HDD	14.4 TB	4 + 2 x 2.4 TB (with optional +2 drive option)
Hot Plug SFF SATA HDD	12 TB	4+2 x 2.0 TB (with optional + 2 drive option)
Hot Plug SFF SAS SSD	91.8 TB	4+2 x 15.3 TB (with optional + 2 drive option)
Hot Plug SFF SATA SSD	23.04 TB	4+2 x 3.84 TB (with optional + 2 drive option)
Hot Plug LFF SAS HDD	24 TB	2 x 12 TB
Hot Plug LFF SATA HDD	24 TB	2 x 12 TB
Hot Plug LFF SAS SSD	1.6 TB	2 x 800 GB
Hot Plug LFF SATA SSD	3.84 TB	2 x 1.92 TB

Power Supply

HPE 290W FIO Power Supply
NOTE: Available in 92% efficiency.
HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
NOTE: Available in 94% efficiency.
HPE 800W Flex Slot -48VDC Platinum Hot Plug Low Halogen Power Supply Kit
NOTE: Flex Slot -48VDC power supplies support power efficiency of up to 94%.
HPE Entry-Level Power Supplies provide lower-cost options for customers trying to balance their need for enterprise class efficiency and reliability while maintaining lowest possible hardware costs. The above mentioned Entry-Level power supply options have been designed specifically for HPE ProLiant DL20 Gen10 Server.
The HPE 290W FIO Power Supply is the standard, non-redundant AC power supply with 80Plus Silver Certification. It features 92% power efficiency with a set of features optimized for the DL20 Gen10 rack server.

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen10 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

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

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

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

Interfaces

Serial	1 port - Optional
Video	1 Rear - VGA port (standard on all chassis types)
Network Ports	2x 1GbE embedded NIC (standard on all chassis types)
iLO Remote Mgmt Port	1 Gb Dedicated - Optional
USB 3.0	5 USB ports (standard) Front: 1xUSB 3.0, 1xUSB iLO Service Port Rear: 2xUSB 3.0 Internal: 1x USB 3.0

Standard Features

Operating Systems and Virtualization Software

Windows Server 2016 (Most Recent Version)
VMware vSphere 6.7 and 6.5 U2
NOTE: VMware support is available on Intel Xeon E-Series processors only.
Red Hat Enterprise Linux (RHEL) 7.5
SUSE Linux Enterprise Server (SLES) 15 and 12 SP3
ClearOS/VM 7.5
NOTE: ClearOS allows you to build a fully functional server that is just right for you at no upfront cost. For more information on ClearOS, please visit **http://www.hpe.com/servers/clearos**.
CentOS 7.5
NOTE: For more information on Hewlett Packard Enterprise Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server.
http://www.hpe.com/info/ossupport

Industry Standard Compliance

- ACPI 6.1 Compliant
- PCIe 3.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- USB 3.0 Compliant
- USB 2.0 Compliant
- SMBIOS 3.1
- UEFI 2.6 (Unified Extensible Firmware Interface Forum)
- Redfish API
- IPMI 2.0
- Secure Digital 4.0
- TPM 1.2 and 2.0 support
- Advanced Encryption Standard (AES)
- Triple Data Encryption Standard (3DES)
- SNMP v3
- TLS 1.2
- DMTF Systems Management Architecture for Server Hardware Command Line (SMASH CLP)
- Active Directory v1.0
- ASHRAE A3/A4
- Energy Star

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

Upgradeability

One of the following depending on model
FlexibleLOM connector for 1 or 10 or 25 Gigabit networking options
Up to 4 DIMM slots available for higher memory capacity
Up to 4SFF (+2SFF optional) Drive bays or 2LFF Drive bays
HPE Smart Array or Smart HBA Controller
Redundant Power Supply
Dedicated iLO Management Port
M.2 NVMe SSDs for boot

Standard Features

Graphics
Integrated Matrox G200 video standard
- Video modes up to 1920 x 1200 @ 60 Hz (32 bpp)

16 MB Video Memory
HPE iLO 5 on system management memory
- 32 MB Flash

4 Gbit DDR3 with ECC protection

Embedded Management

HPE Integrated Lights-Out (HPE iLO)
Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO.
Learn more at **http://www.hpe.com/info/ilo**.

UEFI
Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI).
Learn more at **http://www.hpe.com/servers/uefi**.

Intelligent Provisioning
Hassle free server and OS provisioning for one or more servers with Intelligent Provisioning.
Learn more at
http://www.hpe.com/servers/intelligentprovisioning.

iLO RESTful API
iLO RESTful API is Redfish API conformance and offers simplified server management automation such as configuration and maintenance tasks based on modern industry standards. Learn more at **http://www.hpe.com/info/restfulapi**.

Server Utilities

Active Health System
The HPE Active Health System (AHS) is an essential component of the iLO management portfolio that provides continuous, proactive health monitoring of HPE servers. Learn more at **http://www.hpe.com/servers/ahs**.

Active Health System Viewer
Use the Active Health System Viewer, a web-based portal, to easily read AHS logs and speed problem resolution with HPE self-repair recommendations, to learn more visit: **http://www.hpe.com/servers/ahsv**.

Smart Update
Keep your servers up to date with the HPE Smart Update solution by using Smart Update Manager (SUM) to optimize the firmware and driver updates of the Service Pack for ProLiant (SPP). Learn more at **http://www.hpe.com/info/smartupdate**.

iLO Amplifier Pack
Designed for large enterprise and service provider environments with hundreds of HPE servers, the iLO Amplifier Pack is a free, downloadable open virtual application (OVA) that delivers the power to discover, inventory and update Gen8, Gen9 and Gen10 HPE servers at unmatched speed and scale. Use with an iLO Advanced License to unlock full capabilities.
Learn more at **http://www.hpe.com/servers/iLOamplifierpack**.

HPE iLO Mobile Application
Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: **http://www.hpe.com/info/ilo/mobileapp**.

Standard Features

RESTful Interface Tool
RESTful Interface tool (iLOREST) is a single scripting tool to provision using iLO RESTful API to discover and deploy servers at scale. Learn more at **http://www.hpe.com/info/resttool**.

Scripting Tools
Provision one to many servers using your own scripts to discover and deploy with Scripting Tool (STK) for Windows and Linux or Scripting Tools for Windows PowerShell.
Learn more at **http://www.hpe.com/servers/stk** or**http://www.hpe.com/servers/powershell**.

HPE OneView Standard
HPE OneView Standard can be used for inventory, health monitoring, alerting, and reporting without additional fees. It can monitor multiple HPE server generations. The user interface is similar to the HPE OneView Advanced version, but the software-defined functionality is not available. Learn more at **http://www.hpe.com/info/oneview**.
NOTE: HPE OneView on DL20 Gen10 will be available in 1H 2019.

HPE Systems Insight Manager (HPE SIM)
Ideal for environments already using HPE SIM, it allows you to monitor the health of your HPE ProLiant Servers and HPE Integrity Servers. Also provides you with basic support for non-HPE servers. HPE SIM also integrates with Smart Update Manager to provide quick and seamless firmware updates. Learn more at **http://www.hpe.com/info/hpesim**.

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

Standard Features

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://h17007.www1.hpe.com/us/en/enterprise/servers/warranty/.

Optional Features

Server Management

HPE iLO Advanced

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

HPE iLO Advanced Premium Security Edition

HPE iLO Advanced Premium Security Edition for iLO 5 includes iLO Advanced License plus high-end security modes, unique security capabilities, like Automatic FW recovery; Runtime FW verification, and Secure erase. Learn more about HPE iLO Advanced Premium Security Edition at: **http://www.hpe.com/servers/ilopremium**.

HPE OneView Advanced

HPE OneView brings a new level of automation to infrastructure management by taking a template driven approach to provisioning, updating, and integrating compute, storage, and networking infrastructure. It provides full-featured licenses which can be purchased for managing Gen8, Gen9 and Gen10 servers. To learn more visit **http://www.hpe.com/info/oneview**.

NOTE: HPE OneView on DL20 Gen10 will be available in 1H 2019.

HPE InfoSight for Servers

HPE InfoSight for Servers combines the cloud-based machine learning of InfoSight with the health and performance monitoring of Active Health System (AHS) and iLO to optimize performance and predict and prevent problems. The end result is an intelligent environment that modernizes IT operations and enhances the support experience by predicting and preventing the infrastructure issues that lead to application disruptions, wasted IT staff time and missed business opportunities.

Learn more at **https://www.hpe.com/servers/infosight**

HPE Insight Cluster Management Utility (CMU)

HPE Insight Cluster Management Utility is a HyperScale management framework that includes software for the centralized provisioning, management and monitoring of nodes and infrastructure. Learn more at **http://www.hpe.com/info/cmu**.

Rack and Power Infrastructure

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

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

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

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

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

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

Optional Features

One Config Simple (SCE)

SCE is a guided self-service tool to help sales and non-technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact Hewlett Packard Enterprise Customer Business Center or an Authorized Partner for assistance.
https://h22174.www2.hpe.com/SimplifiedConfig/Welcome#

Service and Support

HPE Pointnext - Service and Support

Protect your business beyond warranty with HPE Pointnext Operational Service

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

Connect your devices:

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77%[1] reduction in down time, near 100%2 diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

[1] DC 2 – HP CSC reports 2014 – 2015

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

Recommended Services

HPE Foundation Care NBD, three-year Support Service

HPE Foundation Care Next Business Day connects you to HPE during business hours for assistance on resolving issues – This service features need based next business day hardware onsite response and software call back within two hours. In addition, Collaborative software support and provides troubleshooting assistance on industry leading software running on your HPE server. Simplify your support experience and make HPE your first call to help resolve hardware or software problems.

https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en

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HPE Foundation Care 24x7, three-year Support Service

HPE Foundation Care 24x7 gives you access to HPE 24 hours a day, seven days a week for assistance on resolving issues. This service includes need based Hardware onsite response within four hours. In addition, collaborative software support is included in this service that provides troubleshooting assistance on industry leading software running on your HPE server. Simplify your support experience and make HPE your first call to help resolve hardware or software problems.

https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en

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

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

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

Service and Support

HPE Proactive Care* - Next Business Day service, three year Support Service
HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This service combines three years of Hardware Support where a Hewlett Packard Enterprise authorized representative will arrive at the Customer's site during the onsite coverage window to begin hardware maintenance service the next coverage day after the service request has been logged. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers.

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

*HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their devices to make the most of these services and receive all the deliverables.

Other related Services

HPE Server Hardware Installation
Provides for the basic hardware installation of HPE branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.
https://www.hpe.com/h20195/V2/GetPDF.aspx/5981-9356EN.pdf

HPE Installation and Startup Service
Provides for the installation of your HPE hardware according to product specifications including options. The HPE service delivery technician will connect the product to a LAN as appropriate and enable remote support to allow for automatic case creation for hardware failures. Installation and start up services also includes the installation of one supported operating system type (Windows® or Linux).

HPE Datacenter Care service
HPE Datacenter Care helps improve IT stability and security, increase the value of IT, and enable agility and innovation. It is a structured framework of repeatable, tested, and globally available services "building blocks." You can deploy, operate, and evolve your datacenter wherever you are on your IT journey. With HPE Datacenter Care, you benefit from a personalized relationship with HPE via a single point of accountability for HPE and others' products. For more information, visit
http://www.hpe.com/services/datacentercare

HPE GreenLake Flex Capacity
With HPE GreenLake Flex Capacity, you get the speed, scalability, and economics of the public cloud in the privacy of your data center. Gain the advantages of the public cloud—consumption-based payment, rapid scalability without worrying about capacity constraints. Reduce the "heavy lifting" needed to operate a data center. And retain the advantages that IT provides the business (i.e., control, security). Deliver the right user experience, choose the right technology for the business, manage privacy and compliance, and manage the cost of IT. And, you have the option to use the public cloud when needed.

DC for Hyperscale
Datacenter Care for Hyperscale is available for Service Providers and HPC customers who use a scale out approach to computing with a high volume homogenous infrastructure and resilient architecture can take advantage of this environment support tailored to their operating model.

Service and Support

HPE Factory Express for Servers and storage
HPE Factory Express offers configuration, customization, integration and deployment services for HPE 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. HPE products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE Apollo, HPE ProLiant Server Blades, HPE BladeSystem, HPE 9000 servers as well as the MSAxxxx3PAR suite, XP, rackable tape libraries and configurable network switches.

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

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

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

The HPE Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime. HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.*HPE Support Center Mobile App is subject to local availability.For more information: **http://www.hpe.com/services**.

* HPE ProLiant DL20 Gen10 Server is covered under the HPE Service Contract applied to the HPE ProLiant Server. No separate HPE support services need to be purchased.

Warranty and Support Services will extend to include HPE options configured with your server or storage device. The price of support service is not impacted by configuration details. HPE sourced options that are compatible with your product will be covered under your server support at the same level of coverage allowing you to upgrade freely. Installation for HPE options is available as needed. To keep support costs low for everyone, some high value options will require additional support. Additional support is only required on select high value workload accelerators, fibre switches, InfiniBand and UPS batteries over 12KVA. See the specific high value options that require additional support **here**.

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 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 QuickSpecs, 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.

Pre-configured Models

1. Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
2.Hewlett Packard Enterprise does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
3. If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

	Entry Models		Performance Models	
[SKU Number]	P06476-B21	P08335-B21	P06477-B21	P06478-B21
Model Name	HPE DL20 Gen10 G5400 1P 8G NHP Ety Svr	HPE DL20 Gen10 E-2124 1P 8G NHP Ety Svr	HPE DL20 Gen10 E-2124 1P 16G Perf Svr	HPE DL20 Gen10 E-2136 1P 16G Perf Svr
Processor	Intel® Pentium® G5400	Intel® Xeon® E-2124	Intel® Xeon® E-2124	Intel® Xeon® E-2136
Number of Processors	One			
Memory	8GB (1x8GB UDIMM, 2666 MHz)	8GB (1x8GB UDIMM, 2666 MHz)	16GB (1x16GB UDIMM, 2666 MHz)	16GB (1x16GB UDIMM, 2666 MHz)
Network Controller	HPE embedded 1Gb 2-port 332i network Adapter			
Storage Controller	Embedded 14-port S100i **NOTE:** SATA only			
Hard Drive	None ship standard; includes 2 LFF hard drive blanks		None ship standard	
Internal Storage	2 LFF HDD Bays (Non Hot Plug)		2 LFF HDD Bays (Hot Plug)	4 SFF HDD Bays (Hot Plug)
Optical Drive Bay	1; (Optional: DVD-ROM, DVD-RW)			
Optical Drive	None			
PCI-Express Slots	2 PCIe 3.0 slots			
Power Supply	(1) 290W Non Hot Plug Power Supply			1 x 500W
Fans	3 non hot plug, non-redundant			
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Essentials (optional), iLO Scale-out (optional only for DL), iLO Advanced (optional)			
Form Factor	Rack (1U), HPE Short Friction Rail Kit			
Warranty	includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response			

Pre-configured Models

	Solution Model
[SKU Number]	P06479-B21
Model Name	HPE DL20 Gen10 E-2134 1P 16G Soln Svr
Processor	Intel® Xeon® E-2134
Number of Processors	One
Memory	16GB (1x16GB UDIMMs, 2666 MHz)
Network Controller	HPE embedded 1Gb 2-port 332i network Adapter
Storage Controller	Embedded 14-port S100i **NOTE:** SATA only
Hard Drive	None ship standard
Internal Storage	4 SFF HDD Bays
Optical Drive Bay	1; (Optional: DVD-ROM, DVD-RW)
Optical Drive	None
PCI-Express Slots	2 PCIe 3.0 slots
Power Supply	(1) HPE 500W Redundant Power Supply
Fans	3 non hot plug, non-redundant
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Essentials (optional), iLO Scale-out (optional only for DL), iLO Advanced (optional)
Energy Star	Meets Energy Star requirements
Form Factor	Rack (1U), HPE Short Friction Rail Kit
Warranty	includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

Pre-configured Models

	Entry Model	Performance Models		Solution Model
[SKU Number]	P08335-B21	P06477-B21	P06478-B21	P06479-B21
Model Name	HPE DL20 Gen10 E-2124 1P 8G NHP Ety Svr	HPE DL20 Gen10 E-2124 1P 16G Perf Svr	HPE DL20 Gen10 E-2136 1P 16G Perf Svr	HPE DL20 Gen10 E-2134 1P 16G Soln Svr
Processor	Intel® Xeon® E-2124	Intel® Xeon® E-2124	Intel® Xeon® E-2136	Intel® Xeon® E-2134
Number of Processors	One			
Memory	8GB (1x8GB UDIMM, 2666 MHz)	16GB (1x16GB UDIMM, 2666 MHz)	16GB (1x16GB UDIMM, 2666 MHz)	16GB (1x16GB UDIMM, 2666 MHz)
Network Controller	HPE embedded 1Gb 2-port 332i network Adapter			
Storage Controller	Embedded 14-port S100i **NOTE:** SATA only			
Hard Drive	None ship standard			
Internal Storage	2 LFF HDD Bays (Non Hot Plug)	2 LFF HDD Bays (Hot Plug)	4 SFF HDD Bays (Hot Plug)	
Optical Drive Bay	1; (Optional: DVD-ROM, DVD-RW)			
Optical Drive	None			
PCI-Express Slots	2 PCIe 3.0 slots			
Power Supply	(1) 290W Non Hot Plug Power Supply		1 x 500W	
Fans	3 non hot plug, non-redundant			
Management	iLO Management (standard), Intelligent Provisioning (standard), iLO Essentials (optional), iLO Scale-out (optional only for DL), iLO Advanced (optional)			
Form Factor	Rack (1U), HPE Short Friction Rail Kit			
Warranty	includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response			

Configuration Information - Factory Integrated Models

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

1. Factory Integrated Models must start with a CTO Server.
2. FIO indicates that this option is only available as a factory installable option.
3. All Factory Integrated Models will be populated with sufficient hard drive blanks based on number of drives ordered with server.
4. Some options may not be integrated at the factory. Contact your local sales representative for additional information

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

CTO Server Model	HPE ProLiant DL20 Gen10 Non-hot Plug 2LFF Configure-to-order Server	HPE ProLiant DL20 Gen10 2LFF Configure-to-order Server	HPE ProLiant DL20 Gen10 4SFF Configure-to-order Server
SKU Number	P06961-B21	P06962-B21	P06963-B21
Processor	1	1	1
DIMM Slots	4 DIMM slots for UDIMM DDR4 Memory		
Storage Controller	Embedded 14-port S100i		
PCIe	2 PCIe 3.0 Slots		
Drive Cage	2LFF Non Hot Plug	2LFF Hot Plug	4SFF Hot Plug
Network Controller	HPE embedded 1Gb 2-port 332i network Adapter		
Fans	3 non hot plug, non-redundant		
Management	iLO Management (standard), Intelligent Provisioning (standard)		
USB	2 front, 1 internal, 2 rear		
Ears	HPE Thumbscrew Ears		

Step 2a: Choose Processor Options

Please select one –L21 processor required below.
NOTE: Only one processor supported.
NOTE: DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

Processor Option Kits	Required Processor
Intel Xeon-E Series	
HPE DL20 Gen10 Intel Xeon E-2124 (3.3GHz/4-core/71W) FIO Processor Kit	P06642-L21
HPE DL20 Gen10 Intel Xeon E-2134 (3.5GHz/4-core/71W) FIO Processor Kit	P06646-L21
HPE DL20 Gen10 Intel Xeon E-2144G (3.6GHz/4-core/71W) FIO Processor Kit	P06650-L21
HPE DL20 Gen10 Intel Xeon E-2174G (3.8GHz/4-core/71W) FIO Processor Kit	P06656-L21
HPE DL20 Gen10 Intel Xeon E-2126G (3.3GHz/6-core/80W) FIO Processor Kit	P06648-L21
HPE DL20 Gen10 Intel Xeon E-2136 (3.3GHz/6-core/80W) FIO Processor Kit	P06652-L21
HPE DL20 Gen10 Intel Xeon E-2186G (3.8GHz/6-core/95W) FIO Processor Kit	P08171-B21
Intel® Core® i3 series Processors	
HPE DL20 Gen10 Intel Core i3-8300 (3.7GHz/4-core/62W) FIO Processor Kit	P06638-L21
Intel® Pentium® G5000 series Processors	
HPE DL20 Gen10 Intel Pentium G5400 (3.7GHz/2-core/54W) FIO Processor Kit	P06632-L21

Configuration Information - Factory Integrated Models

Step 2b: Choose Memory Options

Please select one or more memory from below.

NOTE: HPE memory from previous generation servers is not qualified or warranted with this HPE ProLiant Server.
NOTE: HPE Standard Memory (UDIMM) is required to realize the memory performance improvements and enhanced functionality listed in this document for this HPE ProLiant Server.
NOTE: With one processor installed, four DIMMs slots are available.

Unbuffered DIMMs (UDIMMs) – 2666 MHz

HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Unbuffered Standard Memory Kit	879505-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Unbuffered Standard Memory Kit	879507-B21

Step 2c: Choose Power Supplies

Please select one or two power supplies from below.

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

HPE ProLiant Gen10 Essential Server Power Supplies - Non-Redundant

HPE DL20 Gen10 290W FIO Power Supply Unit Kit	P06731-B21

NOTE: 290W PSU is a Non hot plug power supply
NOTE: This FIO option can only be bought integrated in the server. It cannot be ordered as a standalone option after server purchase.

HPE Flex Slot Power Supplies -

HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
HPE DL20 Gen10 RPS Enablement FIO Kit	P06722-B21

NOTE: It is mandatory to choose the RPS enablement kit to support redundant power supply.

Step 2d: Choose Riser Cards

NOTE: It is mandatory to choose one Riser Card from selections below:

HPE DL20 Gen10 x8x16 FlexibleLOM Riser Kit	P06667-B21
HPE DL20 Gen10 Low Profile FIO Riser Kit	P09145-B21

Step 3: Choose Additional (FIO) Factory Integratable Options

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

HPE DL20 Gen10 Latch Ear FIO Kit	P06716-B21

NOTE: This option is required to support HPE 1U Gen10 Bezel Kit (867998-B21) and HPE Bezel Lock Kit (875519-B21).

HPE Gen10 TPM 1.2 FIO Setting	872108-B21

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

HPE FIO Enable Smart Array SW RAID	784308-B21

NOTE: If selected, the embedded SATA controller will work in S100i Mode. This option may not be selected with HPE Legacy FIO Mode Setting (758959-B22)

HPE Legacy FIO Mode Setting	758959-B22

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

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

Core Options

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

HPE Unique Options

Risers

HPE DL20 Gen10 x8x16 FlexibleLOM Riser Kit P06667-B21

NOTE: A riser is required on every model.

Riser Information			
Part number	**Description**	**Slot Bus width** (Gen3 lanes)	
		#1	#2
P09145-B21	HPE DL20 Gen10 x16/x8 Low Profile FIO Riser	X8	X8
P06667-B21	HPE DL20 Gen10 x16/x8 Flexible LOM Riser Kit	X8	X8

Optical Drive Options

HPE Mobile USB DVD-RW Optical Drive 701498-B21

NOTE: This kit is only supported on USB 3.0 ports only.

HPE 9.5mm SATA DVD-ROM Optical Drive 726536-B21

HPE 9.5mm SATA DVD-RW Optical Drive 726537-B21

HPE DL20 Gen10 LFF ODD Cable Kit P06681-B21

NOTE: This option kit is required for Optical Drive option (LFF model only).

HPE DL20 Gen10 SFF ODD Enablement Kit P06677-B21

NOTE: This option kit is required to support ODD on SFF chassis.

SFF Drive Option Kit

HPE DL20 Gen10 2SFF HDD Enablement Kit P06671-B21

NOTE: This option is required to upgrade 4SFF chassis to support additional 2SFF drives.

Dedicated iLO Port / M.2 NVMe SSD / COM Port Upgrade Kit

HPE DL20/ML30 Gen10 M.2/Dedicated iLO and Serial Port Kit P06687-B21

NOTE: This option is required to support M.2 NVMe drives, Dedicated iLO Port or Serial/COM Port.
NOTE: When installing Seagate NVMe x4 M.2 400/480 GB SSD module, the supporting ambient temperature should be under 30°C (86°F).

Security

HPE Trusted Platform Module 2.0 Gen10 Option 864279-B21

HPE 1U Gen10 Bezel Kit 867998-B21

HPE Bezel Lock Kit 875519-B21

NOTE: HPE DL20 Gen10 Latch Ear FIO Kit (P06716-B21) is required to support both the Bezel Kits above.

Cable Kits

HPE DL20 Gen10 M.2 SATA/LFF AROC Cbl Kit P06683-B21

Core Options

NOTE: This cable kit has two cables, one is required to support M.2 SATA option kit and the other for AROC and LFF drives.

HPE Drives

Enterprise - 12G SAS - SFF Drives

HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	881457-B21
HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-B21
HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872479-B21
HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872477-B21
HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872475-B21
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870759-B21
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870757-B21
HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-B21
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	870765-B21

Midline - 6G SATA - LFF Drives

HPE 12TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	881787-B21
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	834028-B21
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	861742-B21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861683-B21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861681-B21
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861686-B21

6G SATA - LFF NHP/Raw Drives

HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801882-B21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801888-B21

Midline 6G SATA - SFF Drives

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 Digitally Signed Firmware HDD	655710-B21

Midline - 12G SAS - LFF Drives

HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	833926-B21
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	833928-B21
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	834031-B21
HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	857646-B21
HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	881781-B21
HPE 1TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	846526-B21
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	861748-B21
HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	861746-B21

Midline - 12G SAS - SFF Drives

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

Core Options

SSD Selection

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

Read Intensive - 12G SAS - SFF - Solid State Drives	
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06584-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06586-B21
HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06588-B21
HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06590-B21
HPE 15.3TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06592-B21
Mixed Use - 12G SAS - SFF - Solid State Drives	
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P05976-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P05980-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P05986-B21
HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P05994-B21
Write Intensive - 12G SAS - SFF - Solid State Drives	
HPE 960GB SAS 12G Mixed Use SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10448-B21
HPE 1.92TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10454-B21
HPE 3.84TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10460-B21
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10440-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10442-B21
HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10444-B21
HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	P10446-B21
Read Intensive - SATA - SFF - Solid State Drives	
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04570-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06198-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04566-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06196-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04564-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06194-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04560-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875503-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04556-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06200-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04474-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04476-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04478-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04480-B21
HPE 7.68TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04482-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P05924-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P05928-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P05932-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P05938-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P05946-B21

Core Options

Read Intensive - SATA - LFF - Solid State Drives

HPE 480GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P04499-B21
HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P04501-B21

Mixed Use - SATA - SFF - Solid State Drives

HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P00896-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P07922-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P07926-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P07930-B21

Mixed Use - SATA - LFF - Solid State Drives

HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P07934-B21

Read Intensive - NVMe - M.2 - Solid State Drives

HPE 480GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	875579-B21

NOTE: HPE DL20/ML30 Gen10 M.2/Dedicated iLO and Serial Port Kit (P06687-B21).
NOTE: Running at PCIe 3.0 x2 speed on DL20 Gen10.
NOTE: Not supported by HPE Smart Array controllers.
NOTE: When installing Seagate NVMe x4 M.2 400/480 GB SSD module, the supporting ambient temperature should be under 30°C (86°F).

Write Intensive - NVMe - M.2 - Solid State Drives

HPE 400GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	875583-B21

NOTE: HPE DL20/ML30 Gen10 M.2/Dedicated iLO and Serial Port Kit (P06687-B21).
NOTE: Running at PCIe 3.0 x2 speed on DL20 Gen10.
NOTE: Not supported by HPE Smart Array controllers.
NOTE: When installing Seagate NVMe x4 M.2 400/480 GB SSD module, the supporting ambient temperature should be under 30°C (86°F).

Internal Dual M.2 Kit

HPE Universal SATA HHHL 3yr Wty M.2 Kit	878783-B21

NOTE: The Universal SATA M.2 Kit above will require a PCIe slot and support up to two of the same M.2 cards below.
NOTE: M.2 SATA Cable kit (P06683-B21) is required to support this option.

Read Intensive - M.2 - Solid State Drives (2280 type)

HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	875498-B21
HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	875500-B21

Mixed Use - M.2 - Solid State Drives (2280 type)

HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	875488-B21
HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	875490-B21
HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	875492-B21

Hard Drive Blank Kits

HPE Gen9 LFF HDD Spade Blank Kit	807878-B21
HPE Small Form Factor Hard Drive Blank Kit	666987-B21

HPE Networking

25 Gigabit Ethernet adapters

HPE Ethernet 10/25Gb 2-port 622FLR-SFP28 Converged Network Adapter	867334-B21
HPE Ethernet 10/25Gb 2-port 621SFP28 Adapter	867328-B21

Core Options

10 Gigabit Ethernet adapters	
HPE Ethernet 10Gb 2-port 562T Adapter	817738-B21
HPE Ethernet 10Gb 2-port 562SFP+ Adapter	727055-B21
HPE Ethernet 10Gb 2-port 535T Adapter	813661-B21
HPE Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
HPE Ethernet 10Gb 2-port 530T Adapter	656596-B21
HPE Ethernet 10Gb 2-port 521T Adapter	867707-B21
1 Gigabit Ethernet adapters	
HPE Ethernet 1Gb 4-port 366T Adapter	811546-B21
NOTE: A maximum of one 366T is supported on DL20 Gen10	
HPE Ethernet 1Gb 2-port 361T Adapter	652497-B21
HPE Ethernet 1Gb 2-port 332T Adapter	615732-B21
FlexibleLOM Adapters	
HPE Ethernet 10/25Gb 2-port 622FLR-SFP28 Converged Network Adapter	867334-B21
HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter	727054-B21
HPE Ethernet 10Gb 2-port 562FLR-T Adapter	817745-B21
HPE FlexFabric 10Gb 4-port 536FLR-T Adapter	764302-B21
HPE Ethernet 10Gb 2-port 535FLR-T Adapter	817721-B21
HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
HPE FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
HPE Ethernet 1Gb 4-port 366FLR Adapter	665240-B21

NOTE: FlexibleLOM riser kit (P06667-B21) is required for above.
NOTE: When a FlexibleLOM adapter is installed on a server with default iLO settings, the port 1 of FlexibleLOM adapter will be configured as shared iLO port.

Additional Options

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

Embedded Management

HPE iLO Advanced

HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features	512485-B21
HPE iLO Advanced Flexible Quantity License with 1yr Support on iLO Licensed Features	512486-B21
HPE iLO Advanced AKA Tracking License with 1yr Support on iLO Licensed Features	512487-B21
HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A
HPE iLO Advanced Flexible Quantity License with 3yr Support on iLO Licensed Features	BD506A
HPE iLO Advanced AKA Tracking License with 3yr Support on iLO Licensed Features	BD507A
HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE
HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features	E6U64ABE
HPE iLO Advanced Premium Security Edition License with 1yr Support on Licensed Features	Q7E31A
HPE iLO Advanced Premium Security Flex Qty License with 1yr Support on Licensed Features	Q7E32A
HPE iLO Advanced Premium Security Edition Electronic License with 1yr Support on Licensed Features	Q7E32AAE
HPE iLO Advanced Premium Security Edition License with 3yr Support on Licensed Features	Q7E33A
HPE iLO Advanced Premium Security Flex Qty License with 3yr Support on Licensed Features	Q7E34A
HPE iLO Advanced Premium Security Edition Electronic License with 3yr Support on Licensed Features	Q7E34AAE
HPE iLO Advanced Premium Security Upgrade Electronic License with 3yr Support on Licensed Features	Q7E12AAE
HPE iLO Advanced Premium Security AKA Tracking License with 1yr Support on Licensed Features	Q7E35A
HPE iLO Advanced Premium Security AKA Tracking License with 3yr Support on Licensed Features	Q7E36A

HPE Converged Infrastructure Management Software

HPE OneView Advanced (with HPE iLO Advanced)

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

HPE OneView Advanced (without HPE iLO Advanced)

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

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

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

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

HPE Security

HPE 1U Gen10 Bezel Kit	867998-B21
HPE Bezel Lock Kit	875519-B21

NOTE: HPE DL20 Gen10 Latch Ear FIO Kit (P06716-B21) is required to support both the Bezel Kits above.

HPE 1U Gen10 Chassis Intrusion Detection Kit	866473-B21

Additional Options

NOTE: This provides a physical connection from the chassis board and hood and detects any physicalintrusion into the chassis, providing security during the entire supply chain process of shipping, receiving, distribution, and operation.

HPE Trusted Platform Module 2.0 Gen10 Option 864279-B21

NOTE: HPE Trusted Platform Module 2.0 option works with Gen10 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants.

NOTE: HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

HPE Storage Controllers

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

HPE Flexible Smart Array Controllers -

HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular LH Controller 869081-B21

HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular LH Controller 869079-B21

HPE Smart Array Controllers -

HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller 804405-B21

HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller 804398-B21

HPE Smart Array Controller Batteries 782961-B21

HPE Cable Options -

HPE DL20 Gen10 M.2 SATA/LFF AROC Cbl Kit P06683-B21

NOTE: This cable kit has two cables, one is required to support M.2 SATA option kit and the other for AROC and LFF drives.

HPE DL20 Gen10 LFF ODD Cable Kit P06681-B21

NOTE: This option kit is required for Optical Drive option (LFF model only).

Optional Software

HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU Q2F26AAE

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: SmartCache is offered on HPE Smart Array performance RAID controllers and comes standard (no licensing is required) if the HPE Smart Array P816i-a SR Gen10 Controller is installed in the server.

HPE Storage Options

Emulex Fibre Channel HBAs -

HPE StoreFabric SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter Q0L13A

HPE StoreFabric SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter Q0L14A

HPE StoreFabric SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter Q0L11A

HPE StoreFabric SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter Q0L12A

QLogic Fibre Channel HBAs -

HPE StoreFabric SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter P9D93A

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

HPE StoreFabric SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter P9M75A

Converged Network Adapter -

HPE StoreFabric CN1100R Dual Port Converged Network Adapter QW990A

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

Additional Options

HPE StoreFabric CN1200E 10Gb Converged Network Adapter	E7Y06A
HPE StoreFabric CN1200E 10GBASE-T Dual Port Converged Network Adapter	N3U51A

HPE Rack Options

HPE 1U Short Friction Rail Kit	775612-B21

HPE Racks

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

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

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

HPE Power Distribution Units (PDUs)

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

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

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

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

HPE Uninterruptible Power Systems (UPS)

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

NOTE: Please see the **HPE DirectFlow Three Phase Uninterruptible Power System QuickSpecs** for information on these products and their specifications.

NOTE: Please see the **HPE Line Interactive Single Phase UPS QuickSpecs** for information on these products and their specifications.

HPE USB and SD Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards -

HPE 8GB microSD Flash USB Drive	737953-B21
HPE 8GB Dual microSD Flash USB Drive	741279-B21

HPE Support Services

Installation & Start-up Services

HPE Installation ML/DL Series 10 Service	U7WZ5E
HPE Startup ML/DL Series 10 Service	U7WZ7E

Proactive Care

HPE 3 Year Foundation Care Next Business Day DL20 Gen10 Service	HC5N8E
HPE 3 Year Foundation Care Next Business Day with DMR DL20 Gen10 Service	HC5N9E
HPE 3 Year Foundation Care 24x7 DL20 Gen10 Service	HC5P9E
HPE 3 Year Foundation Care 24x7 with DMR DL20 Gen10 Service	HC5Q0E
HPE 3 Year Proactive Care 24x7 DL20 Gen10 Service	HC5Q2E
HPE 3 Year Proactive Care 24x7 with DMR DL20 Gen10 Service	HC5Q3E

Additional Options

HPE 3 Year Foundation Care Next Business Day with CDMR DL20 Gen10 Service	HC5P0E
HPE 3 Year Foundation Care 24x7 with CDMR DL20 Gen10 Service	HC5Q1E
HPE 3 Year Proactive Care 24x7 with CDMR DL20 Gen10 Service	HC5Q4E

NOTE: For a full listing of support services available for this server, please visit **https://ssc.hpe.com/**

Memory

HPE Standard Memory UDIMMs has passed the rigorous Hewlett Packard Enterprise qualification and testing processes.
The memory subsystem in this server supports UDIMMs. The server supports single-rank and dual-rank DDR4 UDIMMs operating at up to 2666 MHz DIMM speeds.

Memory Population guidelines
The server supports two channels per processor with two DIMMs per channel for a total of four DIMMs per DL20 Gen10 Server.
General Memory Population Rules and Guidelines:
Only UDIMMs are supported on DL20 Gen10. No support for RDIMMs and LRDIMMs.
All the channels in a system run at the fastest common frequency.
Both single DIMM per channel and dual DIMMs per channel are supported at 2666MHz.

Intel Gen10 Supported Memory Bandwidth for HPE ProLiant Gen10 Intel® Xeon® E Series Processor Family

[DIMM Type]	Unbuffered with ECC DIMMs (UDIMMs)	
HPE SKU P/N	879505-B21	879507-B21
DIMM Rank	Single Rank	Dual Rank
DIMM Capacity	8GB	16GB
Voltage	Std Voltage 1.2V	Std Voltage 1.2V
DIMM Native Speed (MT/S)	2666	2666
Slots That Can Be Populated		
4 slot servers	4	4
Maximum Capacity (Gb)		
	32	64
Populated Dimm Speed (MT/S)		
1 DIMM Per Channel	2666	2666
2 DIMM Per Channel	2666	2666
3 DIMM Per Channel	n/a	n/a

DIMM slot and configuration diagram
UDIMM maximum configuration (1 CPU model)
Population order; start with "A" first, "B" second, "C" third, etc.

CPU 1		
	Slot #	**Population order**
Chnl 2	1	B
	2	D
Chnl 1	3	A
	4	C

Memory Speed by Processor Model

Processor Models	Supported Memory Speeds
E-2124, E-2134, E-2126G, E-2144G, E-2136, E-2174G, E-2186G,	2666MT/s
i3-8300, G5400	2400MT/s

Memory

Standard and Maximum Memory Capacity (Pre-configured Models)

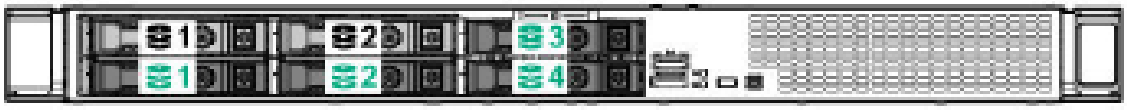
Pre Configured Models	Standard Memory	Maximum Memory Plus Optional Memory	Standard Memory Replaced with Optional Memory
P06476-B21	8GB (1x8GB)	56GB (3x16GB, 1x8GB)	64GB (4x16GB)
P08335-B21	8GB (1x8GB)	56GB (3x16GB, 1x8GB)	64GB (4x16GB)
P06477-B21	16GB (1x16GB)	64GB (3x16GB, 1x16GB)	64GB (4x16GB)
P06478-B21	16GB (1x16GB)	64GB (3x16GB, 1x16GB)	64GB (4x16GB)
P06479-B21	16GB (1x16GB)	64GB (3x16GB, 1x16GB)	64GB (4x16GB)

Storage

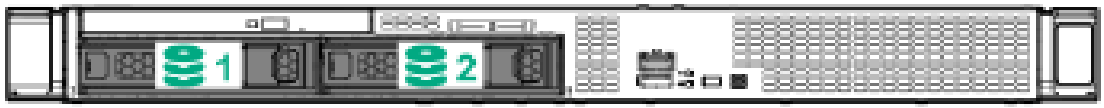
4 SFF device bay numbering



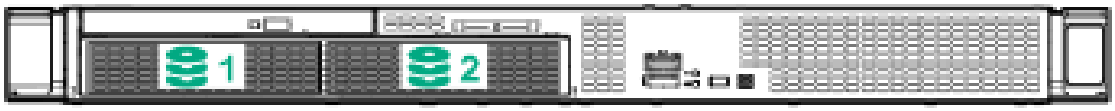
4 SFF + 2SFF device bay numbering



2LFF Hot Plug device bay numbering



2LFF Non Hot Plug device bay numbering



Technical Specifications

System Unit

Dimensions (Height x Width x Depth)	4.32 x 43.46 x 38.22 cm 1.70 x 17.11 x 15.05 in	SFF Drives
	4.32 x 43.46 x 38.22 cm 1.70 x 17.11 x 15.05 in	LFF Drives
Weight (approximate)	7.88 kg 17.37 lb	Non hot Plug 2 LFF fully loaded (all hard drives, power supplies, and processors installed)
	7.9 kg 17.41 lb	Hot Plug 2LFF fully loaded (one hard drive, power supply, and processor installed)
		Hot Plug 4SFF fully loaded (two hard drives, power supply, and processor installed)

290W Non-hot Plug Power Supply

Input Requirements	Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
	Rated Input Current	5.5 A max (at 100 VAC)
	Rated Input Frequency	50 to 60 Hz
	Rated Input Power	550 W (at 100 VAC)
BTU Rating	Maximum	1130 BTU per hr (at 115 VAC)
		1126 BTU per hr (at 230 VAC)
Power Specifications	To review typical system power ratings use the Power Advisor which is available via the online tool located at: **http://www.hpe.com/info/hppoweradvisor** -Click on the system of interest. Example: DL20 Gen10 - Follow the instructions of the next screens.	
Power Supply Output (per power supply)	Rated Steady-State Power	290 W Max
	Maximum Peak Power	366 W within 10 seconds

500W/800W Redundant Power Supply

Input Requirements (per power supply)	Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
BTU Rating	Maximum	For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VDC) for China Only
		For 500W Power Supply: 1979 BTU/hr (at 100 VAC), 1911 BTU/hr (at 200 VAC), 1965 BTU/hr (at 240 VDC) for China Only
Power Supply Output (per power supply)	Rated Steady-State Power	For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VDC) input for China only
		For 500W Power Supply: 500W (at 100 VAC), 500W (at 240 VAC), 500W (at 240 VDC) input for China only
	Maximum Peak Power	For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VDC) input for China only
		For 500W Power Supply: 500W (at 100 VAC), 500W (at 240 VAC), 500W (at 240 VDC) input for China only
		For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VDC) input for China only

Technical Specifications

System Inlet Temperature	Standard Operating Support	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. System performance during standard operating support may be reduced if operating above 30°C (86°F).
	Extended Ambient Operating Support	For approved hardware configurations, the supported system inlet range is to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: **http://www.hpe.com/servers/ashrae** For approved hardware configurations, the supported system inlet range is to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: **http://www.hpe.com/servers/ashrae** System performance may be reduced if operating in the ambient operating range.
	Non-operating	-30°C to 60°C (-22°F to 140°F) Maximum rate of change is 20°C/hr (36°F/hr).
Relative Humidity (non-condensing)	Operating	8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.
	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

Configuration SKU	P06476-B21	P08335-B21	P06477-B21	P06478-B21	P06479-B21
Idle					
LWAd	3.8 B	3.8 B	3.7 B	3.8 B	3.8 B
LpAm	21 dBA	20 dBA	21 dBA	20 dBA	20 dBA
Operating					
LWAd	4.3 B	4.5 B	4.5 B	4.6 B	4.4 B
LpAm	26 dBA	28 dBA	28 dBA	28 dBA	27 dBA

Technical Specifications

NOTE: Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.

Emissions Classification (EMC)

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:
http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts
For information on the HPE Smart Array Controller please refer to their **QuickSpecs**.

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

Hewlett Packard Enterprise offers **end-of-life product return, trade-in, and recycling programs**, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the **Hewlett Packard Enterprise web site.** These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
02-Apr-2019	Version 3	Changed	Core Option section was updated The U.S. version of QuickSpecs is no longer being updated, please reference the Worldwide QuickSpecs for latest information.
04-Feb-2019	Version 2	Changed	Optional Features section was updated.
05-Nov-2018	Version 1	New	New QuickSpecs.



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