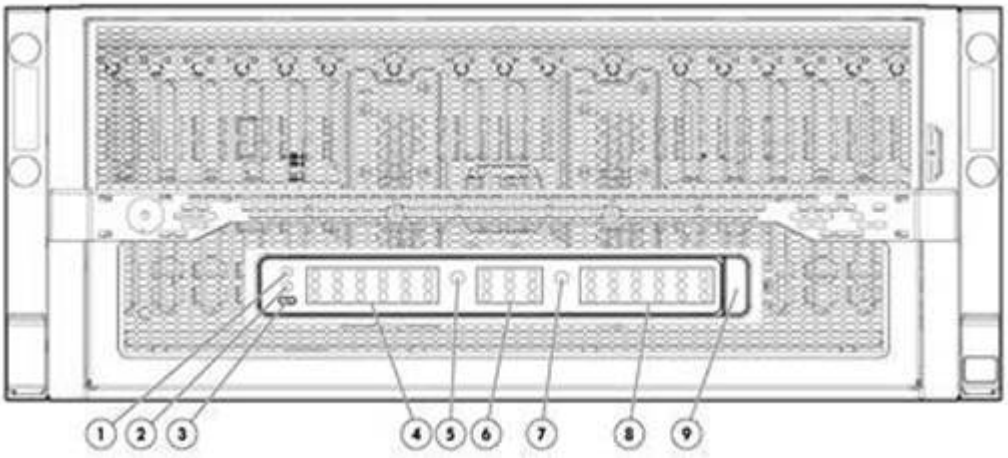
Overview

HPE Moonshot 1500 System

The HPE Moonshot System uses an innovative new architecture that results from one simple design tenet: to align purpose-built servers with the right workload to provide optimal results for your environment. Traditional servers rely on dedicated components, including management, networking, storage, power cords and cooling fans in a single chassis. In contrast, the Moonshot system shares these chassis components and is capable of supporting up to 45 workload-optimized ProLiant server cartridges (each offering up to 16 Intel® Xeon® cores, 128GB RAM and 4TB NVMe SSD storage) in a compact 4.3U chassis. This gives you the ability to generate greater revenue from a smaller footprint while driving down your operational costs.
The HPE Moonshot System with its portfolio of ProLiant Server Cartridges and modular Switches excels in a variety of uses:

- Performance intensive Trader Workstations at top financial firms worldwide
- Mission critical Engineering Workstations for Computer Aided Design (CAD) and Digital Content Creation (DCC)
- Extreme density Hosted Desktop Infrastructure (HDI) and Application Delivery, but with excellent user experience
- Efficient Video Transcoding and Content Delivery Network (CDN) caching for major multimedia providers
- High Performance Computing (HPC CFD) farm helping to build better racing cars

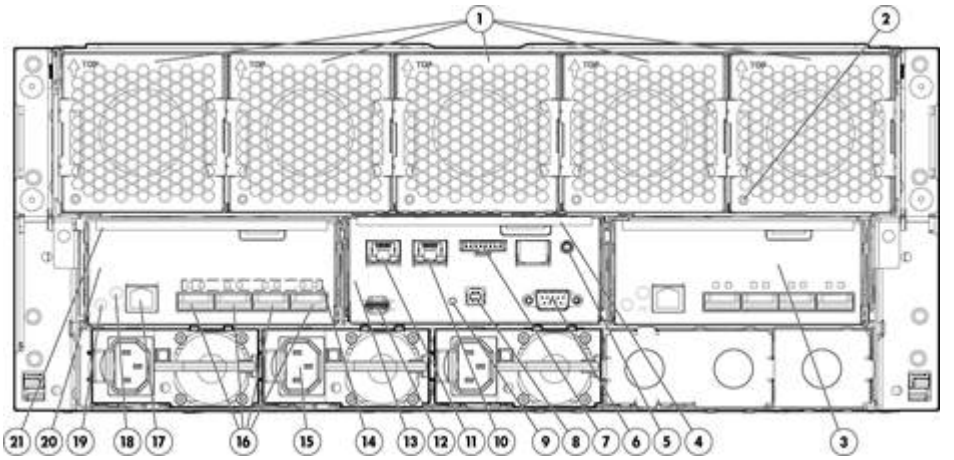
-and many more.



Front View

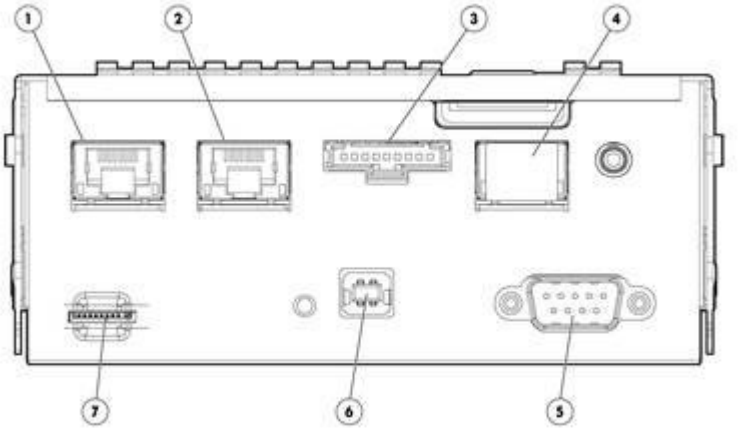
1. Chassis Power LED
2. System Health LED
3. Chassis UID/LED/button
4. Front Panel Display LED, ProLiant server 1-18
5. Switch Module A Health LED
6. Front Panel Display LED, ProLiant server 19-27
7. Switch module B health LED
8. Front Panel Display LED, ProLiant server 28-45
9. Front Panel Display release

Overview



Back View

1. Fans
2. Fan LED
3. Uplink Module A
4. HPE Moonshot 1500 CM Module release lever
5. HPE Moonshot 1500 CM Module UID/LED button
6. HPE Moonshot 1500 CM Module serial port
7. HPE Moonshot 1500 CM Module SL-APM port
8. HPE Moonshot 1500 CM Module USB connector
9. HPE Moonshot 1500 CM Module LED
10. iLO CM link port (disabled by default)
11. iLO CM RJ45 Management port
12. HPE Moonshot 1500 CM Module MicroSD slot
13. HPE Moonshot 1500 Chassis Management (CM) Module
14. Switch Module uplink/downlink activity LEDs
15. Power supply connector
16. Four (4) 40GbE QSFP+ connectors
17. Serial connector
18. Uplink Module UID/LED button
19. Uplink Module health LED
20. Uplink Module B
21. Uplink Module release lever



HPE Moonshot 1500 Chassis Management (CM) Module

1. iLO CM RJ45 Management port
2. iLO CM link port (disabled by default)
3. HPE Moonshot 1500 CM Module HPE APM port
4. HPE Moonshot 1500 CM Module diagnostic port
5. HPE Moonshot 1500 CM Module serial port
6. HPE Moonshot 1500 CM Module USB connector
7. HPE Moonshot 1500 CM Module MicroSD slot

Standard Features

Embedded Management	Included in all HPE Moonshot Systems, the HPE Moonshot 1500 Chassis Management module manages the health of the chassis and servers via a command-line interface accessible via SSH as well as a web-based Graphical User Interface (GUI). Customers can configure the chassis, set server settings, and flash firmware in the HPE Moonshot 1500 System. The HPE Moonshot 1500 Chassis Management module also supports **Intelligent Platform Management Interface (IPMI)**. The HPE Moonshot 1500 Chassis Management module supports the HPE RESTful Interface Tool, this tool provides mass scripting configuration for rapid deployment of multiple HPE Moonshot Systems. For more information on the HPE Moonshot 1500 Chassis Management Module, please contact your sales representative or go to: http://www.hpe.com/info/moonshot
HPE Moonshot Provisioning Manager ***(Free Download)***	An intuitive, scalable, and easy-to-access tool to help IT administrators deploy and manage HPE Moonshot Systems, the HPE Moonshot Provisioning Manager distributed as a virtual machine image (VMware .ova file and Microsoft Hyper-V .vhd file compatible), provides the user with a simple graphical user interface enabling an “at-a-glance” view of all the available nodes within one or more Moonshot Systems, allowing the ability to efficiently deploy Operating Systems to any available nodes. Click here, for additional technical information. **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04692834**
HPE Moonshot Remote Console Administrator ***(806843-B21)***	The HPE Moonshot Remote Console Administrator (mRCA) allows users to have access to keyboard, video monitors and a mouse in a headless environment. It enables users to remote console (on a node per node basis) for the initial golden OS image installation (Windows or Linux) assistance, virtual media functionality for mounting an image to boot, and in addition the mRCA can be used as debug/crash tool. Click here, for additional technical information. **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04545619** **NOTE:** The mRCA is not required for new server cartridges such as the HPE m510 or m710x that have an embedded integrated Lights-Out (iLO4) management processor. Instead these servers provide out-of-box virtual KVM and virtual Media capabilities that can be directly accessed through the iLO CM web GUI.
HPE Moonshot Component Pack	The HPE Moonshot Component Pack, is the delivery mechanism for firmware updates on the HPE Moonshot System, it includes firmware, and tools including the HPE Smart Update Manager (HPE SUM). The HPE Smart Update Manager (SUM) - is the engine/application that deploys the updates from the HPE Moonshot Component Pack on HPE Moonshot Systems. HPE SUM helps you inventory and identify which servers require updates, gets the necessary components from the HPE Moonshot Component Pack, and then performs the respective updates individually, as a group, or at scale. HPE SUM simplifies the update process, making HPE ProLiant server cartridges much easier to manage by letting you know what's happening throughout the update process. The tool provides a graphical user interface (GUI), scriptable command line interface (CLI), and an interactive CLI. In addition, HPE SUM offers comprehensive reporting to ensure the latest drivers, software, and firmware are implemented into the server environment. To download the HPE Moonshot Component Pack, please reference: **http://www.hpe.com/info/moonshot**
HPE ProLiant Server Cartridges	Based on Intel® Xeon® HPE ProLiant m510 Server Cartridge ** NEW! **

Standard Features

	https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c05069171 HPE ProLiant m710x Server Cartridge ** NEW! ** **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c05069174** HPE ProLiant m710p Server Cartridge **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04760473** HPE ProLiant m710 Server Cartridge [End of Life] **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04384063** Based on AMD Opteron™ HPE ProLiant m700p Server Cartridge ** NEW! ** **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c05211377** HPE ProLiant m700 Server Cartridge **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04111350** Based on Intel® Atom™ HPE ProLiant m300 Server Cartridge [End of Life] **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04111351** HPE ProLiant m350 Server Cartridge [End of Life] **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04384060** Based on ARM HPE ProLiant m400 Server Cartridge [End of Life] **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04384048** HPE ProLiant m800 Server Cartridge [End of Life] **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04384065**
Network Switch	**Comware** HPE Moonshot-45Gc Switch Module **https://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04773032** HPE Moonshot-45XGc Switch Module **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04384058** HPE Moonshot-180XGc Switch Module **https://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04923651** **FastPATH** HPE Moonshot-45G Switch Module [End of Life] **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111070** HPE Moonshot-180G Switch Module **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111290**
Network Uplink	HPE Moonshot-6SFP+ Uplink Module **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111292** HPE Moonshot-16SFP+ Uplink Module **https://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04499458** HPE Moonshot-4QSFP+ Uplink Module **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111291**
Moonshot Network Switch compatibility	**NOTE:** Up to two identical pairs of Switch and Uplink modules are supported in the Moonshot 1500 System. Dual switch modules are required for network redundancy, regardless of cartridge configuration. **NOTE:** Check Compatibility matrix below for supported switch and uplink module

Standard Features

Switch	HPE ProLiant Server Cartridges						Uplink		
	m510 & m510-16c	m700 (4 node)	m700p (4 node)	m710	m710p	m710x	Moonshot 6 SFP+ Uplink	Moonshot 16 SFP+ Uplink	Moonshot 4 QSFP+ Uplink
Fastpath Switches									
Moonshot-45G Switch	1 Gb	-	-	1 Gb	1 Gb	1 Gb	X	-	-
Moonshot-180 Switch	1 Gb	1 Gb	1 Gb	1 Gb	1 Gb	1 Gb	-	X	X
Comware Switches									
Moonshot-45Gc Switch	1 Gb	-	-	1 Gb	1 Gb	1 Gb	X	-	-
Moonshot-45XGc Switch	1 or 10 Gb	-	-	1 or 10 Gb	1 or 10 Gb	1 or 10 Gb	-	X	X
Moonshot-180XGc Switch	1 or 10 Gb	1 Gb only	1 Gb only	1 or 10 Gb	1 or 10 Gb	1 or 10 Gb	-	X	X

Switch	HPE ProLiant Server Cartridges				Uplink		
	m300	m350 (4 node)	m400	m800 (4 node)	Moonshot 6 SFP+ Uplink	Moonshot 16 SFP+ Uplink	Moonshot 4 QSFP+ Uplink
Fastpath Switches							
Moonshot-45G Switch	1 Gb	-	1 Gb	-	X	-	-
Moonshot-180 Switch	1 Gb	1 Gb	1 Gb	1 Gb	-	X	X
Comware Switches							
Moonshot-45Gc Switch	1 Gb	-	1 Gb	-	X	-	-
Moonshot-45XGc Switch	1 Gb	-	1 or 10 Gb	-	-	X	X
Moonshot-180XGc Switch	1 Gb	1 Gb	1 or 10 Gb	1 Gb	-	X	X

Standard Features

HPE Common Slot Power Supply

HPE Moonshot 1500 System can accommodate up to four (4) HPE Common slot power supplies listed in Step 4 of the Configure to Order section of this QuickSpecs.

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% and are available in a 1200w and 1500W configurations for this platform. All HPE Common Slot power sources are UL, CE Mark Compliant, hot-plug and support redundant configurations. HPE Power Advisor can be accessed at: **https://paonline56.itcs.hpe.com/?Page=Index**

NOTE: Redundant Power: Optional redundant power supplies will vary based on configurations. Please refer to specific HPE Proliant server cartridge for details.

Enclosure

The HPE Moonshot 1500 System is 4.3U high and holds up to forty-five (45) ProLiant Server cartridges. Switches, uplinks, power supplies, fans, and a chassis management module are all designed to fit into the HPE Moonshot 1500 System.

NOTE: Can be racked as either a 5U tall chassis or as three chassis in 13U.

Warranty

This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise Services and a worldwide network of Hewlett Packard Enterprise Authorized Partner Ready 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 the warranty services are available through HPE 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: Chassis Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support. Additional information regarding worldwide limited warranty and technical support is available at: **http://h20564.www2.hpe.com/hpsc/wc/public/home**

HPE Moonshot 1500 System

The HPE Moonshot 1500 System holds up to 45 ProLiant server cartridges plus redundant network switches. It includes a shared base-plane with three multi-terabit high-speed fabrics: to connect server cartridges to the network, to connect server cartridges to neighboring server cartridges and 2D Torus fabric. Power is delivered through a pooled-power back-plane that ensures the full capacity of the hot-plug power supplies is available to all cartridges.

Each HPE Moonshot 1500 System is built with the following functions:

- Up to 45 ProLiant server cartridges per chassis.
- Up to 2 independently paired network and uplink modules supported simultaneously within the chassis.
- Five dual-rotor, hot-plug, redundant fans as standard.
- Optionally redundant hot-plug power supplies
- Optionally redundant interconnect modules
- The HPE Moonshot 1500 Chassis Management module manages the health of the chassis and servers.

A HPE Moonshot 1500 System provides the following benefits:

- Optimum performance and utilization by using servers tailored to specific

Standard Features

workloads
- Lowest cost of ownership.
- With local and remote hardware management integrated across the solution, one full enclosure can be managed as easily as one server.
- Investment protection: Accommodates multiple server and network designs in one enclosure.
- Lower costs per server, in comparison to rack-mounted servers
- Lower power consumption, in comparison to rack-mounted servers.
- Lower airflow requirements, in comparison to rack-mounted servers

Optional Features

HPE Insight Cluster Management Utility	HPE Insight Cluster Management Utility (CMU) is an Hewlett Packard Enterprise-licended and Hewlett Packard Enterprise-supported suite of tools that are used to manage large-scale systems. Insight CMU includes software for the centralized provisioning, management and monitoring of nodes. Insight CMU makes the administration of clusters more user friendly, efficient, and error free than if they were being managed by scripts, or on a node-by-node basis. For more information on Hewlett Packard Enterprise Insight Cluster Management Utility, please contact your sales representative or go to: **https://www.hpe.com/us/en/product-catalog/detail/pip.3296361.html#**
HPE StoreVirtual VSA	HPE StoreVirtual VSA Software provides complete storage array functionality for virtualized environments without the need for external array hardware. Built on proven technology, HPE StoreVirtual VSA delivers software-defined storage by virtualizing up to 50TB of disk capacity on a server running VMware vSphere, Microsoft Hyper-V or Linux KVM. The HPE StoreVirtual VSA eliminates the need for external shared storage required to implement advanced hypervisor features. For more details refer to: **https://www.hpe.com/us/en/storage/storevirtual.html** **NOTE:** A free 1TB StoreVirtual license is available with the purchase of any Intel® Xeon® based server cartridge. For details on this offer refer to: **http://www8.hp.com/us/en/products/data-storage/free-vsa.html**
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 asset tagging, and custom packaging. Hewlett Packard Enterprise products supported through Factory Express include a wide array of servers and storage: HPE Moonshot, HPE Integrity, HPE ProLiant, HPE ProLiant Server Blades, and 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**

Services and Support

Service and Support

HPE Technology Services
HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. 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 Services
HPE Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the selected support.

Recommended HPE Services for your HPE product
(4 and 5 year Service offerings are also available)

Optimized Care

Foundation Care 24x7, three-year Service
HPE Foundation Care 24x7 connects you to Hewlett Packard Enterprise 24 hours a day, seven days a week for assistance on resolving issues. Hardware onsite response within four hours if needed. Collaborative software included in this service provides troubleshooting assistance on industry leading software running on your HPE server. Simplify your support experience and make Hewlett Packard Enterprise your first call for hardware or software questions.
https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en

Standard Care

Foundation Care NBD, three-year Service
HPE Foundation Care Next Business Day (NBD) gives you support during business hours for assistance on resolving issues - features next business day hardware onsite response if needed and software with a call back within two hours. Collaborative software support is included and provides troubleshooting assistance on industry leading software running on your HPE server. Simplify your support experience and make Hewlett Packard Enterprise your first call for hardware or software questions.
https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en

Related Services

HPE Moonshot Installation & Startup Service
HPE Installation and Startup Service for the Moonshot System provides for the installation of one system and its associated ProLiant server cartridges and network switches, as well as operating system deployment and basic configuration of OS network parameters to establish network connectivity
HPE Datacenter Care service
HPE Datacenter Care helps you 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 Hewlett Packard Enterprise via a single point of accountability for Hewlett Packard Enterprise and others' products. For more information, visit
https://www.hpe.com/h20195/v2/getpdf.aspx/4AA4-0459ENW.pdf?ver=5.0
HPE Self-Service Spares Service answers the question: What do you do when you need parts? We can set it up so that you get spare parts onsite through our automated self-service spares. You simply go to the part of your data center where the parts live, scan them out, scan in the broken one, and you're done. We maintain your inventory of good spares, so that what you need is ready to go when you need it. And we provide monthly service excellence reports illustrating onsite inventory performance.

Services and Support

Connect your devices to HPE

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

Defective Media Retention (DMR) and Comprehensive Defective Material Retention (CMDR)

If your business deals with sensitive or legally protected data, you know that it's not a simple matter to return a defective hardware component, but keeping it conflicts with the terms and conditions of many standard warranty agreements. If you don't return the component, you'll be charged for the replacement part.

HPE Foundation Care services are available with defective media retention or comprehensive defective material retention of those other data-retentive components, such as hard drives, memory, switches and processors. This is critical for customers who:

- Need to control and secure their classified, proprietary and confidential data.
- Are subject to current data privacy regulations.

Want a simpler, more cost-effective solution when choosing not to return a malfunctioning disk drive or other data retentive component.

Other Services

HPE Technology Services Support Credits offer flexible services and technical skills to meet your changing IT demands. With a menu of services tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak performance of your IT with technical and operational services. There is even a custom deliverable where we work with you to develop exactly what meets your needs. 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.
https://www.hpe.com/us/en/services/it-education-training.html

HPE Support Center

Hewlett Packard Enterprise provides several tools that make it simpler to get help from Hewlett Packard Enterprise:

HPE Support Center is 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://ssc.hpe.com**

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 personalize IT support anywhere, anytime. HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE support package or Hewlett Packard Enterprise contractual support agreement.
NOTE: HPE Support Center Mobile App is subject to local availability.

Parts and Materials

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

Parts and components that have reached their maximum supported lifetime and/or the maximum sage 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.

For more information

To learn more on HPE Moonshot System, please contact your Hewlett Packard Enterprise sales representative.

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 an HPE Moonshot 1500 Chassis. The recommended minimum functional configuration for a HPE Moonshot System is as follows:

- One (1) ProLiant Server Cartridge
- Three (3) Power Supplies
- One (1) Switch
- One (1) Uplink

NOTE: A second Switch and Uplink Module Kit may be ordered to give a redundant network configuration or to enable two separate networks utilizing different ProLiant server cartridges.
NOTE: Some options may not be integrated at the factory.

Step 1: Base Configuration (Choose chassis)

HPE Moonshot 1500 Chassis	HPE Moonshot 1500 Chassis Opt OS **NOTE:** This chassis does NOT include 1 year of Ubuntu support **NOTE:** If you prefer Ubuntu support for the chassis consider part number 755371-B21 **NOTE:** Mixed Cartridge configuration is supported - See Network section in step 3 for restrictions	755372-B21

Step 2: Configure ProLiant Server Cartridges

HPE ProLiant Server Cartridges (Min:1, Max: 45)

NOTE: Mixed Server Cartridge configuration is supported - See Network section in step 3 and the special populations rules section for restrictions
NOTE: See Server Cartridge Quick Specs for Cartridge configurations

Based on Intel® Xeon®
HPE ProLiant m510 Server Cartridge
HPE ProLiant m510-16c Server Cartridge
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c05069171
NOTE: Due to thermal constraints, a maximum of 30 m510-16c servers can be configured in a chassis. Mixed configurations may allow more servers to be installed in a chassis. Please refer to the special population rules section of this document for details.

HPE ProLiant m710x Server Cartridge
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c05069173

HPE ProLiant m710p Server Cartridge
https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04760473

Based on AMD OpteronTM
HPE ProLiant m700p Server Cartridge
https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c05211377

HPE ProLiant m700 Server Cartridge
https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04111350

Step 3: Choose Required Networking Options

Networking

NOTE: Recommended to order a minimum of One (1) Switch Kit and One (1) Uplink Kit per chassis.
NOTE: Maximum of Two (2) Switch Kits and Two Uplink Kits (2) per chassis to allow configurations with redundant or dual networks.

- Customer ordering ONLY Single Node Cartridge (m300, m400, m510, m710, m710p, m710x)

For 1G Solution:

Compatible Switch	Compatible uplink
Moonshot-45Gc Switch Module (1G Switch - **45 port**)	Moonshot 6SFP+ Uplink Module
Moonshot-180G Switch Module (1G Switch - **180 port**)	Moonshot 16SFP+ Uplink Module Moonshot 4QSFP+ Uplink Module

For 10G solution:

Compatible Switch	Compatible uplink
Moonshot-45XGc Switch Module (10G Switch - **45 port**)	Moonshot 16SFP+ Uplink Module - Moonshot 4QSFP+ Uplink Module
Moonshot-180XGc Switch Module (10G Switch - **180 port**)	

- Customer ordering one or more Quad Node Cartridge (m350, m700, m700p, m800), including any mix of Single and Quad node cartridges

For 1G Solution:

Compatible Switch	Compatible uplink
Moonshot-180G Switch Module (1G Switch - **180 port**)	Moonshot 16SFP+ Uplink Module - Moonshot 4QSFP+ Uplink Module

For 10G solution:

Compatible Switch	Compatible uplink
Moonshot-180XGc Switch Module (1G Switch - **180 port**)	Moonshot 16SFP+ Uplink Module - Moonshot 4QSFP+ Uplink Module

Step 3A: Switches (Min:1, Max: 2)

Comware Switch

HPE Moonshot-45Gc Switch Module Kit	786617-B21

Configuration Information - Factory Integrated Models

	HPE Moonshot-45XGc Switch Module Kit	704654-B21
	HPE Moonshot-180XGc Switch Module Kit	786619-B21
	FastPATH Switch	
	HPE Moonshot-180G Switch Module Kit	704642-B21
Step 3B: Uplinks (Min:1, Max: 2)	HPE Moonshot 6SFP+ Uplink Module Kit	704646-B21
	HPE Moonshot 16SFP+ Uplink Module Kit	783263-B21
	HPE Moonshot 4QSFP+ Uplink Module Kit	704652-B21

Step 4: Choose Required Power options

Power Supplies (Min:3, Max: 4)

HPE Common Slot Platinum Plus Power Supply Kits

NOTE: Minimum of Three (3) power supplies must be installed for a functional configuration. The chassis can accommodate a maximum of Four (4) power supplies.

NOTE: N+N power redundancy is supported, as long as total max power is below the total power of the remaining 2 power supplies.

- X86 cartridges use power capping to reduce the amount of power used during this degraded state.
- Non-x86 cartridges DO NOT support power capping.
- When running a mixed environment (x86 and non-x86 cartridge), the x86 cartridges will power cap enough to compensate for the non-x86 cartridges.

HPE 1500W Common Slot Platinum Plus Hot Plug Power Supply Kit	684532-B21
HPE 1200W Common Slot Platinum Plus Hot Plug Power Supply Kit	656364-B21

NOTE: Due to restricted airflow at 110VAC max power is 600W per power supply - this is for the 1200W power supply only

NOTE: Due to restricted airflow at 220VAC max power is 850W per power supply- this is for the 1200W power supply only

HPE Common Slot -48VDC Power Supplies

HPE 1500W Common Slot -48VDC Hot Plug Power Supply Kit	746708-B21

NOTE: Power Specification and Technical Content for supported power supplies can be found at:
http://h18000.www1.hp.com/products/QuickSpecs/14209_div/14209_div.html

Step 5: Choose Additional Chassis Factory Integration Options

HPE Rail Kits (Chassis Specific)	HPE 4.3U Server Rail Kit	681254-B21
	HPE 0.66U Spacer Blank Kit	681260-B21
	NOTE: For data center airflow management purposes, it is recommended that either the .66U Spacer Blank or the 13U FIO Rack Adapter Kit can be ordered. **NOTE:** The HPE 4.3U Rail Kit is required to be ordered for every chassis to properly install the chassis into a rack. **NOTE:** The .66U Spacer Blank kit may be ordered and will give an even 5U (4.3U+0.66U) spacing in a rack. This would enable installing up to 8 chassis in a 42U rack. It is also possible to stack up to 9 chassis in a 42U rack using the 13U FIO Rack Adapter Kit.	
HPE Rack Adapter	HPE 13U FIO Rack Adapter Kit for 3X4.3U Chassis	681677-B21
	NOTE: Group the HPE Moonshot 1500 Chassis units into a 13U space. Order one per three chassis. **NOTE:** HPE 4.3U Server Rail Kit (PN 681254-B21) is still required **NOTE:** The 0.66U spacer is not used when selecting this option.	

Step 6: Choose Additional Chassis 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.
NOTE: Additional options are not configurable for server upgrade kits.

Management	HPE Moonshot Provisioning Manager **NOTE:** For more information see Quick Specs **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04692834**	Free Download
	HPE Moonshot Remote Console Administrator	806843-B21
	NOTE: Each Moonshot Remote Console Administrator (mRCA) must be installed adjacent to the server being managed, and will occupy One (1) chassis slot. For more information see Quick Specs **https://www.hpe.com/h20195/v2/GetHtml.aspx?docname=c04545619** **NOTE:** The mRCA is not required or supported with newer server cartridges such as the HPE m510 or m710x	
HPE Insight Cluster Management Utility (CMU)	HPE Insight Cluster Management Utility Media **NOTE:** For additional license kits please see the QuickSpecs at: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111735**	BD477A
HPE StoreVirtual VSA	HPE StoreVirtual Free 1TB VSA	VSA1TB-S (Free License)
	NOTE: Get free Software Defined Storage of up to 1TB using HPE StoreVirtual VSA. The free license is available with the order of any Intel® Xeon® based server cartridge. For details on this offer refer to: **http://www8.hp.com/us/en/products/data-storage/free-vsa.html**.	

Configuration Information - Factory Integrated Models

Full license upgrades to 4TB, 10TB or 50 TB capacities can also be purchased. Refer to the QuickSpecs at: **https://www.hpe.com/h20195/v2/GetPDF.aspx%2Fc04111621.pdf**

Support Services	**3 year Care**	
	HPE 3yr Nbd Moonshot 1500 OptOS FC SVC	U8K89E
	HPE 3yr Nbd DMR Moonshot1500 OptOS FC SVC	U8K90E
	HPE 3yr Nbd CDMR Moonshot1500 OptOS FC SVC	U8K91E
	HPE 3yr 24x7 Moonshot 1500 OptOS FC SVC	U8K92E
	HPE 3yr 24x7 DMR Moonshot1500 OptOS FC SVC	U8K93E
	HPE 3yr 24x7 CDMR Moonshot1500 OptOS FC SVC	U8K94E
	HPE 3yr CTR Moonshot 1500 Opt OS FC SVC	U8K95E
	HPE 3yr CTR DMR Moonshot1500 OptOS FC SVC	U8K96E
	HPE 3yr CTR CDMR Moonshot1500 OptOS FC SVC	U8K97E
	4 year Care	
	HPE 4yr Nbd Moonshot 1500 OptOS FC SVC	U8AT3E
	HPE 4yr Nbd DMR Moonshot1500 OptOS FC SVC	U8AT4E
	HPE 4yr Nbd CDMR Moonshot 1500 OptOS FC SVC	U8AT5E
	HPE 4yr 24x7 Moonshot 1500 OptOS FC SVC	U8AT6E
	HPE 4yr 24x7 DMR Moonshot1500 OptOS FC SVC	U8AT7E
	HPE 4yr 24x7 CDMR Moonshot1500 OptOS FC SVC	U8AT8E
	HPE 4yr CTR Moonshot 1500 Opt OS FC SVC	U8AT9E
	HPE 4yr CTR DMR Moonshot 1500 OptOS FC SVC	U8AU0E
	HPE 4yr CTR CDMR Moonshot1500 OptOS FC SVC	U8AU1E
	5 year Care	
	HPE 5yr Nbd Moonshot 1500 OptOS FC SVC	U8AU2E
	HPE 5yr Nbd DMR Moonshot1500 OptOS FC SVC	U8AU3E
	HPE 5yr Nbd CDMR Moonshot1500 OptOS FC SVC	U8AU4E
	HPE 5yr 24x7 Moonshot 1500 OptOS FC SVC	U8AU5E
	HPE 5yr 24x7 DMR Moonshot1500 OptOS FC SVC	U8AU6E
	HPE 5yr 24x7 CDMR Moonshot 1500 OptOS FC SVC	U8AU7E
	HPE 5yr CTR Moonshot 1500 Opt OS FC SVC	U8AU8E
	HPE 5yr CTR DMR Moonshot1500 OptOS FC SVC	U8AU9E
	HPE 5yr CTR CDMR Moonshot1500 OptOS FC SVC	U8AV0E
	NOTE: See HPE Support Services Central for additional services at **http://ssc.hpe.com**	
HPE Power Cords	HPE C13 - Nema 5-15P US/CA 110V 10Amp 1.83m Power Cord	AF556A
	HPE C13 - GB-1002 CN 250V 10Amp 1.83m Power Cord	AF557A
	HPE C13 - IRAM -2073 AR 250V 10A 2.5m Power Cord	AF558A
	HPE C13 - Nema 5-15P TH/PH 250V 10Amp 1.83m Power Cord	AF559A
	HPE C13 - CNS-690 TW 110V 13Amp 1.83m Power Cord	AF561A
	HPE C13 - IS-1293 IN 240V 6Amp LV 2.0m Power Cord	AF562A
	HPE C13 - KSC- 8305 KR 250V 10Amp 1.83m Power Cord	AF560A
	HPE C13 - SI-32 IL 250V 10Amp 1.83m Power Cord	AF564A
	HPE C13 - SEV 1011 CH 250V 10Amp 1.83m Power Cord	AF565A
	HPE C13 - DK-2.5A DK 250V 10Amp 1.83m Power Cord	AF566A
	HPE C13 - SABS-164 ZA 250V 10Amp 2.5m Power Cord	AF567A

Configuration Information - Factory Integrated Models

HPE C13 - CEE-VII EU 250V 10Amp 1.83m Power Cord	AF568A
HPE C13 - AS3112-3 AU 250V 10Amp 2.5m Power Cord	AF569A
HPE C13 - BS-1363A UK/HK/SG 250V 10Amp 1.83m Power Cord	AF570A
HPE C13 - CEI-23-50 IT/CL 250V 10Amp 1.83m Power Cord	AF571A
HPE C13 - JIS C8303 JP 100V 12Amp 2.0m Power Cord	AF572A
HPE C13 - IS-1293 IN 250V 10Amp HV 2.5m Power Cord	SG579A
HPE C13 - C14 WW 250V 10Amp Flint Gray 2.0m Jumper Cord	AF573A
HPE C13 - NBR-14136 BR 250V 10Amp 1.83m Power Cord	AF591A
HPE C13 - C14 WW 250V 10Amp 2.0m Jumper Cord	A0K02A
HPE C13 - C14 WW 250V 10A Gray 0.7m Jumper Cord	A0K03A
HPE C13 - C14 WW 250V 10A Gray 1.37m Jumper Cord	A0K04A
HPE C13 - C14 WW 250V 10A Gray 3.0m Jumper Cord	A0K06A
HPE C13 - Nema 6-15P US 250V 15A JP 3.6m Power Cord	A0N33A

Additional Options

HPE Advanced Power Manager

The HPE Advanced Power Manager is an optional rack level solution for the HPE Moonshot System which enables server-level DC (or hardware) power on and off and server-level monitoring. In addition, the HPE APM will automatically discover hardware components, dynamic rack power capping, provides efficient Rack management, manages shared infrastructure, and participates in federation with other HPE APM units. The HPE APM does not replace rack PDUs, but is designed to enable the utilization of basic, low cost, rack PDUs while providing the functionality of 'switched' PDUs (which provide hardware power on/off of individual servers by turning off the AC power to the power supplies of a given server).

Because the HPE Moonshot System shares power supplies to optimize power efficiency, using 'switched' PDUs to turn off all the power supplies in the chassis will result in the loss of all server nodes in that chassis. The HPE APM solves this by allowing server node-level hardware power on/off of the DC power to the individual server node motherboards.

HPE Advanced Power Manager Kit	741192-B21

NOTE: Each HPE APM can connect to 2 HPE SL Advanced Power Manager Distribution (SL APMD) modules

HPE SL Advanced Power Manager Distribution Module Kit **NOTE:** Each SL APMD can connect up to 10 chassis	620002-B21

HPE Networking Options

SFP Options

HPE BladeSystem c-Class Virtual Connect 1G SFP SX Transceiver	453151-B21
HPE BladeSystem c-Class Virtual Connect 1G SFP RJ-45 Transceiver	453154-B21

SFP+ Options

Transceivers

HPE BladeSystem c-Class 10Gb SFP+ SR Transceiver	455883-B21
HPE 10GBase-T SFP+ Transceiver	813874-B21

Direct Attach Cables

HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 0.5m Direct Attach Copper Cable	487649-B21
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 1m Direct Attach Copper Cable	487652-B21
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 3m Direct Attach Copper Cable	487655-B21
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 5m Direct Attach Copper Cable	537963-B21
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 7m Direct Attach Copper Cable	487658-B21
HPE X242 10G SFP+ to SFP+ 1m Direct Attach Copper Cable	J9281B
HPE X242 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	J9283B
HPE X242 10G SFP+ to SFP+ 7m Direct Attach Copper Cable	J9285B
HPE X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C

Additional Options

HPE B-series SFP+ to SFP+ Active Copper 1.0m Direct Attach Cable	AP818A
HPE B-series SFP+ to SFP+ Active Copper 3.0m Direct Attach Cable	AP819A
HPE B-series SFP+ to SFP+ Active Copper 5.0m Direct Attach Cable	AP820A
QSFP+ Options	
Transceivers	
HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A
HPE BladeSystem c-Class 4x10G QSFP+ MPO SR4 100m Transceiver	805755-B21
Direct Attach Cables	
HPE X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
HPE X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
HPE X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
HPE X240 40G QSFP+ to 4x10G SFP+ 1m Direct Attach Copper Splitter Cable	JG329A
HPE X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	JG330A
HPE X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG331A
Adaptors	
HPE QSFP+/SFP+ Adaptor Kit	655874-B21

HPE Rack Series

HPE Intelligent Series Rack	
HPE 636 1200mm Shock Intelligent Rack	BW900A
HPE 642 1200mm Pallet Intelligent Rack	BW907A
HPE 642 1200mm Shock Intelligent Rack	BW908A
HPE 647 1200mm Pallet Intelligent Rack	BW913A
HPE 647 1200mm Shock Intelligent Rack	BW914A

NOTE: Rack chosen is required to have 1200mm to provide space for cable management arm at the rear of the chassis and host PDU in the rear of the rack.

NOTE: Please see the QuickSpecs for Technical Specifications such as height, width, depth, weight, and color: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123237**

NOTE: For additional information regarding Rack Cabinets, please see the following URL: **http://www.hp.com/go/rackandpower**

HPE 11000 G2 Series Racks	
HPE 11642 1075mm Pallet Rack	H6J65A
HPE 11642 1075mm Shock Rack	H6J66A
HPE 11648 1075mm Pallet Rack	H6J87A
HPE 11648 1075mm Shock Rack	H6J88A
HPE 11636 1075mm Pallet Universal Rack	H6J77A
HPE 11636 1075mm Shock Universal Rack	H6J78A
HPE 11622 1075mm Pallet Rack	H6J83A
HPE 11622 1075mm Shock Rack	H6J84A

Additional Options

	HPE 11614 1075mm Shock Universal Rack	H6J82A
	NOTE: When using the 1075mm racks with the Moonshot 1500 Chassis, the rear door will not be able to be closed.	

HPE Rack Options	**KVM Consoles**	
	HPE TFT7600 G2 KVM Console Rackmount Keyboard US Monitor	AZ870A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard UK Monitor	AZ871A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard DE Monitor	AZ872A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard FR Monitor	AZ873A
	HPE 647 1200mm Shock Intelligent Rack	BW914A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard ES Monitor	AZ875A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard DK Monitor	AZ876A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard NO Monitor	AZ877A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard SE/FI Monitor	AZ878A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard CH Monitor	AZ879A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard PT Monitor	AZ880A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard BE Monitor	AZ881A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard JP Monitor	AZ882A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard RU Monitor	AZ883A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard Intl Monitor	AZ884A
	HPE TFT7600 G2 KVM Console Rackmount Keyboard US TAA Monitor	AZ885A
	HPE 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
	HPE 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A
	HPE 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
	HPE 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
	HPE 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A

Additional Options

HPE Uninterruptible Power Systems	**HPE Rack-mountable UPS**	
	HPE R1500 G3 Uninterruptible Power Supply (UPS)	
	HPE R1.5kVA G3 1U NA Uninterruptible Power System	AF469A
	HPE R1.5kVA G3 1U JP/TW Uninterruptible Power System	AF470A
	HPE R1.5kVA G3 1U INTL Uninterruptible Power System	AF471A
	NOTE: Please see the QuickSpecs for additional information: **http://h18000.www1.hp.com/products/QuickSpecs/14059_div/14059_div.html**	
	HPE R/T3000 G2 Uninterruptible Power System (UPS)	
	HPE R/T3000 G2 2U L530 Low Voltage NA/JP Uninterruptible Power System	AF466A
	HPE R/T3000 G2 2U L620 High Voltage NA/JP Uninterruptible Power System	AF467A
	HPE R/T3000 G2 2U Detachable Cord High Voltage INTL Uninterruptible Power System	AF468A
	NOTE: Please see the QuickSpecs for additional information: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154342**	
	NOTE: For additional information on Hewlett Packard Enterprise 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 Intelligent Power Distribution Units (iPDU)	**iPDU Core Units**	
	HPE 4.9kVA 24A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF520A
	HPE 8.3kVA 40A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF521A
	HPE 8.6kVA 24A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF522A
	HPE 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF523A
	HPE 7.3kVA 32A Single Phase INTL Core Intelligent Modular Power Distribution Unit	AF525A
	HPE 11kVA 16A Three Phase INTL Core Intelligent Modular Power Distribution Unit	AF526A
	HPE 22kVA 32A Three Phase INTL Core Intelligent Modular Power Distribution Unit	AF527A
	HPE 14.4kVA 40A Three Phase NA/JP Intelligent Modular Power Distribution Unit	AF533A
	iPDU Extension Bars	
	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=c04123329**	

Additional Options

HPE Basic Power Distribution Units	HPE 2.8kVA 120 Volt L5-30 Input (18xNEMA 5-20R) NA/JP Basic PDU	H5M55A
	HPE 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Basic PDU	H5M56A
	HPE 3.6kVA 200-240 Volt Detachable C20 Input (18xC13) WW Basic PDU	H5M57A
	HPE 4.9kVA 208 Volt L6-30 Input (20xC13) NA/JP Basic PDU	H5M58A
	HPE 4.9kVA 208 Volt L6-30 Input (24xC13/6xC19) NA/JP Basic PDU	H5M59A
	HPE 8.3kVA 208 Volt CS8265C Input (30xC13/6xC19) NA/JP Basic PDU	H5M60A
	HPE 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13) NA/JP Basic PDU	H5M61A
	HPE 8.6kVA 208 Volt L15-30 3-Phase Input (24xC13/6xC19) NA/JP Basic PDU	H5M62A
	HPE 5.7kVA 208 Volt L21-20 3-Phase Input (24xC13/3xNEMA 5-20R) NA/JP Basic PDU	H5M63A
	HPE 8.6kVA 208 Volt L21-30 3-Phase Input (24xC13/3xC19/3xNEMA 5-20R) NA/JP Basic PDU	H5M64A
	HPE 7.3kVA 230 Volt IEC309 32A Input (20xC13) INTL Basic PDU	H5M68A
	HPE 7.3kVA 230 Volt IEC309 32A Input (24xC13/6xC19) INTL Basic PDU	H5M70A
	HPE 11kVA 230 Volt IEC309 63A Input (30xC13/6xC19) INTL Basic PDU	H5M71A
	HPE 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/6xC19) INTL Basic PDU	H5M72A
	HPE Hardwired 200-240 Volt Input (30xC13/6xC19) WW Basic PDU	H5M75A
	HPE 13.2kVA 480 Volt IEC309 30A 3-Phase Input (15 Outlet) NA Basic PDU	H3X07A
	HPE 277 Volt options for H3X07A and H3X08A	
	HPE 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111392
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**

HPE Remote Monitored Power Distribution Units	HPE 2.8kVA 120 Volt L5-30 Input (12xNEMA 5-20R)NA/JP Monitored PDU	D9N43A
	HPE 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Monitored PDU	D9N46A
	HPE 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU	D9N44A
	HPE 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU	D9N45A
	HPE 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Monitored PDU	D9N47A
	HPE 7.3kVA 230 Volt IEC309 32A Input (20xC13/4xC19) INTL Monitored PDU	D9N48A
	HPE 7.3kVA 230 Volt IEC309 32A Input (32xC13/4xC19) INTL Monitored PDU	D9N50A
	HPE 8.3kVA 208 Volt CS8265C Input (30xC13/3xC19) NA Monitored PDU	D9N49A
	HPE 5.7kVA 208 Volt L21-20 3-Phase Input (18xC13/3xNEMA 5-20R) NA/JP Monitored PDU	D9N52A

Additional Options

HPE 8.6kVA 208 Volt L21-30 3-Phase Input (20xC13/3xC19/3xNEMA 5-20R) NA/JP Monitored PDU	D9N53A
HPE 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13/3xC19) NA/JP Monitored PDU	D9N51A
HPE 11kVA 400 Volt IEC309 16A 3-Phase Input (18xC13/3xC19) INTL Monitored PDU	D9N55A
HPE 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU	D9N57A
HPE 14.4kVA 208 Volt CS8365C 3-Phase Input (12xC13/12xC19)NA Monitored PDU	D9N58A
HPE 16.6kVA 400 Volt IEC309 30A 3-Phase Input (12xC13/12xC19) NA Monitored PDU	D9N62A
HPE 16.6kVA 400 Volt IEC309 30A 3-Phase Input (30xC13/3xC19) NA Monitored PDU	D9N61A
HPE 17.3kVA 208 Volt IEC309 60A 3-Phase Input (12xC13/12xC19) NA/JP Monitored PDU	D9N59A
HPE 17.3kVA 208 Volt IEC309 60A 3-Phase Input (24xC13/3xC19) NA/JP Monitored PDU	D9N54A
HPE 19.9kVA 480 Volt 3-Phase (30 Outlet) NA Monitored PDU	D9N63A
HPE 22kVA 400 Volt IEC309 32A 3-Phase Input (12xC13/12xC19) INTL Monitored PDU	D9N60A
HPE 22kVA 400 Volt IEC309 32A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU	D9N56A

HPE 1200W Common Slot Platinum Plus Hot Plug Power Supply							
Part Number	656364-B21						
Input Voltage Range (Vrms)	100 - 240						
Frequency Range (Nominal) (Hz)	50 - 60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.1	8.4	6.7	6.4	6.1	5.8	5.5
Maximum Rated Input Wattage Rating (Watts)	897	999	1321	1319	1317	1315	1314
Maximum Rated VA (Volt-Amp)	909	1012	1338	1337	1334	1332	1331
Efficiency (%) at Max. Rated Output Wattage	89.2	90.1	90.9	91.0	91.1	91.2	91.3
Power Factor	0.998						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	3061	3408	4506	4501	4493	4487	4483

NOTE: Due to restricted airflow at 110VAC max power is 600W per power supply
NOTE: Due to restricted airflow at 220VAC max power is 850W per power supply

HPE 1500W Common Slot Platinum Plus Hot Plug Power Supply					
Part Number	684532-B21				
Input Voltage Range (Vrms)	200 - 240				
Frequency Range (Nominal) (Hz)	50 - 60				
Nominal Input Voltage (Vrms)	200	208	220	230	240

Additional Options

Maximum Rated Output Wattage	1500	1500	1500	1500	1500
Nominal Input Current (A rms)	8.4	8.1	7.6	7.3	7.0
Maximum Rated Input Wattage Rating (Watts)	1661	1659	1655	1652	1649
Maximum Rated VA (Volt-Amp)	1681	1679	1675	1672	1669
Efficiency (%) at Max. Rated Output Wattage	90.3	90.4	90.6	90.8	91.0
Power Factor	0.999	0.999	0.999	0.999	0.999
Leakage Current (mA)	0.50	0.75	0.79	0.83	1.00
Maximum Inrush Current (A peak)	40				
Maximum Inrush Current duration (mS)	0.2				
Maximum British Thermal Unit Rating (BTU-Hr)	5667	5661	5648	5637	5627

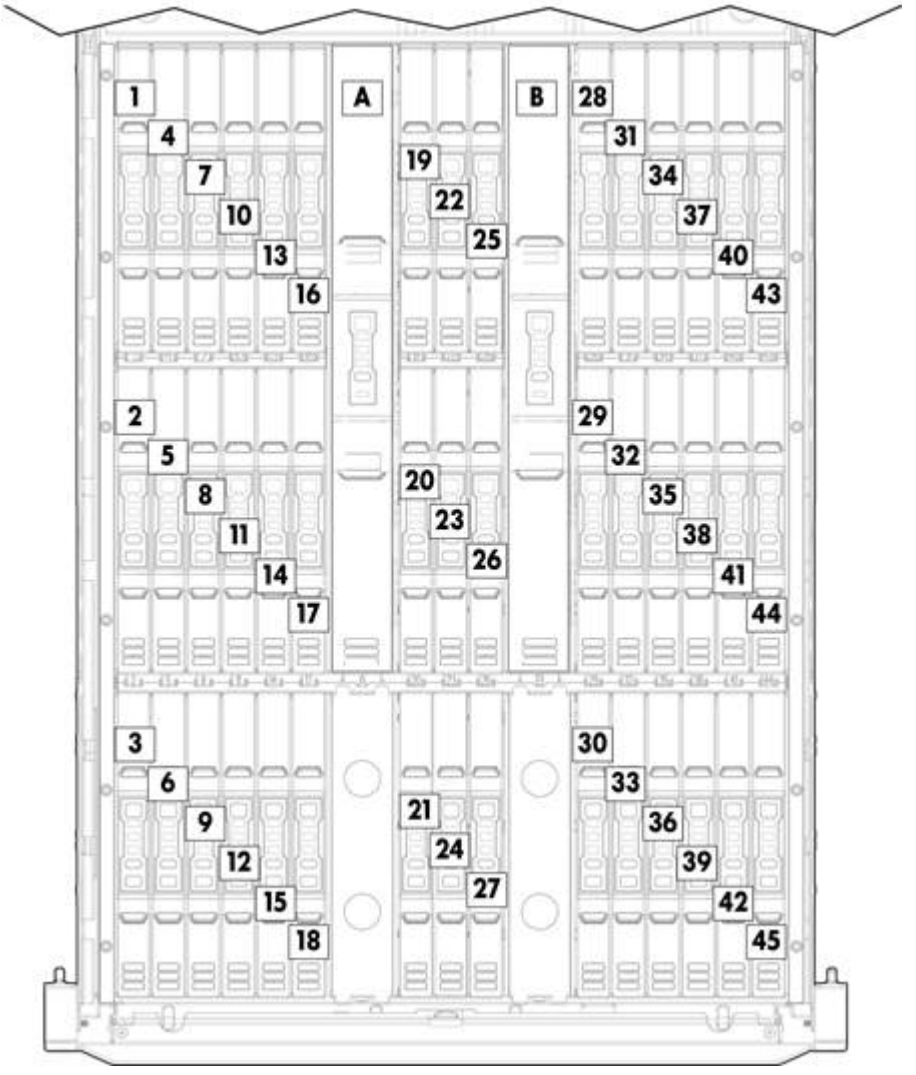
HPE 1500W Common Slot -48V Hot Plug Power Supply Kit			
Part Number	746708-B21		
Input Voltage Range (VDC)	-40 to -72		
Frequency Range (Nominal) (Hz)	DC		
Nominal Input Voltage (VDC)	-40	-48	-72
Maximum Rated Output Wattage	1500	1500	1500
Nominal Input Current (ADC)	40.5	33.5	22.2
Maximum Rated Input Wattage Rating (Watts)	1621	1607	1598
Maximum Rated VA (Volt-Amp)	1621	1607	1598
Efficiency (%) at Max. Rated Output Wattage	92.6	93.3	93.9
Power Factor	N/A		
Leakage Current (mA)	N/A		
Maximum Inrush Current (A peak)	63		
Maximum Inrush Current duration (mS)	10		
Maximum British Thermal Unit Rating (BTU-Hr)	5530	5484	5451

Power Supply Specifications

To review typical system power ratings use the HPE Power Advisor which is available via the online tool located at URL:
http://www.hp.com/go/hppoweradvisor
NOTE: Power Specification and Technical Content for supported power supplies can be found at: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111541**

Specific Chassis Population Rules for the HPE ProLiant m510 Server Cartridge

Server cartridge slot and switch module bay identification
The chassis provides 45 server cartridge slots (1-45) and two switch module bays (A-B).



NOTE: Factory Integrated Models must start with a HPE Moonshot 1500 Chassis.

Specific Chassis Population Rules for the HPE ProLiant m510 Server Cartridge

NOTES: The following configuration rules must be followed when installing the HPE ProLiant m510 Server Cartri 1500 System, in order to maintain an optimum thermal environment

If your configuration has:

m510 (8-core model)
Green in diagrams

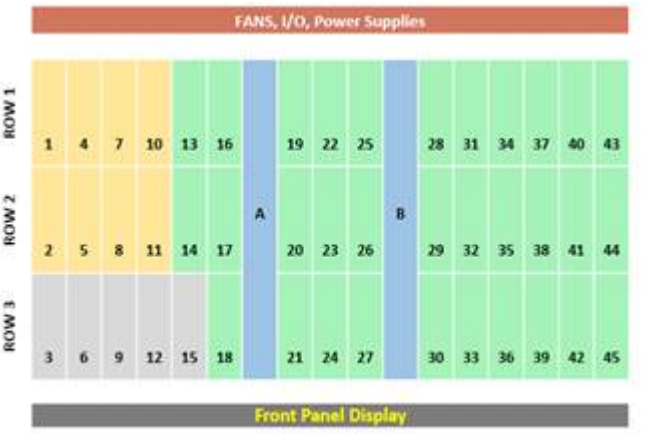
- No restriction in number of servers per chassis (i.e 45)
- Mixing with other ProLiant server cartridges is allow rules specified by other server cartridges (if any) ar

m510-16c (16-core model)
Yellow in diagrams

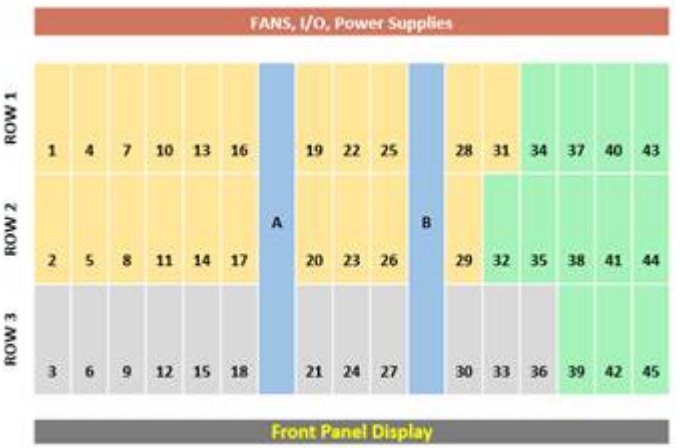
- Install m510-16c before any other servers. Start frc down the column to slot 2, then slot 4, 5 etc.
- Any column that has a m510-16c must leave two s slot in its own column and another slot in the adjac
- Mixing with other ProLiant server cartridges is allow rules specified by other server cartridges (if any) ar

NOTE: Pictures 3.1-3.4 show some example scenarios. Yellow represents a m510-16c server, Green is any oth m510 8-core) and Grey is an Empty slot.

Pic 3.1



Pic 3.2



Pic 3.3

Pic 3.4

HPE Moonshot System	The HPE Moonshot System used for these calculations contains forty-five (45) server cartridges - each with one (1) 500GB HDD and one (1) 32GB Memory DIMM - Two (2) Power Supplies, One (1) Switch Module Kit and One (1) Uplink Module Kit.		
	HPE Moonshot 1500 Chassis Dimensions (H x W x D)	7.47 x 17.45 x 35.34in (18.96 x 44.33 x 89.97cm) **NOTE:** Rack chosen is required to have 1200mm to provide space for cable management arm at the rear of the chassis and host PDU in the rear of the rack.)	
	Weight (approximate)	Maximum (all server cartridges, power supplies, one switch and one uplink installed)	180 lbs.
	Input Requirements (per power supply)	Rated Line Voltage	
	Power Specifications	Rated Input Current	180 to 264 VAC
		Rated Input Frequency	8.4A at 200VAC 7.0A at 240VAC
		Rated Input Power	47 to 63 Hz
		To review typical system power ratings use the HPE Power Advisor which is available via the online tool located at URL: **http://www.hp.com/go/hppoweradvisor**	
	Power Supply Output (per power supply)	Rated Steady-State Power	1661W at 200VAC 1649W at 240VAC
		Maximum Peak Power	1500W (Max) @ 200VAC 1500W (Max) @ 240VAC
	System Inlet Temperature	Operating	50° to 95° F (10° to 35° C) at sea level with an altitude derating of 1.8°F per every 1000 ft (1.0°C per every 304.8 m) above sea level to a maximum of 10,000 ft (3048 m), no direct sustained sunlight. Maximum rate of change is 18°F/hr (10°C/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 86°F (30°C).
		Non-operating	-22° to 140° F (-30° to 60° C) Maximum rate of change is 36°F/hr (20°C/hr).
	Relative Humidity (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.
	Altitude	Operating	10,000 ft (3048 m). This value may be limited by the type and number of options installed. Maximum allowable

			altitude change rate is 1500 ft/min (457 m/min).
		Non-operating	30,000 ft (9144 m). Maximum allowable altitude change rate is 1500 ft/min (457 m/min).
	Acoustic Noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).	
			Idle
		L WAd	7.1 Bels
		L pAm	54 dB
			Operating
		L WAd	7.3 Bels
		L pAm	57 dB
	Emissions Classification (EMC)	FCC Rating	Class A
		Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; 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.	
Environment-friendly Products and Approach	**End-of-life Management and Recycling**	Hewlett Packard Enterprise offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: **http://www.hp.com/go/green**. To recycle your product, please go to: **http://www.hp.com/go/green** or contact your nearest Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site at: **http://www.hp.com/go/green**. 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
16-Dec-2016	From version 6 to 7	Update	Added information on new servers and switches
8-Jul-2016	From version 5 to 6	Update	Update the whole QuickSpecs , formatting and SKU
9-Oct-2015	From version 4 to 5	Update / Un-archived	Unarchive version and update with the latet info and specs of the HPE Moonshot 1500 Chassis
10-Jun-2014	From version 3 to 4	Changed	HPE Hard Drives, Direct Attach Cables SKUs updat
18-Feb-2014	From version 2 to 3	Changed	Added the What's New and the Pre-Configured Mod sections. Changes made in the Configuration Inform section.
14-Dec-2013	From version 1 to 2	Changed	Corrected a part number in the Configuration Inform section.

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