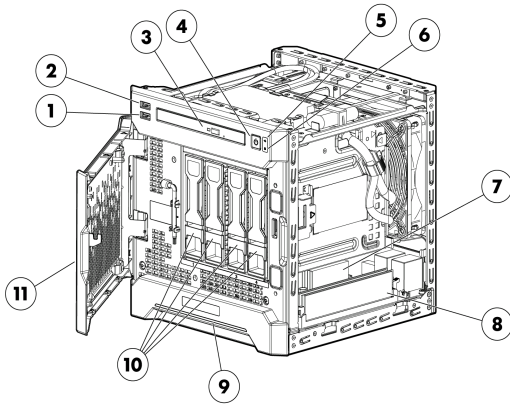


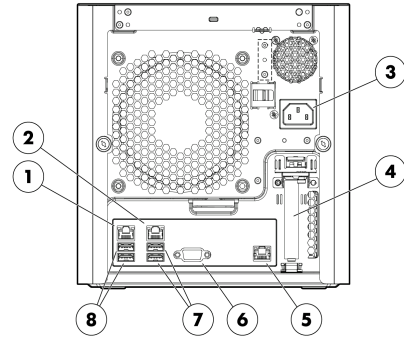
Overview

HP ProLiant MicroServer Gen8 is a small, quiet, and stylishly designed server that is ideal for micro and small businesses looking to build their first IT server environment. With a form factor that is easy to use and service, HP MicroServer Gen8 helps businesses get to a server that provides better and secured access to data, more efficiency in operations, while driving down their operating expenses.



Front View:

1. USB 2.0 connector
2. USB 2.0 connector
3. DVD-RW (optional)
4. Power On/Standby button and system power LED button
5. NIC status LED
6. Hard Drive status LED
7. Intel® Processor
8. 2 DIMM slots: DDR3 Unbuffered (UDIMM) memory
9. Health LED
10. Hard Drive Bays
11. Front bezel



Rear View:

1. NIC 2 connector
2. NIC 1 connector / Shared iLO connector
3. Power cord connector
4. PCIe 2.0 x16 slot
5. iLO 4 connector
6. Video connector
7. USB 3.0 connectors
8. USB 2.0 connectors

What's New

- Front Bezel Faceplate Kit allows you to customize your MicroServer
- RDX support for disk based data protection
- PS1810-24G switch for larger office environments

Standard Features

Processor **NOTE:** Intel® Celeron® G1610T and Intel® Pentium® G2020T support up to 1333MHz DDR3 memory speed.
Intel® Celeron® G1610T (2.3Hz/2-core/2MB/35W) Processor
Intel® Pentium® G2020T (2.5GHz/2-core/3MB/35W) Processor

Cache Memory 3MB (1 x 3MB) L3 Cache
NOTE: For Dual-core Pentium processor.
2MB (1 x 2MB) L3 Cache
NOTE: For Dual-core Celeron processor.
NOTE: All processor models above list the L3 Cache associated with that particular processor.

Chipset Intel® C204 Chipset
NOTE: For more information regarding Intel® chipsets, please see the following URL:
<http://www.intel.com/products/server/chipsets/>.

On System Management Processor HP iLO (Firmware: HP iLO 4)
NOTE: For more information, visit: <http://www.hp.com/go/ilo>.

Memory Protection ECC

Memory

Type	HP SmartMemory DDR3 Unbuffered (UDIMM)
DIMM Slots Available	2
Standard	2GB (1 x 2GB) PC3-12800E DDR3 UDIMM
Maximum	16GB (2 x 8GB) PC3-12800E DDR3 UDIMM

NOTE: HP memory from previous generation servers are not fully compatible with the HP ProLiant MicroServer Gen8.

Network Controller HP Ethernet 1Gb 2-port 332i Adapter

Expansion Slots	Expansion Slot #	Technology	Bus Width*	Connector Width	Form Factor	Notes
	1	PCIe 2.0	x16	x16	Low Profile	

* Indicates the number of physical electrical lanes running to a PCI-e connector.

Standard Features

HP Server ROM

HP ROM (Read Only Memory) is now digitally signed using HP's Corporate Signing Service. This signature is verified before the flash process starts, reducing accidental programming and preventing malicious efforts to corrupt system ROM.

HP ROM provides for essential initialization and validation of hardware components before control is passed to the customer-installed operating system. The ROM also provides the capability of booting from various fixed media (HDD, CD-ROM) and removable media (USB), to continue operation to the operating system.

HP ROM performs very early configuration of the video controller, to allow monitoring of initialization progress via an attached monitor. If configuration or hardware errors are discovered during this early phase of hardware initialization, suitable messages are now displayed on the connected monitor. Additionally, these configuration or hardware errors are logged to the Integrated Management Log (IML) to assist in diagnosis.

HP's ProLiant ROM is used to configure the following:

Processor and chipset status registers

System memory, memory map, and memory initialization

System hardware configuration (Integrated PCI devices and optional PCIe cards).

Customer-specific BIOS configuration (using the HP ROM-Based Setup Utility (RBSU)).

NOTE: For further information, please refer to HP's RBSU (ROM based setup utility) user guide: www.hp.com/support/rbsu.

Storage Controller

HP Dynamic Smart Array B120i Controller

NOTE: HDD bays 1 and 2 support 6.0Gb/s SATA. HDD bays 3 and 4 support 3.0Gb/s SATA.

NOTE: Supports RAID 0/1/10 only. No FBWC support. For FBWC, a standup Smart Array Controller card must be configured.

NOTE: For more information about the controller and its features, see the HP Dynamic Smart Array RAID Controller User Guide on the HP website: (http://www.hp.com/support/DSA_RAID_UG_en).

NOTE: To configure arrays, see the Configuring Arrays on HP Smart Array Controllers Reference Guide on the HP website (http://www.hp.com/support/CASAC_RG_en).

NOTE: For general information about HP Smart Array B120i SATA RAID Controller, please go to: <http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/dynamicsmartarray/index.html>

Internal Storage Devices

Optical Drive

Optional: SATA DVD-RW drive

Hard Drives

None ship standard

Maximum Internal Storage

Non-Hot Plug SATA

12TB (4 x 3TB) 3.5" SATA

Standard Features

Interfaces

Video	1 Rear standard video
HP iLO Remote Management Network Port	1Gb Dedicated (default iLO4 configuration)
Micro SD slot	1 Internal NOTE: The MicroSD slot is not a hot-pluggable device. Customers should not attempt to plug a MicroSD card into the MicroSD slot while the server is powered.
USB 2.0 Ports	5 total (2 front, 2 rear, 1 internal)
USB 3.0 Ports	2 total (2 rear) NOTE: Functional after OS boot.
Network RJ-45 (Ethernet)	2 (Port 1 shared for HP iLO4 as optional configuration)

Industry Standard Compliance

ACPI V2.0b Compliant
PCIe 2.0 Compliant
PXE Support
WOL Support
USB 2.0
USB 3.0
SATA Gen 2
SATA Gen 3

Server Power Cords

The MicroServer models ship standard with a 6' country specific NEMA power cord. If customers require an alternative local power cord, they can check the power cord matrix for the appropriate country specific sku. Please see the following power cord matrix: <http://www.hp.com/go/powercordmatrix>.

Power Specifications

To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor.

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

Power Supply

One (1) 150 Watts Non-Hot Plug, Non redundant Power Supply

System Fans

One (1) - Non-redundant system fan shipped standard

Standard Features

Operating Systems and Virtualization Software Support for ProLiant Servers

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

NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: <http://www.hp.com/go/ossupport> and our driver download page: <http://www.hp.com/support/MicroServerGen8>

Graphics

Integrated Matrox G200 video standard

- 1280 x 1024 (32 bpp)
- 1920 x 1200 (16 bpp)

HP iLO 4 On System Management Memory

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

Form Factor

Ultra Micro Tower

On System Management

HP iLO Management Engine

HP iLO Management Engine is a comprehensive set of embedded management features supporting the complete lifecycle of the server, from initial deployment, through ongoing management, to service alerting and remote support. HP iLO Management Engine comes standard on all HP ProLiant Gen8 servers. The HP iLO Management Engine portfolio includes:

- **HP iLO:** The HP iLO (Integrated Lights-Out) management processor is the core foundation for the HP iLO Management Engine
- **HP Agentless Management:** Provides built in server health monitoring and alerting capability without OS agents, that starts working the moment a power cord and an Ethernet cable are connected.
- **HP Active Health System:** Always on, continuous monitoring for increased stability and shorter downtimes; 100% configuration history; Health and service alerts and easy export and upload to Service and Support.
- **HP Intelligent Provisioning:** Lets customers provision and configure a single server without any separate media. No more SmartStart CDs or Smart Update Firmware DVD are needed.
 - To start Intelligent Provisioning:
 - Press the F10 key during the ProLiant Gen8 server boot process (also known as power on self test or POST).
 - Please go to the Intelligent Provisioning website at www.hp.com/go/intelligentprovisioning for additional information and to view usage videos.
 - Use the Service Pack for ProLiant (SPP) at www.hp.com/go/spp to get firmware and software updates.
- **HP iLO Mobile App:** Enables the ability to access, deploy, and manage

Standard Features

your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: www.hp.com/go/ilo/mobileapp

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

HP Insight Management HP Service Pack for ProLiant (SPP)

HP Service Pack for ProLiant (SPP) and HP Smart Update Manager (HP SUM) version 5 provide a new, comprehensive approach to firmware and system software maintenance. Together they provide better operating stability and ensure maximum uptime. The SPP will be updated at a predictable cadence, typically coinciding with new HP server hardware launches. By enabling all firmware to be updated online and integrating firmware and system software updates in one operation HP SUM and the SPP offer faster updates of individual servers and dramatically faster updates of entire BladeSystem enclosures. Further improving system uptime and stability is the fact that HP provides 12 months of support on each Service Pack for ProLiant.

The user experience around HP SUM and the SPP has been improved in several ways, starting with the web download. A single web page provides access to a single download containing both the latest version of HP SUM version 5 and the latest SPP. Optional smaller subsets with only specific types of servers or specific operating systems are offered to save on download time. The HP SUM application has been re-written to provide a more straightforward, intuitive user interface that guides the user through the steps of discovery, analyses and update, providing comprehensive information on available updates, criticality and interdependencies. This information is also available in reports. By providing the option of multiple local or shared repositories which can be easily updated from hp.com, HP SUM provides the tools to optimize stability and consistency throughout the company. While HP SUM and the SPP will recommend the combinations of firmware and system software that HP has found to be the best practice, the application gives customers the flexibility to set their own specific baseline.

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

NOTE: The Service Pack for ProLiant (which includes HP SUM 5) can be downloaded from www.hp.com/go/spp/download. More information can be found: www.hp.com/go/spp and <http://www.hp.com/go/hpsum>

Security

Setup password

Standard Features

Warranty

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. Hardware diagnostic support and repair is available for one year 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 HP Care Pack 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 1 year Next Day Parts replacement, 0-Years Labor, 0-Years Onsite support. Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>.

Optional Features

HP Insight management software	HP Insight Control	HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. HP Insight Control also supports Location and Power Discovery Services to automate many configuration, asset tracking, and power management tasks to speed implementation and prevent downtime. For more information, see http://www.hp.com/go/insightcontrol .
		HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, see: http://www.hp.com/services/insight .
	HP iLO Essentials	HP iLO Essentials license ideal for small and medium business customers. The specially created HP iLO Essentials (a subset of iLO Advanced functionality) saves SMB customers time and money, by ease of remote server set up through the interactive virtual media, lowering operational costs with remote access via the Integrated Remote Console, and faster time to resolution with email-based proactive notifications. With this newly designed HP iLO Essentials license SMB customers now have the option of a server management package solely design and priced just right for their IT environments. HP iLO Essentials is available on all HP ProLiant Gen8 e-series making this an ideal solution for small business owners. For more information, see: http://www.hp.com/go/iLO/essentials
	HP iLO Advanced	HP Integrated Lights-Out Advanced License a product option, providing smart remote server management without compromise. iLO Advanced unlocks the full set of remote administration functionality for all HP ProLiant servers by activating the full Virtual Keyboard Video and Mouse remote console, multi-user collaboration, console record and replay, GUI-based and scripted virtual media and virtual folders, and enhanced security and power management functionality. For more information, see: http://www.hp.com/go/iLOADVANCE

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

Factory Express Portfolio for Servers and Storage HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

HP Simple Configurator SCE is a guided self service tool to help sales and non technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact HP's Customer Business Center or an Authorized Partner for assistance. <http://www.hp.com/products/configurator>

Service and Support

Service and Support

HP Technology Services for Industry Standard Servers

Capitalizing on HP ProLiant server capabilities requires a service partner who understands your increasingly complex business technology environment. That's why it makes sense to team up with the people who know HP infrastructure hardware and software best - the experienced professionals at HP Services.

Protect your business beyond warranty with HP Care Pack Services

HP Care Pack services offer complete care and support expertise with committed response choices designed to meet your IT and business needs.

- HP Foundation Care services offer scalable reactive support-packages for HP industry-standard servers and software. You can choose the type and level of service that is most suitable for your IT and business needs.

Optimized Care

Supports maintaining servers at optimum performance availability

3-Year HP Hardware Support Onsite Service, 4-hour response, 24x7

For customers who need same day response service level 24x7.

Provides you with an HP authorized representative who will arrive at the Customer's site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE.pdf>

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

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

Standard Care

Supports maintaining high level of server availability

3-Year HP Hardware Support Onsite Service, 4-hour response, 13x5

Delivers increased equipment availability and productivity with rapid remote support and onsite response for your HP server and storage hardware.

The benefits include:

- Help improve or maintain system uptime
- Convenient onsite support
- Committed response time

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

Service and Support

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

Basic Care

Delivers Minimum Recommended Support Service Level

3-Year HP Hardware Support Onsite Service, Next Business Day Response 9x5

Provides high-quality remote assistance and onsite support for your covered hardware, helping you to improve product uptime.

The benefits include:

- Help improve or maintain system uptime
- Convenient onsite support
- Reliable response time

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE.pdf>

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

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

Related Services

HP Proactive Select Service

Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months. <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN.pdf>

Additional HP Care Pack services can be found at: <http://www.hp.com/go/cpc>

Insight Online/Insight Remote Support

HP Insight Remote Support provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. This comes at no additional cost with your HP solution*. Learn more about Insight Remote Support <http://www.hp.com/go/insightremotesupport> and Insight Online <http://www.hp.com/go/insightonline>

Service and Support

HP Support Center

Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more <http://www.hp.com/go/hpsc>

HP's Support Center Mobile App** allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

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

** HP Support Center Mobile App is subject to local availability

Parts and Materials

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

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction.

For more information

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

Pre-configured Models

Entry Model

HP ProLiant MicroServer Gen8 G1610T 1P 2GB-U B120i NHP SATA 150W PS Server 712317-001	Processor	(1) Intel® Celeron® G1610T (2.3GHz/2-core/2MB/35W) Processor
	Cache Memory	2MB (1 x 2MB) L3 cache
	Memory	2GB (1 x 2GB) PC3-12800E DDR3 UDIMM NOTE: Total of 2 DIMM slots.
	Network Controller	HP Ethernet 1Gb 2-port 332i Adapter
	Storage Controller	HP Dynamic Smart Array B120i Controller
	Hard Drive	None ship standard
	Internal Storage	4 LFF NHP SATA HDD cage; includes 4 LFF hard drive carriers
	Optical Drive Bay	None ship standard
	PCI Slots	1 standard (1-Low Profile) PCIe 2.0
	Power Supply	150W Non-Hot Plug, Non-Redundant Power Supply
	Fans	One (1) Non-redundant system fan ships standard
	Management	HP iLO Management Engine Optional: iLO Essentials; iLO Advanced
	Operating System	None
	Form Factor	Ultra Micro Tower
	Warranty	Server Warranty includes 1-Year Parts, 0-Year Labor, 0-Year Onsite support with next business day response

Base Model

HP ProLiant MicroServer Gen8 G2020T 1P 2GB-U B120i NHP SATA 150W PS Server 712318-001	Processor	(1) Intel® Pentium® G2020T (2.5GHz/2-core/3MB/35W) Processor
	Cache Memory	3MB (1 x 3MB) L3 cache
	Memory	2GB (1 x 2GB) PC3-12800E DDR3 UDIMM NOTE: Total of 2 DIMM slots.
	Network Controller	HP Ethernet 1Gb 2-port 332i Adapter
	Storage Controller	HP Dynamic Smart Array B120i Controller
	Hard Drive	None ship standard
	Internal Storage	4 LFF NHP SATA HDD cage; includes 4 LFF hard drive carriers
	Optical Drive Bay	None ship standard
	PCI-Express Slots	1 standard (1-Low Profile) PCIe 2.0
	Power Supply	150W Non-Hot Plug, Non-Redundant Power Supply
	Fans	One (1) Non-redundant system fan ships standard
	Management	HP iLO Management Engine Optional: iLO Essentials; iLO Advanced
	Operating System	None
	Form Factor	Ultra Micro Tower
	Warranty	Server Warranty includes 1-Year Parts, 0-Year Labor, 0-Year Onsite support with next business day response

Core Options

HP Unique Options	HP Wireless 802.11 b/g/n PCIe Card	FH971AA
	HP MicroServer Gen8 Front Bezel Faceplate Kit NOTE: This kit includes all three Front Bezel Faceplate colors (Blue, Red and Black).	722320-B21

HP Memory	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669320-B21
	HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647905-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647907-B21
	HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21
	HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647909-B21
<p>NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.</p> <p>NOTE: Depending on the memory configuration and processor model, 1600MHz and 1333MHz memory may operate at a lower speed. Please see the "Memory" section later in this document and the Online Memory Configuration Tool for details at www.hp.com/go/ddr3memory-configurator.</p> <p>NOTE: For additional memory rules and guidelines, see the "Memory" section later in this document.</p> <p>NOTE: For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient</p> <p>NOTE: PC3L is a low voltage memory.</p>		

HP Optical Drives	HP 9.5mm SATA DVD-RW JackBlack Optical Drive	652241-B21
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Core Options

HP Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

6G SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	628065-B21
HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659339-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659337-B21
HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659341-B21

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

http://h18000.www1.hp.com/products/quickspecs/13021_na/13021_na.html

HP Networking

HP NC112T PCI Express Gigabit Server Adapter	503746-B21
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NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs

HP Networking Switches

HP PS1810-8G Switch	J9833A
HP PS1810-24G Switch	J9834A

NOTE: HP PS1810 Series Switches have been custom designed to work with the HP ProLiant MicroServer Gen8. These are layer 2 web-managed gigabit switches with two offerings - 8 port and 24 port models. PS1810 Switches have built-in technology that will enable automatic discovery of ProLiant Gen8 Servers. In addition the 8 port switch had a unique chassis design that enables physical stacking on the MicroServer.

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

http://h18004.www1.hp.com/products/quickspecs/14586_na/14586_na.html

Additional Options

HP Insight Software

HP Insight Control

HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License C6N27A

HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License C6N28ABE

HP Insight Control Server Provisioning Media Kit BD883A

HP Insight Management Media Kit C6N31A

HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO Electronic License C6N36ABE

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

NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service.

NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: <http://www.hp.com/go/insightupdates>

HP Insight Control server deployment

HP Insight Control Server Deployment including 1yr 24x7 Support Single Server License 452151-B21

HP Insight Control Server Deployment including 1yr 24x7 Support Electronic License T9082AAE

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

http://h18000.www1.hp.com/products/quickspecs/12631_na/12631_na.html.

HP Integrated Lights-Out (iLO)

HP Integrated Lights-Out (iLO) Advanced for ProLiant

HP Integrated Lights-Out Essentials including 1yr 24x7 Tech Support and Updates E-LTU E6U62ABE

HP Integrated Lights-Out Essentials including 3yr 24x7 Tech Support and Updates E-LTU E6U61ABE

HP iLO Advanced including 3yr 24x7 Tech Support and Updates Electronic License E6U64ABE

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Electronic License E6U59ABE

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

http://h18004.www1.hp.com/products/quickspecs/14276_na/14276_na.html

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

Additional Options

HP Security

HP MicroServer Gen8 Front Bezel Faceplate Kit	722320-B21
HP Trusted Platform Module Option	488069-B21

NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: www.hp.com/go/TPM.

NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

HP Storage Controllers

SAS Controllers

Smart Array P222 Controller

HP Smart Array P222/512 FBWC 6Gb 1-port Int/1-port Ext SAS Controller	631667-B21
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NOTE: HP Smart Array P22/512 FBWC qualified for RAID support only for HP ProLiant MicroServer Gen8.

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

http://h18000.www1.hp.com/products/quickspecs/14227_na/14227_na.html
(Smart Array P222 Controller)

HP Disk Backup

NOTE: For the complete range of RDX drives and media see: <http://www.hp.com/go/rdx>

HP RDX Removable Disk Backup Systems USB

HP RDX500 USB3.0 Internal Disk Backup System	B7B64A
HP RDX500 USB3.0 Internal Disk Backup System	B7B64A
HP RDX320 USB3.0 Internal Disk Backup System	B7B62A
HP RDX320 USB3.0 External Disk Backup System	B7B63A
HP RDX500 USB3.0 External Disk Backup System	B7B66A
HP RDX1000 USB3.0 External Disk Backup System	B7B69A

Additional Options

HP Uninterruptible Power Systems

HP Tower - UPS

HP T750 G2 UPS Models

HP T750 G2 750VA NA Tower Uninterruptible Power System

AF446A

HP T750J JP Uninterruptible Power System

AF456A

HP T1000 G3 UPS Models

HP T1000 G3 1000VA NA Tower Uninterruptible Power System

AF448A

HP T1500 G3 UPS Models

HP T1500 G3 1400VA NA Tower Uninterruptible Power System

AF450A

NOTE: For additional information please go to: <http://www.hp.com/go/rackandpower> (Worldwide)

NOTE: Please see QuickSpecs for Technical Specifications and additional information: http://h18004.www1.hp.com/products/quickspecs/13160_na/13160_na.html

HP Rack Options

HP USB Keyboard and Mouse

HP USB BFR with PVC Free US Keyboard/Mouse Kit

631341-B21

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

http://h18000.www1.hp.com/products/quickspecs/13972_na/13972_na.html

HP USB and SD Options

HP Flash Media Kits for USB Drives

HP 2GB USB Flash Media Drive Key Kit

608447-B21

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

HP Enterprise Performance Flash Media Kits for Memory Cards

HP 4GB microSD Enterprise Performance Flash Media Kit

647444-B21

HP Enterprise Mainstream Flash Media Kits for Memory Cards

HP 8GB microSD Enterprise Mainstream Flash Media Kit

726116-B21

HP 32GB microSD Enterprise Mainstream Flash Media Kit

700139-B21

NOTE: Blank SD media device is supported for use with VMware. SD media must be installed in the internal slot of the ProLiant server. Learn more at:

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

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

http://h18000.www1.hp.com/products/quickspecs/13971_na/13971_na.html

Additional Options

HP Care Pack Services	HP 3 year Next business day ProLiant MicroServer Hardware Support	UR482E
	HP 3 year 4 hour 13x5 ProLiant MicroServer Hardware Support	UR483E
	HP 3 year 4 hour 24x7 ProLiant MicroServer Hardware Support	UR484E
	HP Install ProLiant MicroServer Service	UR508E

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

Memory

HP ProLiant Micro Server Generation 8

Standard Memory

2GB (1x2GB) PC3-12800E DDR3 UDIMM Memory kit installed

Standard Memory Replaced with Optional Memory

Up to 16GB of memory is available with the removal of the standard 2GB of memory and the optional installation of 2 x 8 GB PC3-12800E DDR3 UDIMM Memory kits.

NOTE: The below chart does not represent all possible memory configurations.

Memory		Slot	
		1A	2B
Standard	2 GB	2 GB	Empty
Optional	4 GB	2 GB	2 GB
Optional	4 GB	4 GB	Empty
Optional	8 GB	4 GB	4 GB
Maximum	16 GB	8 GB	8 GB

Following are memory options available from HP:

HP Memory

Unbuffered with ECC DIMMs (UDIMMs)

HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669320-B21
HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647905-B21
HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647907-B21
HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21
HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647909-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.

NOTE: Depending on the memory configuration and processor model, 1600MHz and 1333MHz memory may operate at a lower speed. Please see the "Memory" section later in this document and the Online Memory Configuration Tool for details at www.hp.com/go/ddr3memory-configurator.

NOTE: For additional memory rules and guidelines, see the "Memory" section later in this document.

NOTE: For more information on ProLiant Energy Efficient Features, see:

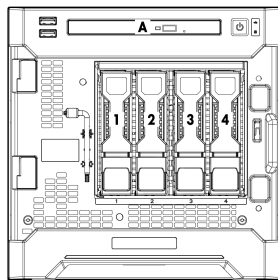
www.hp.com/go/proliant-energy-efficient

NOTE: PC3L is a low voltage memory. Low voltage memory operates at standard

Memory

voltage in the MicroServer Gen8.

Storage



A Optical Drive Bay

1, 2, 3, 4 Four (4) Non-Hot Plug Drive Bays

Drive Support

Removable Media	Quantity Supported	Position Supported	Controller
DVD-RW Drive	1	A	Integrated SATA

Maximum Storage Capacity		
Internal	SATA	12.0TB (4 x 3TB)

Technical Specifications

System Unit	Dimensions (H x W x D) (with feet)	9.15 x 9.06 x 9.65 in (23.24x 23 x 24.5 cm)	
	Weight (approximate)	Maximum (all hard drives, power supply and processor installed)	21.60 lb (9.8 kg)
		Minimum (one hard drive, power supply, and processor installed)	15.13 lb (6.8 kg)
	Input Requirements (per power supply)	Rated Line Voltage	100 -- 127 VAC, 200 - 240 VAC
		Rated Input Current	3.5 A (at 110 VAC), 2 A (at 200 VAC)
		Rated Input Frequency	47 to 63 Hz
		Rated Input Power	191.4 W (at 100 VAC), 184.9 W (at 200 VAC)
	BTU Rating	Maximum	247.055 BTU/hr (at 100 VAC), 274.505 BTU/hr (at 200 VAC)
	Power Specifications	To review typical system power ratings use the 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	150 W (at 100 VAC), 150 W (at 200 VAC)
		Maximum Peak Power	200 W (at 100 VAC), 200 W (at 200 VAC)
	System Inlet Temperature	Operating	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 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
		Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/r (36°F/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	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

Technical Specifications

			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 (Fully Loaded)	Idle	LWAd	3.9 BELS
		LpAm	21.0 dBA
	Operating	LWAd	3.9 BELS
		LpAm	21.0 dBA
Acoustic Noise (Lightly Loaded)	Idle	LWAd	3.4 BELS
		LpAm	18.0 dBA
	Operating	LWAd	3.5 BELS
		LpAm	18.0 dBA
Emissions Classification (EMC)	FCC Rating		Class B
	Normative Standards		CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

HP Dynamic Smart Array B120i Controller	Dimensions	Embedded
	Disk Drive Interface - Transfer rate	Up to 6Gb/s SATA (Serial ATA)
	SATA Connectors	5 internal connectors with non-hot-plug support
	Server Interface	PCIe 2.0
	SATA Speed	x2 6Gb/s SATA physical links (compatible with 3Gb/s SATA) None
	Logical Drives Supported	NOTE: On SATA models with embedded RAID, setup instructions are located in the MicroServer User Guide
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	Hot Plug Support	No
	RAID Support	RAID 0 (Striping), RAID 1 (Mirroring)
		RAID 1+0 (Striping & Mirroring)

Technical Specifications

HP Ethernet 1Gb 2-port NC332i Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX Energy Efficient Ethernet (EEE) compliant with IEEE Std 802.3az (default is disabled)	
	Data Transfer Method	Single lane (x1), 100MHz PCI Express Reference Clock	
	Controller	BCM5720	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Half and Full-Duplex)	2000Mb/s
	Connector	RJ-45 connector	
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	
	10/100/1000Base-TX	Category 5 UTP; up to 328 ft (100 m)	

Environment-friendly Products and Approach **End-of-life Management and Recycling** Hewlett-Packard offers end-of-life HP 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 HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

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