Overview

HPE ProLiant MicroServer Gen10

HPE ProLiant MicroServer Gen10 is a compact and uniquely designed server that is ideal for small and home offices looking to build their first IT server environment with a form factor that is easy to use. HPE MicroServer Gen10 helps businesses to provide better and easy access to data, more efficiency in operations, while driving down their operating expenses.

Front View (External):

1. (2) USB 3.0 ports
2. Media bay (Optional (1) DVD-RW or (1) SATA SSD)
3. Front bezel lock/unlock indicators
4. Power on/Standby button and system power LED
5. Health LED
6. NIC status LED
7. Drive activity LED
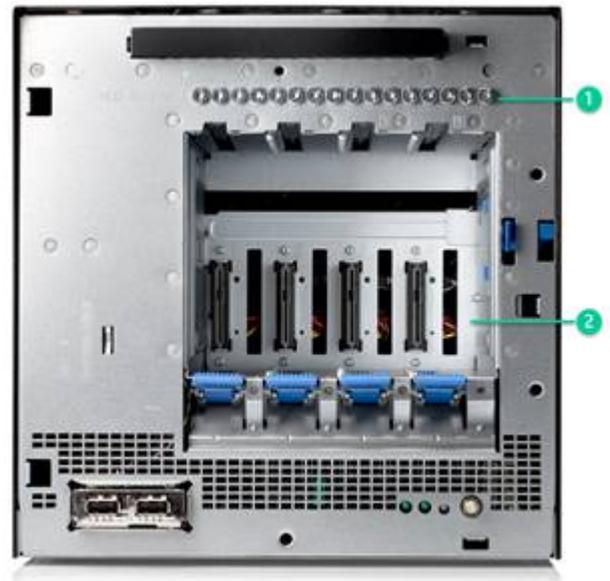
Front View (Internal):

1. Hard drive screws
2. Hard drive bays

Overview

Rear View:
1. (2) USB 2.0 ports
2. (2) USB 3.0 ports
3. NIC 1 port
4. NIC 2 port
5. Power jack
6. PCIe Gen3 slots
7. VGA port
8. (2) Display Ports 1.2

Internal View:
1. DIMM slots
2. TPM connector
3. LFF/SFF SATA connector
4. SATA connector
5. System board power connector
6. System battery
7. Internal USB 2.0 port
8. Expansion slot 2, PCIe3 x4 (1)
9. Expansion slot 1, PCIe3 x8 (8, 4, 1)

What's New

- AMD-based system with AMD Opteron™ X3000 series APUs
- AMD Opteron X3216 for Entry BTO SKU
- Higher maximum memory of 32GB DDR4 UDIMM
- Support for one read-intensive SATA NHP SFF SSD
- System default with 2x Display Ports 1.2
- ClearOS preload on all BTO & Special SKUs with more or equal to one SATA HDD installed

Standard Features

Processor	AMD Opteron^{TM} X3216 Processor (1.6-3.0GHz/2 compute cores/4 graphic cores/1MB/12-15W)

Processor

AMD Opteron™ X3216 Processor (1.6-3.0GHz/2 compute cores/4 graphic cores/1MB/12-15W)

AMD Opteron™ X3418 Processor (1.8-3.2GHz/4 compute cores/6 graphic cores/2MB/12-35W)

NOTE: Not existing in current SKU offerings. Please contact your HPE sales representatives for any business related demand and requirement.

AMD Opteron™ X3421 Processor (2.1-3.4GHz/4 compute cores/8 graphic cores/2MB/12-35W)

Cache Memory

2MB (1 x 2MB) L2 Cache
NOTE: For X3421 and X3418 processors.

1MB (1 x 1MB) L2 Cache
NOTE: For X3216 processor.

Memory Protection   ECC

Memory

Type	HPE Standard Memory	
	DDR4 Unbuffered (UDIMM)	
DIMM Slots Available	2	
Standard	8GB (1 x 8GB) PC4-2400T DDR4 UDIMM	
Maximum	32GB (2 x 16GB) PC4-2400T DDR4 UDIMM	

NOTE: HPE memory from previous generation servers are not fully compatible with the HPE ProLiant MicroServer Gen10.

Network Controller   Embedded Broadcom BCM5720 Dual Port Gbe LOM

Expansion Slots

Expansion Slot #	Technology	Bus Width**	Connector Width	Form Factor	Notes
1	PCIe 3.0	X8	X8	Low Profile	Open-end connector to support up to x16 PCIe card
2	PCIe 3.0	X1	X4	Low Profile	Open-end connector to support up to x16 PCIe card

Storage Controller   Embedded Marvell 88SE9230 PCIe to SATA 6Gb/s Controller
NOTE: Supports RAID 0/1/10 only. No FBWC support.

Internal Storage Devices

Optical Drive	Optional: SATA DVD-RW drive
	Optional: SATA SSD
Hard Drives	None ship standard

Standard Features

Maximum Internal Storage	Non-hot plug SATA	16TB (4 x 4TB) 3.5" SATA

Interfaces	Video	1 Rear VGA port
		2 Rear Display ports 1.2
	USB 2.0 Ports	3 total (2 rear, 1 internal)
	USB 3.0 Ports	4 total (2 rear, 2 front)
	Network RJ-45 (Ethernet)	2

Industry Standard Compliance	ACPI V5.0 Compliant
	PCIe 3.0 Compliant
	PXE Support
	WOL Support
	EMC Class B
	USB 2.0
	USB 3.0
	SATA 6Gb/s

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.hpe.com/go/powercordmatrix**.

Power Specifications To review typical system power ratings use the HPE Power Advisor which is available via the online tool located at URL: **http://www.hpe.com/go/proliant-energy-efficient** or **http://www.hpe.com/go/hppoweradvisor**.
NOTE: See Technical Specifications section at end of QuickSpecs for Power Specifications.

Power Supply One (1) 200 Watts non-hot plug, non-redundant Power Supply

System Fans One (1) non-redundant system fan shipped standard

Operating Systems and Virtualization Software Support for ProLiant Servers

Microsoft Windows Server 2012 R2 and 2016

ClearOS

NOTE: ClearOS, an easy to use OS with an application marketplace, allows you to build a fully functional server that is just right for you at no upfront cost. It is available via download.

NOTE: HPE ProLiant servers with ClearOS give you a simple, secure, and affordable operating system with an intuitive web based graphical user interface that provides a cloud-like experience on- premise, and an Application Marketplace with over 100 apps and growing. Whether you're starting out or scaling, you decide what applications you need and pay as you grow. To learn more on what you can do, please visit **http://www.hpe.com/servers/clearos**.

NOTE: For more information on The Hewlett Packard Enterprise Certified and

Standard Features

Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: **https://www.hpe.com/us/en/servers/server-operating-systems.html#OperatingSystems** and our driver download page: **http://h20566.www2.hpe.com/hpsc/swd/public/readIndex?sp4ts.oid=7271242**

Form Factor	Ultra Micro Tower

Service and Support

Service and Support HPE Pointnext for Industry Standard Servers
HPE Pointnext delivers confidence, reduces risk and helps customers realize agility and stability. 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 Packaged Support Services
HPE Packaged Support Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.

Optimized Care **Supports maintaining servers at optimum performance availability**

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

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Standard Care **Supports maintaining high level of server availability**

Foundation Care NBD, three-year Packaged Support Service
HPE Foundation Care Next Business Day connects you to HPE during business hours for assistance on resolving issues - features next business day hardware onsite response if needed and software call back within two hours. Simplify your support experience and make HPE your first call for hardware or software questions.
https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en

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

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

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product 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 HPE due to malfunction.

Service and Support

For more information

To learn more about HPE ProLiant servers, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner, or visit: **https://www.hpe.com/us/en/services/operational.html**

Pre-configured Models

Entry Model

HPE ProLiant MicroServer Gen10 X3216 8GB-U 1TB 4LFF NHP SATA 200W PS Entry Server
870208-xx1

Processor	(1) AMD Opteron^{TM} X3216 (1.6-3.0GHz/2-core/1MB/12-15W) Processor
Cache Memory	1MB (1 x 1MB) L2 cache
Memory	8GB (1 x 8GB) PC4-2400T DDR4 UDIMM
	NOTE: Total of 2 DIMM slots.
Network Controller	Embedded Broadcom BCM5720 Dual Port 1Gbe LOM
Storage Controller	Embedded Marvell 88SE9230 SATA controller
Hard Drive	1TB (1 x 1TB) LFF NHP SATA HDD
Internal Storage	4 LFF NHP SATA HDD cage
Optical Drive Bay	None ship standard
PCI Slots	2 standard (Low Profile) PCIe 3.0
Power Supply	200W Non-Hot Plug, Non-Redundant Power Supply
Fans	(1) Non-redundant system fan ships standard
Operating System	ClearOS preloaded
	NOTE: ClearOS, an easy to use OS with an application marketplace, allows you to build a fully functional server that is just right for you at no upfront cost. To learn more on what you can do, please visit **http://www.hpe.com/servers/clearos**.
Form Factor	Ultra Micro Tower
Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response

Country Code Key		
	xx = 00	U.S.
	xx = 20	Brazil (712317-201 and 712318-201 models only)
	xx = 29	Japan
	xx = 37	APD
	xx = 42	Europe (712317-421, 712318-421 and 819185-421 models only)
	xx = AA	PRC

Core Options

HPE Unique Options	HPE MicroServer Gen10 SFF NHP SATA Converter Kit	870213-B21
	NOTE: This kit works to accommodate your SFF NHP HDD into the LFF NHP drive cage.	
	HPE MicroServer Gen10 Slim SFF SATA Enablement Kit	870212-B21
	NOTE: This kit works to accommodate your SFF NHP SSD into the media bay.	

HPE Memory	**Unbuffered with ECC DIMMs (UDIMMs)**	
	HPE 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit	862974-B21
	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit	862976-B21
	NOTE: Only the SKUs with X3418 and X3421 processors support memory speed up to 2400 MT/s.	
	NOTE: SKUs with X3216 processor only support up to 1600 MT/s memory speed.	

HPE Optical Drives	HP 9.5mm SATA DVD-ROM JackBlack Gen9 Optical Drive	726536-B21
	HP 9.5mm SATA DVD-RW JackBlack G9 Optical Drive	726537-B21

HPE Hard Drives	**NOTE:** The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.	
	NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.	
	6G SATA Non-Hot Plug LFF (3.5-inch) Standard (MDL) Drives	
	HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801888-B21
	HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801884-B21
	HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801882-B21
	6G SATA Non-Hot Plug LFF (3.5-inch) ETY HDD	
	HPE 4TB SATA 6G Entry 5.9K LFF (3.5in) RW 1yr Wty HDD	815635-B21
	6G SATA Non-Hot Plug LFF (3.5-inch) STY HDD	
	HPE 3TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	843270-B21
	6G SATA Non-Hot Plug LFF (3.5-inch) ETY HDD	
	HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	843268-B21
	HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	843266-B21
	HPE 500GB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	843264-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: **https://www.hpe.com/h20195/v2/getpdf.aspx/a00001287enw.pdf?ver=1**	

|		
HPE Networking	HPE Ethernet 1Gb 2-port 332T Adapter	615732-B21
	HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21

Core Options

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: **http://www.hpe.com/go/ProLiantNICs**.
NOTE: The HPE PCIe adapters listed here can only support Server OSes.

Additional Options

HPE Security	HPE Trusted Platform Module 2.0 Kit	745823-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. **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.	

HPE Disk Backup	HP RDX+ 500GB External Backup System	B7B66B
	HP RDX+ 1TB External Backup System	B7B69B
	HP RDX 2TB USB3.0 External Disk Backup System	E7X53B
	HPE RDX+ 3TB USB 3.0 External Disk Backup System	P9L72A
	HPE RDX+ External Docking System	C8S07B

HPE Rack Mount Consoles, KVM Switches, and Keyboards	**HPE USB Keyboard and Mouse**	
	HPE USB US Keyboard/Mouse Kit	631341-B21
	HPE USB JP Keyboard/Mouse Kit	631360-B21
	HPE USB AP/INTL Keyboard/Mouse Kit	672097-373

Memory

HPE ProLiant MicroServer Generation 10
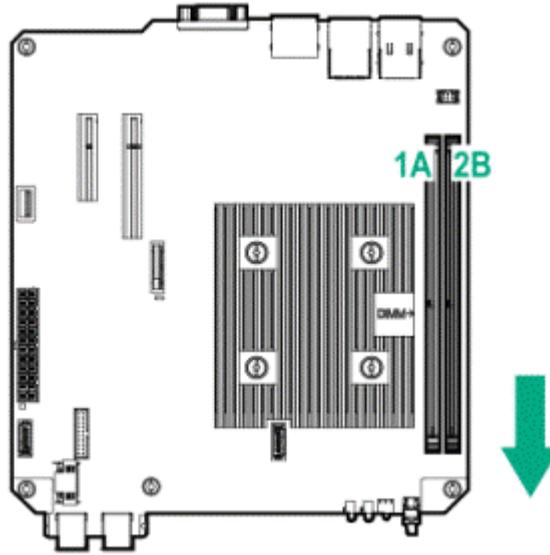
Maximum Memory

32GB of maximum memory is available with the installation of 2 x 16 GB UDIMM Memory kits.

Memory		Slot	
		1A	2B
Standard	8 GB	8 GB	Empty
	16 GB	16 GB	Empty
Optional	16 GB	8 GB	8 GB
	32 GB	16 GB	16 GB
Maximum	32 GB	16 GB	16 GB

Following are memory options available from HPE:

HPE Memory	**Unbuffered with ECC DIMMs (UDIMMs)**	
	HPE 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit	862974-B21
	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit	862976-B21

Storage
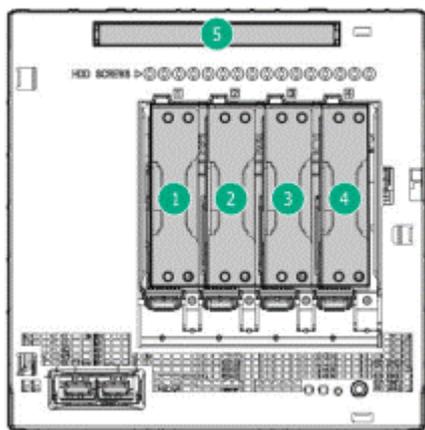
5   Media bay for optional (1) optical drive or (1) SATA SSD for boot-drive

1, 2, 3, 4   Four (4) non-hot plug drive bays

Drive Support

Removable Media	Quantity Supported	Position Supported	Controller
DVD-RW Drive	1	5	Integrated SATA
SATA SSD	1	5	Integrated SATA

Maximum Storage Capacity

Internal	SATA	16.0TB (4 x 4TB)

Technical Specifications

System Unit			
	Dimensions (H x W x D) (with feet)	9.25 x 9.06 x 10.00 in (23.5 x 23.0 x 25.4 cm)	
	Weight (approximate)	Maximum (Four drives, two DIMMs, optical drive or SSD and two expansion boards installed)	21.36 lb (9.70 kg)
		Minimum (one hard drive and one DIMM installed, no media drive or expansion board installed)	14.32 lb (6.50 kg)
	Input Requirements (per power supply)	Rated Line Voltage	100 V AC to 240 V AC
		Rated Input Current	3.5 A (at 100 V AC)
		Rated Input Frequency	50 to 60 Hz
		Rated Input Power	200W Power Supply 244 W (at 115 V AC)
	Power Specifications	To review typical system power ratings use the Power Advisor which is available via the online tool located at URL: **https://www.hpe.com/us/en/integrated-systems/rack-power-cooling.html**	
	Power Supply Output (per power supply)	Rated Steady-State Power	200 W Power Supply 200 W (at 100 VAC), 200 W (at 200 VAC)
		Maximum Peak Power	200 W Power Supply 200 W (at 100 VAC), 200 W (at 200 VAC)
	System Inlet Temperature	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. **NOTE:** System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).	
	Relative Humidity (non-condensing)	Operating	The unit shall be fully functional from 10% to 90% relative humidity, 28°C maximum web bulb temperature, (non-condensing) across the operating temperature range of 0°C to 40°C.
		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

Technical Specifications

		change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
Acoustic Noise		Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

Configuration	Lightly loaded	Heavily loaded
CPU type and quantity	AMD Opteron™ processor at 15W cTDP x1	AMD Opteron™ processor at 35W cTDP x1
DIMM type, capacity and quantity	8 GB UDIMM 2400MT/s x1	8 GB UDIMM 2400MT/s x1
HDD type and quantity	2.5" SFF NHP HDD 500 GB x1	3.5" LFF NHP HDD 500 GB x4
Idle Sound Power Level in Bels LWAd	3.8 Bels	4.0 Bels
Operating Sound Power Level in Bels LWAd	3.8 Bels	4.0 Bels
Idle Sound Pressure Level LpAm	26.0 dBA	30.4 dBA
Operating Sound Pressure Level LpAm	26. dBA	31.0 dBA
Note	The listed sound levels apply to listed configurations. Additional options may result in increased sound levels. Please have your HPE Rep. refer to EMESC website for further technical details regarding the configurations listed above.	

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

Emissions Classification (EMC)	FCC Rating	Class B
	Normative Standards	CISPR32, EN55032, EN55024 FCC CFR 47, Pt15; ICES-003; CNS13438; GB9254 K32; K24; EN61000-3-2; EN61000-3-3;

Technical Specifications

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

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

Summary of Changes

Date	Version History	Action	Description of Change
5-Jun-2017	Version 1	Added	New QuickSpecs.

hpe.com/qref/microservergen10

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