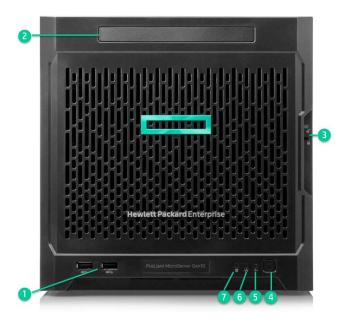
# **Overview**

# **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. PCle 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, PCle3 x4 (1)
- 9. Expansion slot 1, PCle3 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™ 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 PCle card
	2	PCle 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

Non-hot plug SATA

Optional: SATA SSD

Hard Drives None ship standard

Maximum Internal

Storage

16TB (4 x 4TB) 3.5" SATA

#### Standard Features

**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 PCle 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

**Power Specifications** 

To review typical system power ratings use the HPE Power Advisor which is available via the online

tool located at URL: <a href="http://www.hpe.com/go/proliant-energy-efficient">http://www.hpe.com/go/hppoweradvisor</a>.

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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

matrix: <a href="http://www.hpe.com/go/powercordmatrix">http://www.hpe.com/go/powercordmatrix</a>.

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 <a href="http://www.hpe.com/servers/clearos">http://www.hpe.com/servers/clearos</a>.

**NOTE:** For more information on The Hewlett Packard Enterprise 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: <a href="https://www.hpe.com/us/en/servers/server-operating-">https://www.hpe.com/us/en/servers/server-operating-</a>

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

#### **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

#### **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.

#### 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 Processor** Gen10 X3216 8GB-U 1TB Cache Memory **4LFF NHP SATA 200W PS** 

**Entry Server** 870208-xx1

Memory

(1) AMD Opteron™ X3216 (1.6-3.0GHz/2-core/1MB/12-15W) Processor

1MB (1 x 1MB) L2 cache

8GB (1 x 8GB) PC4-2400T DDR4 UDIMM

NOTE: Total of 2 DIMM slots.

**Network Controller Storage Controller** 

Embedded Broadcom BCM5720 Dual Port 1Gbe LOM

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 (1) Non-redundant system fan ships standard **Fans** 

**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.

Ultra Micro Tower Form Factor

Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite Warranty

support with next business day response

**Country Code Key** xx = 00U.S.

> xx = 20Brazil (712317-201 and 712318-201 models only)

xx = 29Japan xx = 37APD

xx = 42Europe (712317-421, 712318-421 and 819185-421 models only)

xx = AA**PRC** 

# **Core Options**

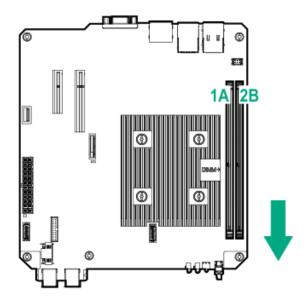
HPE Unique Options	HPE MicroServer Gen10 SFF NHP SATA Converter Kit  NOTE: This kit works to accommodate your SFF NHP HDD into the LFF NHP drive	870213-B21
	cage.	
	HPE MicroServer Gen10 Slim SFF SATA Enablement Kit	870212-B21
	NOTE: This kit works to accommodate your SFF NHP SSD into the media bay.	
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
	<b>NOTE:</b> Only the SKUs with X3418 and X3421 processors support memory speed up to 2400 MT/s.	
	<b>NOTE:</b> 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	<b>NOTE:</b> 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.	
	<b>NOTE:</b> 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	
<b>HPE Networking</b>	HPE Ethernet 1Gb 2-port 332T Adapter	615732-B21
	HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional	
	information: http://www.hpe.com/go/ProLiantNICs.	
	<b>NOTE:</b> The HPE PCIe adapters listed here can only support Server OSes.	

# **Additional Options**

HPE Security	HPE Trusted Platform Module 2.0 Kit  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.	745823-B21
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	HPE USB Keyboard and Mouse	
Consoles, KVM	HPE USB US Keyboard/Mouse Kit	631341-B21
Switches, and	HPE USB JP Keyboard/Mouse Kit	631360-B21
Keyboards	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  $2 \times 16 GB$  UDIMM Memory kits.

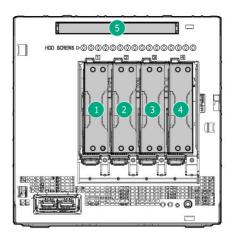
Men	Memory		ot
		1A	2B
Standard	8 GB	8 GB	Empty
	16 GB	16 GB	Empty
Optional	16 GB	8 GB	8 GB
	32 GB	16 GB	16 GB
Maximum	32 GB	16 GB	16 GB

Following are memory options available from HPE:

HPE Memory	Unbuffered with ECC DIMMs (UDIMMs)
THE MEMORY	Unduliered with ECC Dimins (UDIMINS)

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**

**Dimensions**  $(H \times W \times D)$ System Unit

(with feet)

9.25 x 9.06 x 10.00 in (23.5 x 23.0 x 25.4 cm)

**Weight** (approximate)

Maximum 21.36 lb (9.70 kg)

(Four drives, two DIMMs, optical drive or SSD and two expansion boards

installed)

Minimum 14.32 lb (6.50 kg)

(one hard drive and one DIMM installed. no media drive or expansion board installed)

Input Requirements (per power supply)

100 V AC to 240 V AC Rated Line Voltage 3.5 A (at 100 V AC)

Rated Input Current Rated Input 50 to 60 Hz

Frequency

200W Power Supply Rated Input Power

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-powercooling.html

**Power Supply Output** 

(per power supply)

Rated Steady-State

200 W Power Supply Power 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. 3050 m (10,000 ft). This value may be limited by

**Altitude** Operating

> the type and number of options installed. Maximum allowable altitude change rate is 457

m/min (1500 ft/min).

Non-operating 9144 m (30.000 ft). Maximum allowable altitude

change rate is 457 m/min (1500 ft/min).

**Acoustic Noise** 

Listed are the declared A-Weighted sound power levels (LWAd) and

# **Technical Specifications**

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 <sup>™</sup> processor at 15W cTDP x1	AMD Opteron <sup>™</sup> 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;

**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 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

# **Technical Specifications**

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/gref/microservergen10







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

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