



EXMAS
INTERNATIONAL

EXMAS INTERNATIONAL SOLUTIONS LTD.

➤ **Location:**

Landmark Plaza, Argwings Kodhek Rd, Nairobi

➤ **Company Registration NO:**

REF NO: PVT-BEUEBD5V

➤ **Company KRA Pin**

P052352851B

➤ **Phone No:**

+254714073647 or +254725415177

➤ **Email address**

info@exmasinternationalsolutions.com
director@exmasinternationalsolutions.com

➤ **website**

www.exmasinternationalsolutions.com

HPE ProLiant rack and tower servers

Compute Engineered for your Hybrid World



Compute for your hybrid world

Modern IT is at the core of today's business, helping to create new value and experiences in a world where almost everyone and everything generates and shares data. Whether on- or off-premises; bare-metal, virtualization or containers; in a public or private cloud, modern IT must comprehend the full gamut of hybrid cloud possibilities composing and deploying resources faster than ever before, leveraging a secure, common operating model to meet individual application and user requirements while maintaining visibility and control over costs, security, and governance.

IT needs to be proactive, anticipating demand, ready with the flexibility and capacity to meet business needs in moments, not days or weeks. This means server monitoring and management must be simplified, deployment and provisioning automated, so people are free to focus on strategic initiatives that create real value.

Additionally, the threat of cyber assault increases exponentially. With hackers getting more sophisticated with every wave of attacks, protecting software and networks is no longer enough. Security has to take on a 360-degree approach, a holistic view that begins with everything that goes into the server, right down to the silicon.

This hybrid reality requires a fresh approach, a flexible software-defined approach, building on a foundation of intelligence that begins with the server. HPE ProLiant is the intelligent foundation for hybrid cloud delivering unmatched automation, security, and optimization that advances the way people work and live.

Table of contents

- 1 Compute for your hybrid world
- 2 Why choose HPE ProLiant Rack and Tower Servers?
- 4 HPE Gen10 technology portfolio
- 6 Small business servers
- 6 Choose your Rack or Tower Server
- 9 Right-sized servers
- 10 Versatile performance servers
- 13 Scale-up servers
- 14 Get enhanced functionality and added benefits with HPE server options
- 17 HPE server and infrastructure management software
- 20 HPE storage solutions for HPE ProLiant Servers
- 21 Integration services
- 21 Technical training courses
- 21 HPE Pointnext Services
- 22 HPE server families

A complete compute solution

Choose HPE Rack and Power Infrastructure options to complete your foundation for a modern and optimized IT environment. Hewlett Packard Enterprise delivers the right value where it matters, with:

- Racks in a variety of height, width, and depth options
- Power distribution units (PDUs) ranging from enterprise to basic
- Various sizes of uninterruptible power supplies (UPSs)
- Kernel-based virtual machine solutions and other rack accessories

¹ 33%—Reduces time to install and set up a new server from 6 hours to just 4. HPE internal testing, October 2018.

Intuitive: The next-gen HPE ProLiant is engineered with a cloud experience, no matter if you choose a purchase or consumption model.

Trusted: From silicon to software, from factory to cloud, and from generation to generation, HPE ProLiant is engineered with a fundamental security approach to defend against increasingly complex threats through an uncompromising focus to constant security advancements that's built into our DNA.

Optimized: Get the performance you demand to accelerate any workload—from the data center to the edge—with HPE ProLiant compute that's engineered for your hybrid environment.

Why choose HPE ProLiant rack and tower servers?

HPE is committed to innovation, quality, and an excellent customer experience. Our approach to excellence in our innovation and quality is instilled across the product lifecycle, from our customer-first approach to design, to our supplier selection, quality and management, to our world-class manufacturing and rigorous product testing, to our global support services, and network of channel partners.

With HPE ProLiant rack and tower servers, you can deliver a flexible software-defined approach that is built on a foundation of intelligence beginning with the server. HPE ProLiant is that intelligent compute foundation for hybrid cloud, delivering unmatched workload optimization, security and automation, all available as-a-Service your hybrid cloud infrastructure.

The rack and tower servers are available in these families:

- HPE ProLiant MicroServer
- HPE ProLiant ML
- HPE ProLiant DL

While all three families are designed to handle multiple workloads, each family is optimized for specific use cases.

HPE SMB ProLiant Offers, developed specifically with our customers in mind, are competitively and aggressively priced, in stock, and meet most small businesses purchasing patterns. These SMB Offers are regionally available as HPE Smart Buy Express Offers (NA), Top Value Offers (EMEA), or Intelligent Buy Offers/Intelligent Buy Express Offers (APJ) for the HPE ProLiant MicroServer, ML, and DL servers. A key part of this portfolio of SMB HPE ProLiant Offers is HPE Small Business Solutions built for on-premises and for hybrid cloud use cases. To make server deployment easy and fast, we offer HPE Rapid Setup, a feature within HPE intelligent provisioning that makes every new server deployment a snap including setting up HW RAID at a click of a button. It is a simple, automated process for consistent system installation, setup, and configuration—**offering 33.3% faster installs.**¹ Through the HPE Rapid Setup path, customers can also learn about how to purchase Azure and Office 365 public cloud services from HPE Pointnext Services.

HPE ProLiant MicroServer

Compact, quiet, and stylish, the HPE ProLiant MicroServer is ideal as a first solution for small businesses. With just right performance in a form factor that is easy to use and service, the MicroServer helps you drive down expenses while improving productivity and efficiency. And best of all, you don't need a server room to have a server.

The HPE ProLiant MicroServer Gen10 Plus comes with even more of the features that SMBs love. It supports Intel® Xeon® and Pentium® processors, HPE iLO 5 with silicon root of trust from HPE, HPE InfoSight, and in a much smaller form factor compared to the previous generation.



HPE ProLiant MicroServer
Perfect for micro and small businesses



HPE ProLiant ML family
The ideal choice for remote or branch offices and growing businesses



HPE ProLiant DL family
Secure and versatile rack-optimized servers delivering performance, expansion, and manageability

The HPE ProLiant MicroServer Gen10 Plus provides the following benefits:

- Up to 53% performance increase with the Intel Xeon processor
- 4 x 1GbE embedded NIC
- Easy to set up and service
- Cool design, deploy horizontally or vertically, and ability to place it anywhere

HPE ProLiant tower servers

The ML family of servers delivers simple, efficient business value and is the ideal choice for remote or branch offices and growing businesses. Industry-leading compute innovations include simple management and storage tools, along with proven configurations that provide easy remote access and improved energy efficiencies to lower your total cost of ownership (TCO). Integrated with a simplified but comprehensive management suite and industry-leading support, the HPE ProLiant tower portfolio delivers more business value and helps increase IT staff productivity and expedite service delivery. In addition, the complete, right-sized tower portfolio includes financing options, IT infrastructure support options, and a channel network to significantly increase the speed of IT operations and enable IT to respond to business needs faster.

The HPE ProLiant tower portfolio delivers:

- Up to 61% performance increase and 27% increase in core with the new Intel Xeon Scalable processors²
- Up to 82% greater memory bandwidth increasing application performance for memory-intensive applications³
- High energy efficiency with the HPE ML350 Gen10 Server

HPE ProLiant rack servers

The DL family of servers are the most flexible, reliable, and performance-optimized HPE ProLiant rack servers—ever. HPE continues to provide industry-leading compute innovations. The new HPE ProLiant Gen10 rack portfolio, with flexible choices and versatile design, along with improved energy efficiencies, ultimately lowers your TCO. Integrated with a simplified, but comprehensive management suite and industry-leading support, the HPE ProLiant Gen10 rack portfolio delivers a more reliable, fast, and secure infrastructure solution, helps increase IT staff productivity, and accelerates service delivery. In addition, the rack portfolio is performance-optimized for multiapplication workloads to significantly increase the speed of IT operations and enable IT to respond to business needs of any size, faster.

The HPE ProLiant Gen10 and Gen10 Plus rack portfolio delivers:

- Up to 61% performance increase and 27% increase in core with the new Intel Xeon Scalable processors⁴
- Up to 27x faster checkpoint operations enabling significantly faster business operations⁵
- 82% greater memory bandwidth increasing application performance for memory-intensive applications⁶
- 14% more processor cores for greater VM density and 33% greater memory capacity for better VM performance and price/performance using AMD EPYC™ processors⁷
- 9% memory speed improvement with 2nd Generation AMD EPYC processors⁸
- 2x greater I/O bandwidth enabled by PCIe 4⁹
- 2.4x greater storage capacity¹⁰

^{2,4} HPE measurements: Up to 61% performance increase of Intel® Xeon® Platinum vs. previous generation E5-4600 v4 average gains of STREAM, Linpack, SPEC CPU2006, and SPEC CPU2017 metrics on HPE servers comparing 4-socket Intel Xeon Platinum 8280 to E5-4699 v4 family processors. Any difference in system hardware or software design or configuration may affect actual performance. April 2019.

Up to 27% performance increase of Intel Xeon Platinum vs. previous generation comparing 4-socket Intel Xeon Platinum 8280 (28 cores) to E5-4669 v4 (22 cores). Calculation $28 \text{ cores} / 22 \text{ cores} = 1.27 = 27\%$. April 2019.

^{3,6} Percentage compare Gen10 vs. Gen9: Gen10 = 12 Channels x 2933 data rate x 8 bytes = 281 GB/sec. Gen9 = 8 channels x 2400 x 8 bytes = 154 GB/sec. $281 / 154 = 1.82$ or Gen10 is 82% greater bandwidth. Any difference in system hardware or software design or configuration may affect actual performance. April 2019.

⁵ TPC-C Benchmark Throughput with Checkpoint (trans/sec). Calculated Time to Checkpoint and Restore a Docker Container running MySQL, compare HPE Persistent Memory vs. SSD. November 2018. HPE Persistent Memory is supported on 2nd Generation Intel Xeon Scalable processors only.

⁷ AMD EPYC 7601 Processor as compared to the Intel Xeon Platinum 8176 Processor, October 2017.

^{8,9,10} Improvements based on comparison to previous generation.



HPE Gen10 Technology portfolio

HPE ProLiant servers feature user-inspired innovations to make IT simpler,¹¹ including:

Workload Optimization

The foundational intelligence of HPE ProLiant transforms IT with insights that optimize workload performance, placement, and efficiency, delivering better outcomes faster.

- **Workload matching:** A standard feature of HPE ProLiant, workload matching encapsulates decades of HPE performance engineering expertise into preconfigured, user-selectable profiles that automatically optimize hundreds of BIOS setting combinations to precisely match server resources to workload requirements. Workload matching eliminates the trial-and-error—and risk—of server tuning, delivering the performance and efficiency of a server ideally suited to its workload tasks.
- **Workload Performance Advisor:** Changes in business requirements and workload characteristics can require adjustments to server resources. HPE Workload Performance Advisor complements workload matching, providing real-time operational feedback on server performance plus recommendations for fine-tuning BIOS settings to adjust to optimize for changing business needs.
- **HPE Right Mix Advisor:** Built on the experience of over a thousand hybrid cloud engagements, HPE Right Mix Advisor delivers data-driven guidance to quickly and confidently move workloads to the right mix of hybrid cloud platforms, ensuring optimized performance to meet business-specific needs while reducing costs as much as 40%.

360-Degree Security

Already the world's most secure industry-standard server, HPE ProLiant provides an enhanced holistic, 360-degree view to security that begins in the manufacturing supply chain and concludes with a safeguarded, end-of-life decommissioning.

- **Secure supply chain:** HPE ProLiant security begins with the corruption-free manufacture of the server, auditing the integrity of every component—hardware and firmware—providing an assurance that the server begins its lifecycle uncompromised.
- **Silicon root of trust from HPE:** Silicon root of trust anchors the essential firmware of HPE ProLiant to an HPE-exclusive ASIC even before the server is built, creating an immutable fingerprint that must be exactly matched before the server will boot. This ensures malicious code is contained and healthy servers are protected.
- **Server Configuration Lock:** Secured by a customer-supplied password, Server Configuration Lock creates a digital fingerprint of the server configuration, preventing it from booting should there be an unauthorized configuration change or tampering detected.
- **Security Dashboard:** A single interface to display the overall server security status, the current configuration for the Security State and Server Configuration Lock plus the status of numerous security features, the Security Dashboard also provides access to change security alerts and manage settings.
- **Production to CNSA security modes:** Equipped with HPE iLO, HPE ProLiant provides four security modes—Production, High Security, FIPS 140-2, and CNSA, the highest-level cryptographic algorithm available for commercial systems.
- **Server System Restore:** Should a server be compromised, the fastest path to bring it back online and into normal operations again is with HPE server system restore, a feature of HPE iLO. Server system restore provides an automated recovery including restoration of validated firmware, facilitated recovery of the operating system, application, and data connections.
- **One Button Secure Erase:** When it's time to retire or repurpose an HPE ProLiant server, One Button Secure Erase speeds and simplifies the complete removal of passwords, configuration settings and data, preventing inadvertent access to previously secured information.

¹¹ For a full list of supported options and details, see the server QuickSpecs at hpe.com/info/qs.



Intelligent Automation

The intelligence built into HPE ProLiant simplifies and automates management tasks, establishing a solid foundation for an open, hybrid cloud platform enabled by composability.

- **HPE iLO RESTful API:** HPE iLO uses a fully Redfish-conformant RESTful application programming interface (API) to provide simple and secure management for today’s cloud- and web-based infrastructures across a wide variety of operations and orchestration tools from HPE and others.
- **HPE iLO 5:** Embedded in HPE ProLiant, HPE iLO 5 is the HPE-exclusive core intelligence that monitors server status, providing the means for reporting, ongoing management, service alerting and local or remote management to quickly identify and resolve issues.
- **HPE OneView:** A foundational element in the software-defined infrastructure of hybrid cloud environments, HPE OneView offers an automated, template-driven approach for deploying, provisioning, updating, and integrating compute, storage, and networking infrastructure.
- **HPE InfoSight:** Building on the operational data of tens of thousands of servers, HPE InfoSight provides continual AI-driven insight and oversight to server operations, predicting and preventing problems before IT operations are impacted.

Transition guide

The Gen10 family offers the right compute to meet all your diverse workload needs. As such, we’re tailoring compute to offer more flexibility and choice, such as offerings from both Intel® and AMD, HPE FlexibleLOM, HPE Smart Array, HPE SmartMemory, NVMe, HPE Persistent Memory NVDIMMs,¹² HPE Persistent Memory, available in 128, 256, and 512 GB capacity modules featuring Intel® Optane™ DC Persistent Memory,¹³ and many more options.

Over the past several generations of the rack and tower portfolio, we have adjusted the product offerings to best address the needs of our customers. The following table shows the transition previous generations of servers to Gen10:

¹² Supported on first generation Intel Xeon Scalable processors.

¹³ Supported on second generation Intel Xeon Scalable processors.

| Gen8 models | Gen9 models | Gen10 models | Gen10 Plus models |
|-------------------------------|-------------|--------------------------------|--------------------------------|
| HPE ProLiant MicroServer Gen8 | N/A | HPE ProLiant MicroServer Gen10 | HPE ProLiant MicroServer Gen10 |



| | | | Plus |
|-----------------------------|-------------------------|--|--|
| HPE ProLiant ML10 v2 | HPE ProLiant ML10 Gen9 | HPE ProLiant MicroServer Gen10 or HPE ProLiant ML30 Gen10 | HPE ProLiant MicroServer Gen10 Plus |
| HPE ProLiant ML310e Gen8 v2 | HPE ProLiant ML30 Gen9 | HPE ProLiant ML30 Gen10 | HPE ProLiant ML30 Gen10 Plus |
| HPE ProLiant ML310e Gen8 v2 | HPE ProLiant ML110 Gen9 | HPE ProLiant ML110 Gen10 | |
| HPE ProLiant ML350e Gen8 | HPE ProLiant ML150 Gen9 | HPE ProLiant ML110 Gen10 or HPE ProLiant ML350 Gen10 | |
| HPE ProLiant ML350p Gen8 | HPE ProLiant ML350 Gen9 | HPE ProLiant ML350 Gen10 | |
| HPE ProLiant DL320e Gen8 v2 | HPE ProLiant DL20 Gen9 | HPE ProLiant DL20 Gen10 | HPE ProLiant DL20 Gen10 Plus |
| N/A | N/A | HPE ProLiant DL325 Gen10 | HPE ProLiant DL325 Gen10 Plus |
| N/A | HPE ProLiant DL60 Gen9 | HPE ProLiant DL160 Gen10 | |
| N/A | HPE ProLiant DL80 Gen9 | HPE ProLiant DL180 Gen10 | |
| N/A | HPE ProLiant DL120 Gen9 | HPE ProLiant DL160 Gen10 | |
| HPE ProLiant DL360e Gen8 | HPE ProLiant DL160 Gen9 | HPE ProLiant DL160 Gen10 | |
| HPE ProLiant DL380e Gen8 | HPE ProLiant DL180 Gen9 | HPE ProLiant DL180 Gen10 | |
| HPE ProLiant DL360p Gen8 | HPE ProLiant DL360 Gen9 | HPE ProLiant DL360 Gen10 | |
| HPE ProLiant DL380p Gen8 | HPE ProLiant DL380 Gen9 | HPE ProLiant DL380 Gen10 | |
| HPE ProLiant DL385p Gen8 | N/A | HPE ProLiant DL385 Gen10 | HPE ProLiant DL385 Gen10 Plus |
| HPE ProLiant DL560 Gen8 | HPE ProLiant DL560 Gen9 | HPE ProLiant DL560 Gen10 | |
| HPE ProLiant DL580 Gen8 | HPE ProLiant DL580 Gen9 | HPE ProLiant DL580 Gen10 | |

Choose your rack or tower server

HPE ProLiant rack and tower servers are available in a variety of platforms to support different compute needs and workloads. The following tables will help you compare the offerings within the HPE ProLiant rack and tower families. These tables are organized according to server needs.

- HPE ProLiant 10 series—Small Business Servers—Easy to buy and deploy
- HPE ProLiant 100 series—Right-Sized Servers—Balance of performance, efficiency, capacity, and manageability
- HPE ProLiant 300 series—Versatile Performance Servers—Industry-leading design with flexible choices for multiworkload compute and storage
- HPE ProLiant 500 series—Scale-up Servers—Scalable performance for business-critical workloads

Small business servers

Is this your first server? Consider these HPE ProLiant Essential servers.



HPE ProLiant MicroServer Gen10 Plus



HPE ProLiant MicroServer Gen10

| | The compact HPE ProLiant server to make your own | The compact server to make your own |
|--|--|---|
| Number of processors | 1 | 1 |
| Processors supported | Intel Xeon E2200 series Intel Pentium G5400 series | AMD Opteron™ X3421 AMD Opteron X3418 AMD Opteron X3216 |
| Cores per processor | 2/4 | 2/4 |
| Maximum processor frequency/cache | 3.8 GHz/4 MB or 3.4 GHz/8 MB | 3.4 GHz/2 MB |
| I/O expansion slots | Up to 1 PCIe 3.0, 1 x 16, LP | 2 PCIe 3.0, 1 x 8, 1 x 4 |
| Maximum memory/# slots/speed | 32 GB/2/2666 MT/s | 32 GB/2/2400 MT/s |
| Storage controller | S100i, optional HPE Smart Array Essential RAID Controller* | Embedded Marvell SATA controller (HW RAID 0, 1, 10 Support) |
| Maximum storage drive bays | 4 NHP LFF or 4 NHP SFF HDD/SSD | 4 LFF SATA, non-hot plug Optional (1) Slim SATA ODD or (1) Slim SFF SATA SSD |
| Maximum internal storage | 16 TB | 16 TB |
| Networking ports (embedded)/FlexibleLOM | 4 x 1GbE/N/A | 2 x 1GbE/N/A |
| VGA/serial/USB/SD ports | 1/0/7/0 plus 1 display port | 1/0/7/0 plus 2 display ports |
| GPU support | Optional Radeon Pro WX 2100 | Optional AMD Radeon Pro WX 2100 |
| Form factor/chassis depth | Ultra Micro Tower/9.65" | Ultra Micro Tower/10" |
| Power and cooling | 180W External Power Adapter, nonredundant PS | 200W ATX non-hot plug, nonredundant PS |
| Industry compliance | ASHRAE A2 | N/A |
| System ROM | UEFI Legacy BIOS | UEFI |
| Management | HPE iLO 5, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight, HPE iLO Advanced | N/A |
| Serviceability—easy install rails | N/A | N/A |
| Warranty—(years) (parts/labor/on-site) | 1/1/1 | 1/1/1 |

* For a full list of supported options and details, see the server QuickSpecs at hpe.com/info/qs.



Small business servers (continued)



HPE ProLiant DL20 Gen10



DL20 Gen10 Plus

| | The most compact and versatile rack server | The most compact and versatile rack server |
|--|---|---|
| Number of processors | 1 | 1 |
| Processors supported | Intel Xeon E-2200/E-2100 series Intel® Core™ i3 Intel Pentium | Intel® Xeon® E-2300 series Intel Pentium |
| Cores per processor | 2/4/6/8 | 2/4/6/8 |
| Maximum processor frequency/cache | 3.8 GHz/12 MB | 3.2 GHz/16 MB 3.7GHz/8MB Dependent on processor choice |
| I/O expansion slots | 2 PCIe 3.0 slots | 2 PCIe 4.0 slots (Low profile and Full height half length) |
| Maximum memory/# slots/speed | 64 GB/4/2666 MT/s | 128 GB/4/2933MT/s |
| Storage controller | Standard HPE Smart Array S100i Software RAID Choice of HPE Smart Array Essential and Performance RAID Controllers for performance or additional features | Intel® VROC SATA (formerly known as Intel® RSTe) HPE Smart Array essentials and performance controllers |
| Maximum storage drive bays | Up to 4+2 SFF/2 LFF max., HDD/SSD, M.2 2280 NVMe SSDs (optional) | Up to 4+2 Hot plug SFF/2 non-Hot-plug LFF max., HDD/SSD, M.2 2280 NVMe SSDs (optional) |
| Maximum internal storage | 91.8 TB | 91.28 TB |
| Networking ports (embedded)/FlexibleLOM | 2 x 1GbE embedded + Choice of FlexibleLOM + Standup | 2 x 1GbE embedded + Choice of FlexibleLOM + Standup |
| VGA/serial/USB/SD ports | USB 3.0 Front (1), USB 2.0 HPE iLO Service Port (1), internal USB 3.0 (1), USB 3.0 Rear (2) | 1/1 (optional)/5/0 |
| GPU support | N/A | N/A |
| Form factor/chassis depth | Rack (1U)/15.05" (ear to rear) | Rack (1U)/15.05" (ear to rear) (H x W x D)1.70 x 17.11 x 15.05 in (Imperial) |
| Power and cooling | 290W Standard NHP PSU with up to 94% ¹⁴ efficiency (80 PLUS Silver certified) 500W Flexible Slot Hot Plug Redundant PSU with 94% efficiency 800W Flexible Slot 48 VDC Hot Plug Redundant PSU with 94% efficiency | 290W Standard NHP PSU with up to 94% ¹⁴ efficiency (80 PLUS Silver certified)500W Flexible Slot Hot Plug Redundant PSU with 94% efficiency800W Flexible Slot 48 VDC Hot Plug Redundant PSU with 94% efficiency |
| Industry compliance | ASHRAE A3/A4, ENERGY STAR® configuration (only on DL20 SFF chassis with RPS) | ASHRAE A3/A4, ENERGY STAR® configuration (only on DL20 SFF chassis with RPS) |
| System ROM | UEFI Legacy BIOS | UEFI Legacy BIOS |
| Management | HPE OneView and HPE iLO Advanced, HPE Insight Online with enhanced mobile application, HPE iLO 5, SUM, RESTful Interface Tool, UEFI optional: HPE InfoSight, HPE iLO Advanced, HPE OneView Advanced | HPE OneView and HPE iLO Advanced, HPE Insight Online with enhanced mobile application, HPE iLO 5, SUM, RESTful Interface Tool, UEFI optional: HPE InfoSight, HPE iLO Advanced, HPE OneView Advanced |
| Serviceability—easy install rails | N/A | N/A |
| Warranty—(years) (parts/labor/on-site) | 3/3/3 | 3/3/3 |

* For a full list of supported options and details, see the server [QuickSpecs](https://www.hpe.com/info/qs) at [hpe.com/info/qs](https://www.hpe.com/info/qs).

¹⁴ 94% efficiency available in February 2020; up to 92% efficiency currently



Small business servers (continued)



HPE ProLiant ML30 Gen10



ML30 Gen10 Plus

| | The ideal small office 1P tower with enterprise-class features | The ideal small office 1P tower with enterprise-class features |
|---|--|---|
| Number of processors | 1 | 1 |
| Processors supported | Intel Xeon E-2200/E-2100 Intel Core i3-9100/8300 Intel Pentium G5420/G5400 | Intel® Xeon® E-2300 series |
| Cores per processor | 2/4/6 | 4 to 8 core, depending on processor |
| Maximum processor frequency/cache | 4.0 GHz/8 MB or 3.8 GHz/12 MB | 3.7 GHz, maximum depending on processor Up to 16 MB Intel® Smart Cache, depending on processor |
| I/O expansion slots | 4 PCIe 3.0, 2 x16 FH/FL, 2 x 8 FH/HL | 4 PCIe, (one PCIe Gen4 x16) |
| Maximum memory/# slots/ speed | 64 GB/4/2666 MT/s | 128 GB/4/2933MT/s |
| Maximum HPE Persistent Memory | N/A | N/A |
| Maximum HPE Persistent Memory NVDIMMs | N/A | N/A |
| Storage controller | S100i, optional HPE Smart Array Essential and Performance RAID Controllers* | Intel® VROC SATA (formerly known as Intel® RSTe) HPESmart Array essentials and performance controllers |
| Maximum storage drive bays | 8 SFF or 4 LFF HDD/SSD or 4 LFF NHP; 1 M.2 NVMe SSD slot; with optional 1 Slim line ODD | 4 NHP LFF SATA HDD 4 LFF SAS/SATA HDD/SSD or 8 SFF SAS/SATA HDD/SSD, with 1 M.2 NVMe SSD, depending on model |
| Maximum internal storage | 61.44 TB | 72 TB |
| Networking ports (embedded)/ option | 2 x 1GbE/N/A | HPE embedded 1Gb 2-port BCM5720 Network Adapter and optional HPE network controllers |
| VGA/serial/USB/SD ports | 1/1 (optional)/7/0 | 1/1 (optional)/7/0 |
| GPU support | Optional NVIDIA® P2000 or AMD WX 2100 | Optional NVIDIA® P2000 or AMD WX 2100 |
| Form factor/chassis depth | Micro ATX Tower (4U)/18.71" | Micro ATX Tower (4U)/18.71" (H x W x D) 14.5 x 6.89 x 18.7 in (Imperial) |
| Power and cooling | 350W ATX PS or 500W 94% efficiency Flex Slot redundant PS | HPE 500W Flex Slot redundant power supply |
| Industry compliance | ASHRAE A3 and A4 | ASHRAE A3 and A4 |
| System ROM | UEFI Legacy BIOS | UEFI Legacy BIOS |
| Management | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update ManagerOptional: HPE InfoSight, HPE iLO Advanced | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager Optional: HPE InfoSight, HPE iLO Advanced |
| Serviceability—easy install rails | N/A | N/A |
| Warranty—(years) (parts/labor/on-site) | 3/1/1 or 3/3/3 (depending on regions) | 3/1/1 or 3/3/3 (depending on regions) |



Right-sized servers

Are your IT needs growing? Consider these HPE ProLiant 100 series servers.



| | HPE ProLiant ML110 Gen10 | HPE ProLiant DL160 Gen10 | HPE ProLiant DL180 Gen10 |
|--|--|--|--|
| | 1P tower with enterprise-class reliability and performance | Right balanced dense server with exceptional value | Scalable and reliable server to run multiworkload for better business value |
| Number of processors | 1 | 1 or 2 | 1 or 2 |
| Processors supported | Intel Xeon Scalable processor 5200, 4200, and 3200 series Intel Xeon Scalable processor 5100, 4100, and 3100 series | Intel Xeon Scalable processor 8200, 6200, 5200, 4200, and 3200 series Intel Xeon Scalable processor 8100, 6100, 5100, 4100, and 3100 series | Intel Xeon Scalable processor 8200, 6200, 5200, 4200, and 3200 series Intel Xeon Scalable processor 6100, 5100, 4100, and 3100 series |
| Cores per processor | 4/6/8/10/12/14/16 | 4/6/8/10/12/14/16/18/20/22/24/26 | 4/6/8/10/12/14/16/18/20/22/24/26 |
| Maximum processor frequency/cache | 3.8 GHz/22 MB | 3.8 GHz/35.75 MB | 3.8 GHz/35.75 MB |
| I/O expansion slots | Up to 5 PCIe 3.0, 2 x 16, 3 x 8, 1 FH/FL, 3 FH/HL, 1 FH/¼ L | Up to 3 PCIe 3.0 | Up to 6 PCIe 3.0 |
| Maximum memory/# slots/speed | 192 GB/6/2933 MT/s | 1 TB/16/2933 MT/s | 1 TB/16/2933 MT/s |
| Storage controller | S100i, optional HPE Smart Array Essential and Performance RAID Controllers* | S100i, optional HPE Smart Array Essential and Performance RAID Controllers* | S100i, optional HPE Smart Array Essential and Performance RAID Controllers* |
| Maximum storage drive bays | 8 LFF, 16 SFF, or 8 NHP/HPE LFF HDD/SSD | 8 + 2 SFF or 4 LFF HDD/SSD + M.2 SATA support | 8–24 SFF or 12 LFF HDD/SSD + 2 SFF rear enablement kit + M.2 SATA support |
| Maximum internal storage | 96 TB | 76.8 TB | 200 TB |
| Networking ports (embedded)/FlexibleLOM | 2 x 1GbE/N/A | 2 x 1GbE/optional FlexibleLOM/standup cards/Media Module Adapters | 2 x 1GbE/optional FlexibleLOM/standup cards/Media Module Adapters |
| VGA/serial/USB/SD ports | 1/1 (optional)/8/1 | 1/0/4/1 | 1/0/4/1 |
| GPU support | Optional (2) | N/A | N/A |
| Form factor/chassis depth | Tower (4.5U)< 19" | Rack (1U)/24.21" | Rack (2U)/24.99" |
| Power and cooling | Up to 94% efficiency. 800W RPS, ATX 350W/550W PSU Optional Redundant Fan Kit | Up to 2 Flex Slot, redundancy optional, 500W, 800W, up to 96% efficient (Titanium); hot plug fans with optional redundancy | Up to 2 Flex Slot, redundancy optional, 500W, 800W, or 1600W up to 96% efficient (Titanium); hot plug fans with optional redundancy |
| Industry compliance | ASHRAE A3, ENERGY STAR | ASHRAE A3 and A4 | ASHRAE A3 and A4 |
| System ROM | UEFI Legacy BIOS | UEFI Legacy BIOS | UEFI Legacy BIOS |
| Management | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight, HPE iLO Advanced | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight, HPE iLO Advanced, HPE OneView Advanced | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight, HPE iLO Advanced, HPE OneView Advanced |
| Serviceability—easy install rails | N/A | Standard | Standard |
| Warranty—(years) (parts/labor/on-site) | 3/3/3 | 3/3/3 | 3/3/3 |

* For a full list of supported options and details, see the server QuickSpecs at hpe.com/info/qs.



Versatile performance servers

Are you continuing to need traditional IT for diverse workloads? Consider these HPE ProLiant 300 series servers.



HPE ProLiant ML350 Gen10



HPE ProLiant DL360 Gen10



HPE ProLiant DL380 Gen10

| | HPE ProLiant ML350 Gen10 | HPE ProLiant DL360 Gen10 | HPE ProLiant DL380 Gen10 |
|---|--|---|---|
| | HPE ProLiant's most powerful and versatile 2P tower | The dense compute standard for multiworkload environments | The industry-leading server for multiworkload compute |
| Number of processors | 1 or 2 | 1 or 2 | 1 or 2 |
| Processors supported | Intel Xeon Scalable processor 8100, 6100, 5100, 4100, 3100 series Intel Xeon Scalable processor 8200, 6200, 5200, 4200, 3200 series* | Intel Xeon Scalable processor 8100, 6100, 5100, 4100, 3100 series Intel Xeon Scalable processor 8200, 6200, 5200, 4200, 3200 series | Intel Xeon Scalable processor 8100, 6100, 5100, 4100, 3100 series Intel Xeon Scalable processor 8200, 6200, 5200, 4200, 3200 series |
| Cores per processor | 4/6/8/10/12/14/16/18/20/22/24/26/28 | 4/6/8/10/12/14/16/18/20/22/24/26/28 | 4/6/8/10/12/14/16/18/20/22/24/26/28 |
| Maximum processor frequency/cache | 3.8 GHz/38.5 MB | 3.8 GHz/38.5 MB | 3.8 GHz/38.5 MB |
| I/O expansion slots | Up to 8 PCIe 3.0, 4 x 16, 4 x 8, 8 FH/FL | Up to 3 PCIe 3.0, 1 x 16, 1 x 8, 1 FH/¼ L, 1 FH/HL length | Up to 8 PCIe 3.0 |
| Maximum memory/# slots/speed | 3 TB/24/2933 MT/s | 3 TB/24/2933 MT/s | 3 TB/24/2933 MT/s |
| Maximum HPE Persistent Memory | N/A | Up to 12 HPE Persistent Memory modules (6 TB max.) | Up to 12 HPE Persistent Memory modules (6 TB max.) |
| Maximum HPE Persistent Memory NVDIMMs | N/A | Up to (12) 16 GB NVDIMMs (192 GB max.)** | Up to (24) 16 GB NVDIMMs (384 GB max.)** |
| Storage controller | S100i, optional HPE Smart Array Essential and Performance RAID Controllers*** | S100i, optional HPE Smart Array Essential and Performance RAID Controllers*** | S100i, optional HPE Smart Array Essential and Performance RAID Controllers*** |
| Maximum storage drive bays | 24 SFF or 12 LFF HDD/SSD or 8 NVMe or 12 LFF NHP, M.2 SATA/PCIe enabled | 10 NVMe + 1 SFF or 8 + 2 + 1 SFF or 4 LFF + 1 SFF SAS/SATA HDD/SSD M.2 SATA/PCIe enabled, optional dual uFF M.2 enablement kits | 24 + 6 SFF SAS/SATA HDD/SSD or 12 + 4 + 3 LFF + 2 SFF SAS/SATA HDD/SSD or 20 NVMe PCIe SSD, M.2 enabled, optional dual uFF enablement kits |
| Maximum internal storage | 184.32 TB | 168+ TB | 462 TB |
| Networking ports (embedded)/option | 4 x 1GbE/standup card | 4 x 1GbE/Optional FlexibleLOM/standup cards | 4 x 1GbE/Optional FlexibleLOM/standup cards |
| VGA/serial/USB/SD ports | 1/1/6/1 | DisplayPort (front) VGA (rear)/1 optional serial (rear)/5 USB 3.0 (1 front, 2 internal, 1 rear); 1 USB 2.0 Optional (front)/1 SD port (internal) | Display (UMB) VGA (optional)/1/5 (2 optional)/1 |
| GPU support | Single-/double-wide active/passive up to 10.5" (4) | Single-wide and active to 9.5" (2), up to 150W each | Single-wide (5)/double-wide (3) and active/passive up to 10.5 cards |
| Form factor/chassis depth | Tower (4U)/25.5" or Rack (5U)/25.5" | Rack (1U)/27.81" (SFF), 29.5" (LFF) | Rack (1U)/26.75" (SFF), 28.75" (LFF) |
| Power and cooling | Up to 2 Flex Slot, redundancy optional, 500W, 800W, or 1600W, up to 96% efficient or up to 500W non-RPS/NHP 92% efficient standard power supply | Up to 2 Flex Slot, redundancy optional, 500W, 800W, or 1600W; up to 96% efficient (Titanium); hot plug fans with full N+1 redundancy; optional high-performance fans | Up to 2 Flex Slot, redundancy optional, 500W, 800W, or 1600W; up to 96% efficient (Titanium); hot plug fans with full N+1 redundancy; optional high-performance fans |
| Industry compliance | ASHRAE A3 and A4, lower idle power, ENERGY STAR | ASHRAE A3 and A4, ENERGY STAR | ASHRAE A3 and A4, ENERGY STAR |
| System ROM | UEFI Legacy BIOS | UEFI Legacy BIOS | UEFI Legacy BIOS |
| Management | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight, HPE iLO Advanced, HPE OneView Advanced | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight, HPE iLO Advanced, HPE OneView Advanced, HPE OneSphere | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight, HPE iLO Advanced; HPE OneView Advanced, HPE OneSphere |
| Serviceability—easy install rails | 1U Tower-to-Rack conversion kit | Standard | Standard |
| Warranty—(years) (parts/labor/on-site) | 3/3/3 | 3/3/3 | 3/3/3 |

* Intel Speed Select, 1-socket Optimized, NFV Optimized and VM.

* Supported on first generation Intel Xeon Scalable processors.

* For a full list of supported options and details, see the server [QuickSpecs](https://www.hpe.com/info/qs) at [hpe.com/info/qs](https://www.hpe.com/info/qs).



Versatile performance servers (continued)



HPE ProLiant DL325 Gen10 Plus



HPE ProLiant DL385 Gen10 Plus

| | The secure and versatile single socket server delivering 2P performance at 1P economics | The price/performance leader for multiworkload compute |
|---|---|--|
| Number of processors | 1 | 1 or 2 |
| Processors supported | AMD EPYC 7000 Series | AMD EPYC 7000 Series |
| Cores per processor | 8/16/24/32/64 | 8/16/24/32/64 |
| Maximum processor frequency/cache | 3.4 GHz/256 MB | 3.4 GHz/256 MB |
| I/O expansion slots | Up to 3 PCIe 4.0 | Up to 8 PCIe 4.0 + M.2 support in PCIe slot |
| Maximum memory/# slots/speed | 4 TB/3200 MT/s | 8 TB/3200 MT/s |
| Maximum HPE Persistent Memory NVDIMMs | N/A | N/A |
| Maximum HPE Persistent Memory | N/A | N/A |
| Storage controller | Standard HPE Smart Array S150i, Software RAID (8 drives + 2 NVMe) Choice of HPE Smart Array Essential or Performance Controllers for performance or additional features | Standard HPE Smart Array S150i, Software RAID (only for 2 NVMe) Choice of HPE Smart Array Essential or Performance Controllers for performance or additional features. Tri-Mode Controllers for h/w RAID on NVMe drives |
| Maximum storage drive bays | Up to 12 LFF/24 SFF/24 NVMe | 38 SFF/20 LFF + 2 SFF max., HDD/SSD, 32 NVMe (x4) PCIe SSD |
| Maximum internal storage | Up to 2 Single Width Active only | |
| Networking ports | Choice of OCP Adapter or Standup Card | Choice of OCP Adapter or Standup Card |
| VGA/serial/USB/SD ports | Front display port optional, Rear VGA & Optional Serial, 4 USB 3.0, Front Management port, and dedicated rear HPE iLO port | Front display port optional, Rear VGA & Optional Serial, 5 USB 3.0, + 2 USB 2.0 optional, Dual microSD, Front Management port, and dedicated rear HPE iLO port |
| GPU support | Up to 2 Single Width Active only | Single-/double-wide (8) and active/passive up to 10.5" (3) |
| Form factor/chassis depth | 1U, 31.8" (Up to 8 LFF/20 SFF) or 39.3" (12 LFF/24 SFF) | Rack (2U)/26.75" (SFF), 28.75" (LFF) |
| Power and cooling | Up to 96% efficient (Titanium) | Up to 96% efficiency (Titanium) to 1600W |
| Industry compliance | ASHRAE A3 and A4, ENERGY STAR, lower idle power | ASHRAE A3 and A4, ENERGY STAR, lower idle power |
| System ROM | UEFI Legacy BIOS | UEFI Legacy BIOS |
| Management | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight HPE iLO Advanced, HPE OneView Advanced HPE OneSphere | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight HPE iLO Advanced, HPE OneView Advanced HPE OneSphere |
| Serviceability—easy install rails | Standard | Standard |
| Warranty—(years) (parts/labor/on-site) | 3/3/3 | 3/3/3 |



Versatile performance servers (continued)



HPE ProLiant DL325 Gen10



HPE ProLiant DL385 Gen10

| | The single socket server delivering 2P performance at 1P economics | The price/performance leader for multiworkload compute |
|---|---|---|
| Number of processors | 1 | 1 or 2 |
| Processors supported | AMD EPYC 7000 Series Processor family | AMD EPYC 7000 Series Processor family |
| Cores per processor | 8/16/24/32/64 | 8/16/24/32/64 |
| Maximum processor frequency/cache | 3.4 GHz/256 MB | 3.4 GHz/256 MB |
| I/O expansion slots | Up to 3 PCIe 3.0 | Up to 8 PCIe 3.0 |
| Maximum memory/# slots/speed | 2 TB/16/2933 MT/s | 4 TB/32/2933 MT/s |
| Maximum HPE Persistent Memory NVDIMMs | N/A | N/A |
| Maximum HPE Persistent Memory | N/A | N/A |
| Storage controller | Optional HPE Smart Array Essential and Performance RAID Controllers* | S100i for M.2 support, optional HPE Smart Array Essential and Performance RAID Controllers* |
| Maximum storage drive bays | 8 + 2 SFF/4 LFF HDD/SSD, up to 10 SFF NVMe | 24 + 6 SFF SAS/SATA HDD/SSD or 12 + 4 + 3 LFF + 2 SFF SAS/SATA HDD/SSD or 24 NVMe PCI and 2 M.2 connectors embedded on motherboard SSD, optional dual uFF enablement kits |
| Maximum internal storage | 154 TB | 459 TB |
| Networking ports | FlexibleLOM/standup cards | FlexibleLOM/standup cards |
| VGA/serial/USB/SD ports | 1 VGA/1 serial (optional)/5/1 Front management port and dedicated rear HPE iLO port | Display (UMB) VGA (optional)/1/5 (2 optional)/1 |
| GPU support | N/A | Single-wide (5)/double-wide (3) and active/passive up to 10.5 cards |
| Form factor/chassis depth | Rack (1U)/24.2" | Rack (1U)/26.75" (SFF), 28.75" (LFF) |
| Power and cooling | Up to 2 Flex Slot, redundancy optional, 500W, 800W, or 1600W; up to 96% efficient (Titanium) w/Flexible Slot PS or up to 1500W non-RPS/NHP 92% efficient standard power supply; hot-swappable fans with full N+1 redundancy | Up to 2 Flex Slot, redundancy optional, 500W, 800W, or 1600W; up to 96% efficient (Titanium); hot plug fans with full N+1 redundancy; optional high-performance fans |
| Industry compliance | ASHRAE A3 and A4, ENERGY STAR, lower idle power | ASHRAE A3 and A4, ENERGY STAR, lower idle power |
| System ROM | UEFI Legacy BIOS | UEFI Legacy BIOS |
| Management | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight HPE iLO Advanced, HPE OneView Advanced HPE OneSphere | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight HPE iLO Advanced, HPE OneView Advanced HPE OneSphere |
| Serviceability—easy install rails | Standard | Standard |
| Warranty—(years) (parts/labor/on-site) | 3/3/3 | 3/3/3 |

* For a full list of supported options and details, see the server [QuickSpecs](https://www.hpe.com/info/qs) at [hpe.com/info/qs](https://www.hpe.com/info/qs).



Scale-up servers

Do you need to scale up? Consider these HPE ProLiant 500 series servers.



HPE ProLiant DL560 Gen10



HPE ProLiant DL580 Gen10

| | The high-density scale-up server for business-critical workloads | The resilient, highly expandable scale-up server for business-critical workloads |
|---|---|---|
| Number of processors | 1, 2, or 4 | 1, 2, 3, or 4 |
| Processors supported | Intel Xeon Scalable processor 8100, 6100, and 5100 series Intel Xeon Scalable processor 8200, 6200, and 5200 series | Intel Xeon Scalable processor 8100, 6100, and 5100 series Intel Xeon Scalable processor 8200, 6200, and 5200 series |
| Cores per processor | 4/6/8/10/12/14/16/18/20/22/24/26/28 | 4/6/8/10/12/14/16/18/20/22/24/26/28 |
| Maximum processor frequency/cache | 3.8 GHz/38.5 MB | 3.8 GHz/38.5 MB |
| I/O expansion slots | Up to 8 PCIe 3.0 | Up to 16 PCIe 3.0 |
| Maximum memory/ # slots/speed | 6 TB/48/2933 MT/s* | 6 TB/48/2933 MT/s |
| Maximum HPE Persistent Memory NVDIMMs | Up to (24) 16 GB NVDIMMs (384 GB max.)** | Up to (24) 16 GB NVDIMMs (384 GB max.)** |
| Maximum HPE Persistent Memory | Up to 24 HPE Persistent Memory modules (12 TB max.) | Up to 24 HPE Persistent Memory modules (12 TB max.) |
| Storage controller (embedded) | S100i, optional HPE Smart Array Essential and Performance RAID Controllers* | S100i, optional HPE Smart Array Essential and Performance RAID Controllers* |
| Maximum storage drive bays | 24 SFF SAS/SATA HDD/SSD with optional 12 NVMe SSD, M.2 enabled Optional: Dual uFF enablement kits | 48 SFF SAS/SATA HDD/SSD Optional: 20 NVMe SSD |
| Maximum internal storage | 367 TB | 734 TB |
| Networking ports (embedded)/options | Optional FlexibleLOM/standup cards | Optional FlexibleLOM/standup cards |
| VGA/serial/USB/SD ports | 2/1/9/1 | 2/1/9/2 |
| GPU support | HL/FH (2) | FL/FH Double-wide (4) |
| Form factor/chassis depth | Rack (2U)/29.75" (SFF) | Rack (4U)/29.75" |
| Power and cooling | Up to 4 Flex Slot, redundancy optional, 800W or 1600W; hot plug fans with full N+1 redundancy | Up to 4 Flex Slot, 94% efficient 800W or 1600W; hot plug fans with N+1 redundancy |
| Industry compliance | ASHRAE A3 and A4, ENERGY STAR | ASHRAE A3 and A4, ENERGY STAR |
| System ROM | UEFI Legacy BIOS | UEFI Legacy BIOS |
| Management | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight, HPE iLO Advanced, HPE OneView Advanced, HPE OneSphere | HPE iLO 5, HPE OneView Standard, intelligent provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight, HPE iLO Advanced, HPE OneView Advanced, HPE OneSphere |
| Serviceability—easy install rails | Standard | Standard with CMA |
| Warranty—(years) (parts/labor/on-site) | 3/3/3 | 3/3/3 |

* For a full list of supported options and details, see the server [QuickSpecs](https://www.hpe.com/info/qs) at [hpe.com/info/qs](https://www.hpe.com/info/qs).

* Supported on first generation Intel Xeon Scalable processors.



Which operating systems/virtual environments are supported?

HPE ProLiant rack and tower servers support the following operating systems and virtual environments:

- Microsoft
- Red Hat®
- SUSE
- Oracle®
- Canonical
- ClearOS (supported on 10, 100, and 300 series servers)

You can purchase your entire operating environment from Hewlett Packard Enterprise; we resell and provide full service and support for Microsoft Windows operating systems; Red Hat Enterprise Linux® subscriptions; SUSE Linux subscriptions; and Microsoft Hyper-V, VMware®, and Red Hat Enterprise Virtualization subscriptions.

ClearOS is a simple, secure, and affordable operating system with an application marketplace of over 100 applications that allows customers to lean on their trusted IT partner to build customized solutions. ClearOS is available via CTO, intelligent provisioning, or via download.

Get enhanced functionality and added benefits with HPE Server Options

Inside each HPE server are essential performance building blocks—think core DNA—such as DDR4 memory, storage, and network adapters. We call these building blocks HPE Server Options—designed to deliver the highest performance for any workload, deliver that performance with persistent reliability, and at economics that don't slow down your business. Thus, HPE ProLiant Gen10 servers configured with HPE Server Options are the ideal solution for any application workload and any IT environment, from the smallest SMB site to the largest enterprise data center.

HPE Server Options are integrated with many HPE system management tools for easy configuration, maintenance, and installation, lowering your operations costs when compared to non-HPE components.

HPE Server Options have gone through a rigorous testing process for flawless installation, maintenance, and upgrade. There's a wide range of options, from storage drives, memory, network adapters, and processors, to the Rack and Power Infrastructure and beyond.

HPE Server Memory

Choosing the right memory is the key to getting the highest application performance, system reliability, and faster return on your IT investment. HPE's portfolio includes HPE Standard Memory—suitable for smaller capacity needs—and HPE SmartMemory, for memory-intensive workloads. Customers may select from different HPE memory types and DIMM capacities to optimize server efficiency, capacity, and performance.

All HPE memory modules are tested on HPE ProLiant server platforms beyond industry standards to diagnose problems, deliver rapid resolutions, and avoid failures. Additional authentication assures you that your memory is optimized and performance tuned for your server.

HPE Server Storage

As data storage and accessibility requirements grow, you need solutions that can help overcome performance bottlenecks. HPE Server Storage for HPE ProLiant Gen10 servers offer the industry's broadest portfolio of storage products, which include hard disk drives (HDDs), solid-state drives (SSDs), and Smart Array Controllers.

HPE Smart Array Gen10: HPE's of enterprise-class RAID controllers for Gen10 servers help maximize performance, data availability, and storage capacity. They deliver up to 1.6 million IOPS—65% better performance¹⁵—while using less power than previous generation controllers. And new mixed mode offers customers the flexibility of using both HBA and RAID mode, simultaneously, on a single controller freeing up a PCIe slot for other uses. Choose from Smart Array S-Class software RAID, and Smart Array E-Class or P-Class controllers.

- Ideal for entry-level solutions that use SATA drives in basic RAID configurations, **HPE Smart Array S-Class (Software RAID)** delivers the efficiency needed to address evolving data storage needs. Features include RAID levels 0/1/5, support for 6G SATA, and access to the Unified Extensible Firmware Interface (UEFI) configuration tool.
- Cost-effective **HPE Smart Array E-Class Controllers** provide simple RAID storage and enablement for software-defined storage with enterprise-class reliability and security. Key features include RAID on Chip (ROC) and RAID levels 0/1/5/10. This controller operates in mixed mode, encrypts any drive connected to it with HPE Smart Array SR Secure Encryption, and provides simplicity with the UEFI configuration tool.

¹⁵ Internal lab testing performed in January 2017 comparing HPE Gen9 to Gen10 Smart Array Controllers with 4 KB random read test.



HPE Smart Array Hybrid Capacitors

The HPE Smart Storage Hybrid Capacitor is a battery-free technology for power storage that provides data protection for cached data while eliminating costs and environmental impact of lithium-ion batteries.

For those running HPE Gen10 servers, the HPE Smart Hybrid Capacitor is a centralized backup power source supporting multiple controllers where the NAND flash memory on HPE Smart Array Performance Class controllers and the HPE Smart Hybrid Capacitor work together to save cached data in the event of unplanned server power loss.

When the hybrid capacitor module detects power loss it keeps critical parts of the controller active long enough to allow data to be copied from the onboard controller cache to the flash memory.

Please note, although the hybrid capacitor module is mechanically compatible with the 96W Smart Storage Battery (P01366-B21 and P01367-B21), the module cannot be used in combination with the Smart Storage Battery. In most cases, only a single Smart Storage Battery or a single Smart Hybrid Capacitor can be used per system.

- Maximize the performance of enterprise-class server storage with **HPE Smart Array P-Class Controllers**. These controllers are supported on HPE ProLiant rack and tower, BladeSystem, and HPE Apollo servers, and HPE Synergy Compute Modules. Key features include RAID on Chip (ROC), support for flash-backed write cache (FBWC), and advanced RAID levels 0/1/5/6/10/50/60 ADM. This controller operates in mixed mode, encrypts any drive connected to it with HPE Smart Array SR Secure Encryption, and provides simplicity with the UEFI configuration tool.

HPE hard disk drives (HDDs) deliver proven performance for any workload with reliable data integrity and security at the lowest cost per gigabyte. Available for three types of workloads: enterprise (performance optimized), midline (capacity optimized), and entry. With two interfaces: SAS (12G) and SATA (6G); two form factors: SFF (2.5") and LFF (3.5").

- **Enterprise HDDs** (SAS 15K and 10K) deliver the highest levels of performance and reliability for your mission-critical and I/O-intensive applications.
- **Midline HDDs** (SAS/SATA 7.2K) deliver high capacity, performance, and reliability for your business-critical applications.
- **Entry HDDs** are built for noncritical needs for today's server applications and storage environments. These high-capacity drives provide the lowest \$/GB.

Accelerate the performance of your data-intensive applications with HPE solid-state drives (SSDs) offering high performance and low latency for enterprise environments. HPE SSDs come in six form factors: SFF (2.5"), LFF (3.5"), M.2, M.2 Enablement Kits, Mezzanine, and Add-in Cards. They are available in three broad categories based on target workloads: Read Intensive, Mixed Use, and Write Intensive.

The workloads indicate the number of drive writes per day (DWPD) that you can expect from the drive.¹⁶

- Read Intensive SSDs are typically the lowest price with endurance of ≤ 1 DWPD. Ideal for boot/swap, web servers, and read caching.
- Write Intensive SSDs typically have the highest write performance, with a typical endurance of ≥ 10 DWPD. Ideal for online transaction processing (OLTP), business intelligence, and Big Data analytics.
- Mixed Use SSDs are for workloads that need a balance of strong read and write performance, with Endurance typically > 1 and < 10 DWPD. Ideal for high I/O applications with workloads balanced between read and write.

HPE Persistent Memory

HPE Persistent Memory products will transform IT infrastructures, providing new levels of performance while delivering high levels of reliability and efficiency.

HPE Persistent Memory approaches the speed of traditional DRAM and adds the persistence of storage, ensuring ongoing data safety even in the event of an interruption in power due to an unexpected power loss, system crash, or normal system shutdown. The combination of affordable capacity and nonvolatility will help you extract greater value from data-intensive applications.

HPE's Persistent Memory products based on 16 GB NVDIMMs are flash-backed DIMMs, and are supported on the first generation of Intel Xeon Scalable processors. HPE NVDIMMs are designed to eliminate smaller storage bottlenecks while delivering DRAM-level performance. This means customers can access, analyze, and act on data more quickly to gain competitive advantages.

¹⁶ The workloads indicate the number of drive writes per day (DWPD) that you can expect from the drive. DWPD is the maximum number of 4K host writes to the entire drive capacity of the SSD per day over a five-year period.





New HPE Persistent Memory, which delivers performance and capacity for data-intensive workloads, features Intel Optane DC Persistent Memory, and is supported on the second generation of Intel Xeon Scalable processors. HPE Persistent Memory is the next step in the evolution of persistent memory and provides fast, high capacity, cost-effective memory and storage and will transform Big Data workloads and analytics possibilities in the data center by enabling data to be stored, moved, and processed at unprecedented speed.

HPE Persistent Memory helps customers keep pace with today's business demands by delivering the performance of memory with the persistence of storage.

HPE Server Network Adapters

Cost-effective, dependable server networking products keep your IT running reliably and at peak performance. From switches to network adapters to transceivers and cables to the latest 50 Gb Ethernet technology, HPE Server Networking adapters are designed, developed, and tested to deliver state-of-the-art, secure performance.

These adapters help prevent, detect, and recover from cyberattacks by protecting applications, data, and server infrastructure through authentication of digitally signed firmware via a Root of Trust architecture. In addition, they offer Secure boot, device-level Firewall, and other advanced security features.

HPE Accelerators

Workloads can never finish their tasks too quickly. HPE offers a variety of accelerators to help customers accelerate the completion of their workloads. For increased computational and graphics requirements, HPE offers GPU accelerators from both NVIDIA and AMD. GPUs can be used for graphics acceleration, virtualization, as well as High Performance Computing and AI. HPE also offers Field Programmable Gate Array (FPGA) accelerators, which are programmable multifunction accelerators which can be tailored to fit specific workloads.

HPE Rack and Power Infrastructure

Your data center is required to provide the foundational agility and compute power to support your business and enable your customers. But it can't be overlooked that your data center also has the same needs—infrastructure, agility, and compute power—to perform effectively. HPE Rack and Power Infrastructure provides configurable, state-of-the-art infrastructure solutions out of the box that can meet the needs of businesses of all sizes, now and in the future. HPE Rack and Power Infrastructure offerings deliver server rack, power, and cooling solutions that give you the maximum level of efficiency and integration for data centers of all sizes.



HPE Support for ASHRAE guidelines

Data center cooling systems represent a significant portion of your capital expenditure (CAPEX) and use a substantial amount of energy.

Hewlett Packard Enterprise supports the adoption of less expensive and eco-friendly cooling methods encouraged by the latest American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) guidelines for temperature and humidity operating ranges of IT equipment.

Most HPE Gen10 server products support the 2014 ASHRAE class A3 guidelines or higher.

HPE Power Supplies

HPE Power Supplies offer high-efficiency operation and multiple input and output options, allowing users to right size a power supply for specific server/storage configurations and environments. This flexibility helps to minimize power waste, lower overall energy costs, and avoid trapped power capacity in the data center.

HPE server and infrastructure management software

For better insight and control

Today, most IT professionals wrestle with numerous management pains, including:

- **Infrastructure management complexity**—There are too many infrastructure management tools to learn and operate, resulting in high IT operating expenses. This proliferation drives up software license costs, as well as increases the time and cost of maintenance—including skills maintenance.
- **Scale and speed**—In enterprise data centers with thousands or tens of thousands of servers, traditional infrastructure management tools cannot scale or operate at the high speeds necessary to effectively manage server sprawl.
- **Siloed infrastructure and outdated IT operational models**—There are often too many nonstandard manual tasks, an over-reliance on subject matter experts, and an ever-expanding backlog of projects. The answer to these challenges is to follow a new IT operational model—namely the software-defined data center (SDDC).
- **Planned and unplanned downtime**—Depending on your line of business, the cost of downtime can be millions of dollars of lost revenue. Knowing these costs, IT pros need tools and processes designed to eliminate or dramatically reduce downtime.

To address these gaps, a new management methodology is required—one that drives better system control and greater insight into problems before they occur. And Hewlett Packard Enterprise has it.

HPE infrastructure management is delivered through a complete portfolio of HPE ProLiant lifecycle management capabilities that can flexibly operate from embedded management and system utilities, converged management for software-defined data centers, and support management. Managing HPE ProLiant servers with HPE infrastructure management results in increased efficiency and precise control of resources, with a rich set of capabilities that are easy to access and simple to use. HPE infrastructure management encompasses critical areas such as server deployment and configuration, health and alerting, energy, power, remote management, and warranty and contract information access via a cloud-based portal. The core components that comprise HPE infrastructure management are Embedded Management, HPE iLO, and HPE OneView. With HPE infrastructure management's built-in automation, HPE ProLiant servers are so intelligent that they practically manage themselves.

In addition, scripting tools such as the Scripting Tool Kit (STK) as well as Service Pack for HPE ProLiant and Smart Update Manager provide breakthrough system maintenance tools that systematically update HPE ProLiant rack and tower servers with one-click simplicity at the scale of your data center.

HPE OneView infrastructure management

HPE OneView is your infrastructure automation engine to simplify operations, increasing the speed of IT delivery for new applications and services. Through software-defined intelligence, HPE OneView brings a new level of automation to infrastructure management by taking a template driven approach to provisioning, updating, and integrating compute, storage, and networking infrastructure. Designed with a modern, standard-based API and supported by a large and growing partner ecosystem, HPE OneView also makes it easy to integrate powerful infrastructure automation into existing IT tools and processes.



Take command with HPE OneView to:

- **Deploy infrastructure faster:** Software-defined, template-based automation, rapidly and reliably provisions resources within minutes, reducing the risk of human error.
- **Simplify lifecycle operations:** A single interface ensures visibility across your entire data center and enables you to securely define and maintain firmware baselines and system configurations with consistent availability and control.
- **Increase productivity:** The unified API lets you accelerate application and service delivery and better enable developers, IT admins, and ISVs to automate infrastructure with a single line of code. The open API also allows easier integration with a growing ecosystem of partner tools and services.

HPE OneView innovations provide you the industry's best infrastructure management experience, simplifying operations for HPE BladeSystem, HPE ProLiant servers, HPE Apollo servers and HPE Superdome X systems, HPE 3PAR StoreServ Storage, HPE StoreVirtual VSA iSCSI storage, HPE Networking, and HPE ConvergedSystem. It is an essential ingredient in the HPE Hyper Converged 380 virtual machine vending environment and powers management for the industry's first composable infrastructure, HPE Synergy. By deploying HPE OneView today, you place your IT operations firmly on the path toward a composable future.

Please note that the HPE OneView license includes the right to use HPE Insight Control until you complete your transition.

HPE InfoSight artificial intelligence for hybrid cloud

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

HPE InfoSight for server is the extension of HPE InfoSight for your HPE ProLiant Gen10, Gen9, and Gen8 servers with HPE iLO 5 and HPE iLO 4. HPE InfoSight for Servers will be a multistep journey that starts with a basic integration with HPE InfoSight that will become more extensive over time. The initial release of HPE InfoSight for Servers will include:

Predictive analytics to predict and prevent problems

- Data analytics for server security
- Predictive data analytics for parts failure

Global learning that provides wellness and performance dashboards for your global inventory of servers

- Global inventory of servers
- Performance, capacity, and utilization graphs

A recommendation engine to eliminate performance

bottlenecks on servers HPE iLO 5 server management

HPE iLO allows you to configure, monitor, and update your HPE servers seamlessly from anywhere in the world. Providing you with consistent insight into the health and operation of your servers, HPE iLO arms you with the tools to resolve issues and keep your business running. Featuring the latest innovations in simplified operations, performance, and security, HPE iLO allows you to manage your entire server environment with ease.

Upgrade your licenses for additional functionality, such as graphical remote console, multiuser collaboration, video record/playback, and much more. Use the HPE iLO Licensing Guide to determine which of our three licensing upgrade options is right for you.



HPE iLO Advanced

Ideal for the enterprise environment, this license provides advanced remote functionality and all the HPE iLO features to improve speed, scale, and simplicity. Key features include Integrated Remote Console, Virtual Media, and HPE iLO Federation (rapid discovery, inventory, and management at scale).

Learn more at [HPE iLO Advanced](#).

In addition to embedded offerings like HPE iLO, other products and tools, such as System Utilities, intelligent provisioning, Smart Update Manager (SUM), HPE Service Pack for ProLiant (SPP), HPE iLO Amplifier Pack, Active Health System Viewer, and scripting tools such as RESTful Interface Tool, Scripting Toolkit for Windows and Linux, and Scripting Tools for Windows PowerShell, are available to all HPE ProLiant server customers.

Optimize performance with Embedded Performance Management

Through a partnership with Intel, HPE offers innovative server tuning technologies that enable you to dynamically configure server resources to match specific workloads. HPE server tuning features produce significant performance improvements, real savings, and a more intelligent server environment.

Jitter smoothing

Engaging processor turbo boost can cause frequency fluctuations or “jitter” which results in a constant struggle between maximum output and deterministic performance needs. HPE’s jitter smoothing technology mitigates processor frequency fluctuation to reduce latency and deliver deterministic and reliable performance. In variable workloads where processor frequency changes occur often, jitter smoothing can improve overall throughput above turbo boost mode alone.¹⁷

Jitter smoothing is ideal for high frequency traders, high performance computing, and workloads where processor frequency is highly variable.

Available on all Gen10 Intel based servers with HPE iLO 5 and an HPE iLO Advanced or above license.

Workload matching

Automatically match internal server resources to the specific requirements of your workload. Workload matching offers preconfigured workload profiles that tune your server’s BIOS settings for optimal performance and can save hours of server tuning time.

Available on all HPE ProLiant Gen10 AMD and Intel based servers with HPE iLO 5.

Workload Performance Advisor

Workload performance advisor complements workload matching, providing real-time feedback enabling you to monitor system performance and customize tuning settings based on actual workload behavior.

Maximize Security with AMD EPYC

The AMD EPYC processor provides several security related features, including AMD secure processor, Secure Memory Encryption (SME), and Secure Encrypted Virtualization (SEV). The AMD secure processor technology ties with and complements, the silicon root of trust from HPE at the UEFI or BIOS level as an added validation of the BIOS during the boot process. The AMD secure processor validates the BIOS, upon boot-up, that there are no firmware anomalies or compromised code present. After this confirmation, the server boot process is allowed to continue. The AMD Secure Memory Encryption provides encryption on data stored in the server memory. The AMD secure encrypted virtualization creates security between virtual machines on the HPE ProLiant server, when supported by operating system and hypervisor software.

Available on all HPE ProLiant Gen10 AMD based servers with HPE iLO 5.

¹⁷ HPE internal testing from the Performance Engineering Benchmarking team, April 2017.



HPE storage solutions for HPE ProLiant servers

No matter what your storage needs, HPE offers virtualized shared storage, data protection, and data retention and archiving solutions that complement your HPE ProLiant investment and are designed to offer a seamless service, support, and management experience. With storage solutions for any scale, performance, or investment level, you can handle more workloads more simply and more affordably by combining servers and storage solutions from HPE.

HPE disk enclosures

Manage growing storage needs with modular solutions for HPE ProLiant capacity expansion. HPE disk enclosures let you expand your HPE ProLiant server storage capacity at a low cost for a variety of general use cases.

Entry-level shared storage

When performance and scale are your priorities, HPE also offers low-cost external storage systems that deliver the benefits of virtualized, shared storage and file sharing capably designed with HPE ProLiant server users in mind. Our flexible entry storage options let you choose from direct attached storage to extend your server capabilities, NAS appliances for file sharing and home directory consolidation, and highly scalable shared storage arrays for physical and virtual applications that can run on your existing IP network or a dedicated Fibre Channel SAN.

All-flash and hybrid flash storage

The world is changing, fast. An all-flash data center is now a reality thanks to HPE Nimble Storage—with a choice between all flash and adaptive flash arrays—and the HPE 3PAR StoreServ family of all-flash and flash-optimized arrays. These lightning-fast arrays deliver 99.9999% uptime with built-in resiliency. In addition, HPE Nimble Storage offers radical simplicity of management and a transformative support experience through predictive analytics from HPE InfoSight.

Data availability, protection, and retention

Today's businesses demand aggressive service levels. Data loss, risk, and downtime must be avoided at all costs. When an outage does occur, recovery time must be minimized. HPE can equip you meet the most stringent Recovery-Time Objectives (RTOs) and Recovery-Point Objectives (RPOs), all while reducing your protection storage capacity requirements. Learn more about our affordable portfolio of modern data availability, protection, and retention solutions with the right scale, performance, and application integration to meet your needs.

Storage management and orchestration

With Hewlett Packard Enterprise, you can get past hardware management limitations with open, automated orchestration. Control storage, compute, and networking resources as well as data services across physical and Virtual Domains. It's all compatible with many third-party tools and fully integrated into HPE data storage solutions—from flash-optimized to software-defined.

Storage networking

Hewlett Packard Enterprise provides dynamic end-to-end solutions, solving your storage networking challenges with nearly 15 million storage area network (SAN) fabric ports deployed worldwide. Agile HPE StoreFabric host adapters, multiprotocol switches, and highly scalable directors for cloud-optimized SANs ensure reliability and high performance.



HPE Financial Services

Our IT investment solutions can help you modernize and expand your servers with better economic control, control that will help you extend your capacity to fund IT for business transformation. We can help you increase financial agility to scale and manage change. Access the best IT more affordably when you need it.

Select the program that fits your goals

- **Transition from old legacy IT to new hybrid cloud:** Shift existing owned assets to a flexible usage payment model. Receive the value hidden in your existing IT equipment to invest in new technology innovation.

- **Increase deployment flexibility:** Acquire forecasted compute and storage capacity in advance of the actual need, begin monthly payments as you deploy and install it over 12 months.

- **Manage experimental deployments:** Lower risks and improve control with built-in flexibility to return equipment without penalty within a set time window.

- **Routinely refresh your servers:** Regularly update your IT infrastructure more affordably every 24–48 months for predictable monthly or quarterly payments.

- **Simplify IT consumption for small and mid-sized businesses:** Subscribe to a complete, customized solution for a predictable monthly subscription fee and eliminate the hassle of ownership. Trade in your old IT to make room for a new subscription.

Advisory and Transformation Services—HPE Pointnext Services designs the transformation and builds a road map tuned to your unique challenges including hybrid cloud, Workload and Application Migration, Big Data, and the edge. HPE leverages proven architectures and blueprints, integrates HPE Enterprise Group and partner products and solutions, and engages Professional and Operational Services teams from HPE Pointnext Services as needed.

Integration services

HPE Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed deployment.

Technical training courses

HPE Education Services focuses on your most important asset, your people, to help prepare them to have the right skills to deliver business outcomes. HPE is a market leader in technology training, as recognized by IDC for five years running. With over 35 years of experience, we lead the industry when it comes to modern skills-based IT training and digital on-demand learning. We deliver unmatched expertise across a broad range of HPE products, industry-leading technologies, and IT process disciplines by combining technical knowledge, business insight, and hands-on experience.

HPE Pointnext Services

HPE Pointnext Services leverages our strength in infrastructure, partner ecosystems, and the end-to-end lifecycle experience, to accelerate powerful, scalable IT solutions to provide you the assistance for faster time to value. HPE Pointnext Services provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation.

Operational Services

- **HPE GreenLake:** An infrastructure service that offers on-demand capacity, combining the agility and economics of public cloud with the security and performance of on-premises IT.

- **HPE Pointnext Complete Care:** HPE's most comprehensive support solution tailored to meet your specific data center support requirements. It offers a wide choice of proactive and reactive service levels to cover requirements ranging from the most basic to the most business-critical environments. HPE Datacenter Care Service is designed to scale to any size and type of data center environment while providing a single point of contact for all your support needs for HPE as well as selected multivendor products.

- **HPE Proactive Care:** An integrated set of reactive and proactive services designed to help you improve the stability and operation of your device.

- **HPE Foundation Care:** Support for HPE servers, storage, networking hardware and software to meet your availability requirements with a variety of coverage levels and response times.

Advisory and Transformation Services—HPE Pointnext Services designs the transformation and builds a road map tuned to your unique challenges including hybrid cloud, Workload and Application Migration, Big Data, and the edge. HPE leverages proven architectures and blueprints, integrates HPE Enterprise Group and partner products and solutions, and engages Professional and Operational Services teams from HPE Pointnext Services as needed.

Professional Services—HPE Pointnext Services creates and integrates configurations that get the most out of software and hardware, and works with your preferred technologies to deliver the optimal solution. Services provided by the HPE Pointnext Services team, certified channel partners, or specialist delivery partners include installation and deployment services, mission-critical and technical services, and education services.



HPE server families

A server for every need

Hewlett Packard Enterprise understands that when it comes to servers, one size does not fit all. That's why we offer you a comprehensive array of server families, designed for a wide variety of business needs. Explore our other server portfolios:

- HPE BladeSystem family—Simplify your data center with modular infrastructure platform.
- HPE Hyperconverged—Smaller, faster systems with integrated storage, networking, compute, and virtualization.
- HPE ConvergedSystem—Optimized for Big Data, client virtualization, cloud, and density optimized workloads.
- HPE Moonshot System family—Software-defined servers designed for specific workloads.
- HPE Apollo System family—Purpose-built platforms delivering extreme performance, scale, and efficiency for your AI and HPC workloads.
- HPE Edgeline IoT Systems—Edge computing that delivers secure control and accelerate time to insight from the Industrial Internet of Things.
- HPE Cloudline Server—Open systems that keep service providers ahead of growth, ensure adaptability, and reduce costs while complying with Open Compute Project standards.
- HPE Synergy—A new category of infrastructure that accelerates application delivery in both traditional and new IT environments.
- HPE Integrity server family—High-speed, resilient, mission-critical servers that exceed the demands of today's always-on world.