Hewlett Packard Enterprise

HPE Apollo 4200 Gen9 Server

The enterprise bridge to Big Data solutions

Using Hadoop-based Big Data analytics and object storage, organizations seek to glean intelligence to use for competitive advantage. But traditional databases can't handle the volume, velocity, and variety of these new data types. The HPE Apollo 4200 Gen9 Server is purpose-built for this, and fits seamlessly into traditional data centers so you can deploy Big Data solutions at a cost and scale that's right for you.

The HPE Apollo 4200 Gen9 Server provides a bridge to density-optimized Big Data solutions for enterprise and small to medium enterprise customers with traditional rack-server data centers.

Deriving intelligence from Big Data leads to a competitive business advantage that can benefit organizations of all sizes. But the exponential growth of Big Data, much of which is unstructured—Web click streams, social media messages, images and video, and readings from sensors on increasing numbers of network-connected machines—is straining the capabilities of traditional, structured databases, which are not well suited to storing and processing Big Data at this new scale cost effectively. This has led to data center challenges, such as capacity constraints, spiraling energy costs, infrastructure complexity, and inefficiencies.

New technologies have emerged to deal with the volume, velocity, and variety of these new sources of data—notably Hadoop-based Big Data analytics and object storage solutions systems. As promising as these new technologies are, today's general purpose infrastructure runs into problems when these workloads move to petabyte scale, and the data center can experience capacity constraints, spiraling energy costs, infrastructure complexity, and inefficiencies.

To maximize the value of Big Data, you need a server that was purpose-built for Big Data workloads.

Hewlett Packard Enterprise has been a leader in introducing systems purpose-built for Big Data—including the recently introduced HPE Apollo 4500 Systems Family, which provides optimized solutions for Big Data analytics and object storage. But the question up to now has been: How can we get started with purpose-built Big Data server systems that can be easily deployed and operated within a traditional rack-server data center environment at a cost and scale that fits the need for a variety of projects and the budget for future growth?

HPE Apollo 4200 Gen9 Server—The enterprise bridge to server solutions for Big Data
That's why Hewlett Packard Enterprise has introduced the HPE Apollo 4200 Gen9 Server. This server is purpose-built to support the technologies that are enabling you to tame Big Data, like Hadoop-based analytics and object storage systems. It has been optimized for density, performance, and affordability—and with its leading storage capacity of 224 terabytes per 2U server with up to 28 large form factor (LFF) hard disk drives (HDDs)/ solid-state drives (SSDs) or up to 54 small form factor (SFF) HDDs/SSDs, it is a truly revolutionary new design. This versatile 2U Big Data server integrates seamlessly into traditional enterprise data centers with the same rack dimensions, cabling, and serviceability, as well as the same administration procedures and tools.

All of this makes it the ideal bridge system for implementing purpose-built Big Data server infrastructure today, with the capability to scale in affordable increments as you grow.

Purpose-built for Big Data analytics and object storage solutions
The HPE Apollo 4200 Gen9 Server is an ideal platform for analytics based on parallel Hadoop data mining such as developing a 360-degree view of customers to improve the cost-effectiveness of advertising and promotions, increase Web commerce sales, create focused, real-time personalized marketing, and increase customer retention and satisfaction. It is also well suited to analytics systems for volumes of machine-generated data being analyzed to streamline and automate operations and improve efficiency and profitability. It is also a great fit for object storage solutions ranging from collaboration and content distribution, to content repositories and active archives, to backup repositories and cold storage, and everything in between.

The HPE Apollo 4200 Gen9 Server is available in two models—an LFF HDD/SSD configuration optimized for object storage solutions, and an SFF HDD/SSD configuration optimized for Hadoop and Big Data analytics. Large enterprise and small and medium enterprise (SME) customers who want to start or grow Hadoop-based analytics solutions, NoSQL database analytics, or want to deploy object storage systems, will find exactly what they need in the HPE Apollo 4200 Gen9 Server.

For larger implementations of Hadoop-based Big Data analytics and NoSQL database analytics, consider the **HPE Apollo 4530 System**, a three-server, 4U chassis system with up to three two-processor servers, and up to 120 terabytes capacity each, and scalable to 3.6 petabytes of capacity in a 42U rack.[3]

For large, petabyte-scale object storage solutions, consider the **HPE Apollo 4510 System**, a one-server, 4U chassis system with up to 68 LFF HDDs/SSDs with 544 terabytes capacity each, and scalable to 5.44 petabytes capacity in a single 42U rack.[4]

For object storage
The HPE Apollo 4200 Gen9 LFF Server is ideal for object storage implementations and for "plug-and-play" integration into traditional enterprise rack-server data centers.

This 2U rack server has industry-leading storage capacity of up to 224 terabytes with up to 28 hot-plug LFF HDDs/SSDs per server.[1] It also delivers great, economical capacity at scale with 4.4 petabytes capacity with 20 servers in a 42U rack.[2] It can also be configured for the performance and throughput needed to cover the range of solutions across object storage and Big Data analytics with HPE ProLiant Gen9 processor and memory options, up to 28 HFF or 54 SFF hot-plug HDDs/SSDs and SSDs, high-performance disk controllers, and fast, high capacity I/O options.

The familiar 2U rack-server form factor and manageability features and the low initial cost combine to provide a whole new category of Big Data server—with a capacity right-sized for enterprises and SMEs to begin implementations in your current data center today.

Key features and benefits

The HPE Apollo 4200 Gen9 Server is an entirely new density-optimized server storage solution designed for traditional enterprise and SME rack-server data centers. The leadership capacity of this 2U server lets you start object storage and Big Data analytics projects cost effectively at smaller scale and begin achieving space and power efficiency savings without changing anything in your current IT environment.

The HPE Apollo 4200 Gen9 Server is available in two models—an LFF HDD/SSD configuration optimized for object storage solutions and an SFF HDD/SSD configuration optimized for Hadoop and Big Data analytics.

Object storage: HPE Apollo 4200 Gen9 LFF Server
A 2U, two-processor rack-server system optimized for object storage density, performance, and affordability with LFF HDDs/SSDs.

Leadership storage capacity
- Up to 224 terabytes of direct-attached storage per server and 4.48 petabyte storage capacity per rack[5]

  – Supporting up to 28 hot-swappable LFF SAS or SATA HDDs/SSDs

Designed to fit into traditional rack-server data centers today
- Standard rack size, front-side hot-plug disk serviceable, rear aisle cabling, and standard rack-server system administration

- Plug-and-play in traditional data centers with same racks, cabling, and servicing accessibility—easy to implement and support, use the same system administration, and no need for retraining or disruption

- Individually serviceable hot-plug LFF HDDs/SSDs

Choose the right balance of performance and cost efficiency
• Start and grow enterprise object storage solutions in cost-effective 2U increments

• Two-processor server configuration options for:

– Intel® Xeon® E5-2600 v3 or E5-2600 v4 series processors with choices from 4–22 cores,
1.7 GHz–3.5 GHz CPU speed, and power ratings between 55–145 watts

– 16 memory DIMM slots with up to 1,024 GB DDR4 memory at up to 2,400 MHz—ideal for
object stores needing fast performance with small objects

– Up to five low-profile PCI Express (PCIe) Gen3 slots or six PCIe3 slots including two
full-height half-length slots with options to meet networking and cluster performance,
throughput, and responsiveness needs in applications requiring higher speed I/O

Big Data analytics: HPE Apollo 4200 Gen9 SFF Server
A 2U, two-processor rack-server system optimized for the density, performance, and affordability
required for analytics workloads, with SFF HDDs/SSDs and performance and cost-efficiency
options to provide the right balance for Hadoop and the variety of Big Data analytics solutions.

Leadership storage capacity
• Up to 207 TB of direct-attached storage per server

• Up to 54 hot-swappable SFF SAS or SATA HDDs/SSDs

Designed to fit into traditional rack-server data centers today
• Standard rack size, front-side hot-plug disk serviceable, rear aisle cabling, and standard
rack-server system administration

• Plug-and-play in traditional data centers with same racks, cabling, and servicing accessibility—
easy to implement and support, use the same system administration, and no retraining and
disruption

• Individually serviceable hot-plug SFF HDDs/SSDs

Choose the right balance of performance and cost efficiency
• Start and grow enterprise and SME analytics solutions in cost-effective 2U increments

• Two-processor server configuration options for:

– Intel Xeon E5-2600 v3 or E5-2600 v4 series processors with choices from 4–22 cores,
1.7 GHz–3.5 GHz CPU speed, and power ratings between 55–145 watts

– 16 memory DIMM slots with up to 1,024 GB DDR4 memory at up to 2,400 MHz—ideal for
in-memory data processing for near real-time analytics software

• Storage performance options—The SFF HDD model supports SAS and SSD drives with 12 Gb
output and 15 k revolutions per minute, to speed data transfer for analytics workloads

• Up to five PCIe Gen3 slots or six PCIe3 slots including two full-height half-length slots to meet
networking and cluster performance needs in applications requiring higher speed I/O

Technical specifications

	HPE Apollo 4200 Gen9 LFF Server	HPE Apollo 4200 Gen9 SFF Server
Form factor	2U rack server	2U rack server
Storage type	• Up to 24 LFF hot-plug SAS/SATA/SSD • Plus 4 LFF or 2 SFF in optional rear drive cage	• Up to 48 SFF hot-plug SAS/SATA/SSD • Plus 2 or 6 SFF in optional rear drive cage

Storage capacity	• Up to 224 TB (24+4 LFF 8 TB HDD)
	• Up to 4.48 PB per 42U rack
	  (20 servers, 8 TB HDDs)
		• Up to 207 TB (48+6 SFF 3.84 TB HDD)
		• Up to 4.15 PB per 42U rack
		  (20 servers, 3.84 TB HDDs)

Storage controller	• Flexible Smart Array P840ar and Dynamic Smart Array B140i • Plus optional HPE Smart Array or Smart Host Bus Adapter (HBA) controllers	• Flexible Smart Array P840ar and Dynamic Smart Array B140i • Plus optional HPE Smart Array or Smart HBA controllers
Processor family	Intel Xeon E5-2600 v3 or E5-2600 v4 series	Intel Xeon E5-2600 v3 or E5-2600 v4 series
Processor number	One or two per server	One or two per server
Processor cores available	4/6/8/10/12/14/16/18/20/22	4/6/8/10/12/14/16/18/20/22
Processor frequency	From 1.7 GHz–3.5 GHz	From 1.7 GHz–3.5 GHz
Memory	HPE SmartMemory 16 DIMM slots Up to 1,024 GB DDR4 memory at up to 2,400 MHz	HPE SmartMemory 16 DIMM slots Up to 1,024 GB DDR4 memory at up to 2,400 MHz
Networking	2 x 1 Gb Ethernet plus FlexibleLOM and PCIe options	2 x 1 Gb Ethernet plus FlexibleLOM and PCIe options
Expansion slots	Up to 6 PCIe slots and FlexibleLOM support With 2 PCIe slots in optional rear cage	Up to 6 PCIe slots and FlexibleLOM support With 2 PCIe slots in optional rear cage

Technical specifications (continued)

	HPE Apollo 4200 Gen9 LFF Server	HPE Apollo 4200 Gen9 SFF Server
Management	• HPE iLO 4	• HPE iLO 4
Recommended for management at scale	• HPE Advanced Power Manager • HPE Insight Cluster Management Utility	• HPE Advanced Power Manager • HPE Insight Cluster Management Utility
System fan features	Up to 10 fans (for redundancy)	Up to 10 fans (for redundancy)
Power supply type	Up to two power supplies, 800 W and 1,400 W Flex slot, hot-plug redundant power supplies	Up to two power supplies, 800 W and 1,400 W Flex slot, hot-plug redundant power supplies
QuickSpecs URL	**www8.hp.com/h20195/v2/GetHtml.aspx?docname=c04616495**	

HPE Factory Express

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. **hp.com/go/factoryexpress**

Customer Technical Training

Gain the skills you need with ExpertOne training and certification from Hewlett Packard Enterprise. With HPE ProLiant training, you will accelerate your technology transition, improve operational performance, and get the best return on your HPE investment. Our training is available when and where you need it, through flexible delivery options and a global training capability. **hp.com/learn/proliant**

Optimize your IT investment strategy with new ways to acquire, pay for and use technology, in lock-step with your business and transformation goals.
hpe.com/solutions/hpefinancialservices

HPE Support Services

Tap into the HPE support services advantage for a single-source solution that makes the most of your investments. Choose from our three levels of care that cover the entire lifecycle.

Optimized care
• Three-year Proactive Care 24x7

• Factory Express Level 4

Delivers the highest levels of performance and stability through expert consulting for factory configuration, integration, or installation, assigned technical experts, enhanced call handling, and critical event management

Standard care
• Three-year Foundation Care 24x7

• Installation and Start-up

Helps maintain a high level of uptime, along with expert help to manage the cost and complexity of implementation and support

Basic care
• Three-year Foundation Care Next Business Day (NBD)

• Installation and Start-up

Cost-effectively manage implementation, keep devices running, and address problems as needed

Other support options
HPE Datacenter Care—Provides environment-wide support tailored to your needs with a flexible, comprehensive, relationship-based approach to personalized support and management of heterogeneous data centers. Datacenter Care offers options for multivendor environments, spare parts, infrastructure automation, and more.

HPE Flexible Capacity—As an option of HPE Datacenter Care, HPE Flexible Capacity delivers a public cloud experience with the benefits of public and/or on-premises IT. With this pay-as-you-grow solution, you can scale instantly to handle growth without the usual wait for procurement.

HPE Proactive Care Advanced—Dedicated resources and assistance to help you reduce costs and maximize staff utilization, increase IT performance, and maximize return on investment. An assigned local account support manager delivers highly personalized support, best practice advice, critical incident management, and access to technical experts.

Additional HPE Technology Services to help maximize your HPE Apollo 4200 Gen9 Server investment
HPE Proactive Select—A flexible, customizable way to obtain technical expertise to meet ongoing IT needs. Proactive Select credits provide access to services as needed.

HPE Lifecycle Event Services—Provides expertise at every step, including strategy, design, deployment, operations, and education services. These services help you deploy technologies, solutions, and assessments to help optimize and operate the IT infrastructure.

HPE Education Services—Comprehensive training to expand your skills and keep up to speed with the latest technologies from Hewlett Packard Enterprise.

For more information on HPE Technology Services consulting and support, go to:
hp.com/services.

Learn more at
hp.com/go/apollo

Sign up for updates