

Data sheet

# HP Apollo 4200 Gen9 Server



The enterprise bridge to Big Data solutions



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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 HP Apollo Gen9 4200 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 HP 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.

HP has been a leader in introducing systems purpose-built for Big Data—including the recently introduced HP 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?

**HP Apollo 4200 Gen9 Server—The enterprise bridge to server solutions for Big Data**

That's why HP has introduced the HP 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 50 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 HP 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 back-up repositories and cold storage, and everything in between.

For larger implementations of Hadoop-based Big Data analytics and NoSQL database analytics, consider the [HP 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.<sup>3</sup>

For large, petabyte-scale object storage solutions, consider the [HP 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.<sup>4</sup>

The HP 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 HP Apollo 4200 Gen9 Server.

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.<sup>1</sup> It also delivers great, economical capacity at scale with 4.4 petabytes capacity with 20 servers in a 42U rack.<sup>2</sup> 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 HP ProLiant Gen9 processor and memory options, up to 28 HFF or 50 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.

<sup>1,2</sup> Based on 8 TB LFF drives

<sup>3</sup> Based on 10 chassis with 30 servers and 8 TB LFF drives

<sup>4</sup> Based on 10 systems and 8 TB HDDs



## Key features and benefits

The HP 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 HP 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.

### For object storage

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

#### Object storage: HP 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<sup>5</sup>
  - 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 series processors with choices from 4–18 cores, 1.6 GHz–3.5 GHz CPU speed, and power ratings between 55–145 watts
  - 16 memory DIMM slots with up to 512 GB DDR4 memory at up to 2,133 MHz—ideal for object stores needing fast performance with small objects
  - Up to five PCI Express (PCIe) Gen3 slots with options to meet networking and cluster performance, throughput, and responsiveness needs in applications requiring higher speed I/O

<sup>5</sup> Based on 8 TB LFF drives

### **Big Data analytics: HP 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 100 TB of direct-attached storage per server
- Up to 50 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 series processors with choices from 4–18 cores, 1.6 GHz–3.5 GHz CPU speed, and power ratings between 55–145 watts
  - 16 memory DIMM slots with up to 512 GB DDR4 memory at up to 2,133 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 12G output and 15k revolutions per minute, to speed data transfer for analytics workloads
- Up to five PCIe Gen3 slots to meet networking and cluster performance needs in applications requiring higher speed I/O

### **For Hadoop and Big Data analytics**

The HP Apollo 4200 Gen9 SFF Server is ideal for analytics solutions based on parallel Hadoop-based data mining, as well as NoSQL-based Big Data analytics solutions.



## Technical specifications



**HP Apollo 4200 Gen9 LFF Server**



**HP Apollo 4200 Gen9 SFF Server**

<b>Form factor</b>	2U rack server	2U rack server
<b>Storage type</b>	<ul style="list-style-type: none"> <li>Up to 24 LFF hot-plug SAS/SATA/SSD</li> <li>Plus 4 LFF or 2 SFF in optional rear drive cage</li> </ul>	<ul style="list-style-type: none"> <li>Up to 48 SFF hot-plug SAS/SATA/SSD</li> <li>Plus 2 SFF in optional rear drive cage</li> </ul>
<b>Storage capacity</b>	<ul style="list-style-type: none"> <li>Up to 224 TB (24+4 LFF 8 TB HDD)</li> <li>Up to 4.48 PB per 42U rack (20 servers, 8 TB HDDs)</li> </ul>	<ul style="list-style-type: none"> <li>Up to 100 TB (48+2 SFF 2 TB HDD)</li> <li>Up to 2.0 PB per 42U rack (20 servers, 2 TB HDDs)</li> </ul>
<b>Storage controller</b>	<ul style="list-style-type: none"> <li>Flexible Smart Array P840ar and Dynamic Smart Array B140i</li> <li>Plus optional HP Flexible Smart Array or Smart host bus adapter (HBA) controllers</li> </ul>	<ul style="list-style-type: none"> <li>Flexible Smart Array P840ar and Dynamic Smart Array B140i</li> <li>Plus optional HP Flexible Smart Array or Smart HBA controllers</li> </ul>
<b>Processor family</b>	Intel Xeon E5-2600 v3 series	Intel Xeon E5-2600 v3 series
<b>Processor number</b>	One or two per server	One or two per server
<b>Processor cores available</b>	4/6/8/10/12/14/16/18	4/6/8/10/12/14/16/18
<b>Processor frequency</b>	From 1.6 GHz–3.5 GHz	From 1.6 GHz–3.5 GHz
<b>Memory</b>	HP SmartMemory 16 DIMM slots Up to 512 GB DDR4 memory at up to 2,133 MHz	HP SmartMemory 16 DIMM slots Up to 512 GB DDR4 memory at up to 2,133 MHz
<b>Networking</b>	2 x 1 Gb Ethernet plus FlexibleLOM and PCIe options	2 x 1 Gb Ethernet plus FlexibleLOM and PCIe options
<b>Expansion slots</b>	5 PCIe slots and FlexibleLOM support Plus 2 additional PCIe slots in optional rear cage	5 PCIe slots and FlexibleLOM support Plus 2 additional PCIe slots in optional rear cage
<b>Management</b>	<ul style="list-style-type: none"> <li>HP iLO 4</li> </ul>	<ul style="list-style-type: none"> <li>HP iLO 4</li> </ul>
<b>Recommended for management at scale</b>	<ul style="list-style-type: none"> <li>HP Advanced Power Manager</li> <li>HP Insight Cluster Management Utility</li> </ul>	<ul style="list-style-type: none"> <li>HP Advanced Power Manager</li> <li>HP Insight Cluster Management Utility</li> </ul>
<b>System fan features</b>	Up to 10 fans (for redundancy)	Up to 10 fans (for redundancy)
<b>Power supply type</b>	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
<b>QuickSpecs URL</b>	<a href="http://hp.com/h20195/v2/GetHtml.aspx?docname=c04616495">hp.com/h20195/v2/GetHtml.aspx?docname=c04616495</a>	

Customize your IT lifecycle management, from acquisition of new IT, management of existing assets, and removal of unneeded equipment. [hp.com/go/hpfinancialservices](http://hp.com/go/hpfinancialservices)

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## Customer Technical Training

Gain the skills you need with ExpertOne training and certification from HP. With HP ProLiant training, you will accelerate your technology transition, improve operational performance, and get the best return on your HP investment. Our training is available when and where you need it, through flexible delivery options and a global training capability. [hp.com/learn/proliant](http://hp.com/learn/proliant)

## HP support services

Tap into the HP 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

**HP 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.

**HP Flexible Capacity**—As an option of HP Datacenter Care, HP 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.

**HP 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 HP Technology Services to help maximize your HP Apollo 4200 Gen9 Server investment

**HP Proactive Select**—A flexible, customizable way to obtain technical expertise to meet ongoing IT needs. Proactive Select credits provide access to services as needed.

**HP Lifecycle Event Services**—Provide 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.

**HP Education Services**—Comprehensive training to expand your skills and keep up to speed with the latest technologies from HP.

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