Overview

AMD FirePro Accelerators for HPE ProLiant Servers

Hewlett Packard Enterprise supports, on select HPE ProLiant servers, computational accelerator modules based on AMD® FirePro™ Graphical Processing Unit (GPU) technology.

The following AMD FirePro accelerators are available from HPE.

For use in the ProLiant DL380 Gen9 server:

- HPE AMD FirePro S7150x2 Accelerator Kit
- HPE AMD FirePro S9150 Accelerator Kit
- HPE AMD FirePro W7100 Accelerator Kit

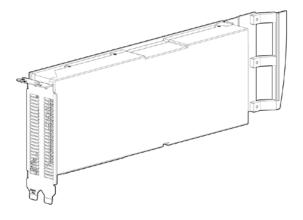For use in the ProLiant XL190r and XL250a Gen 9 servers:

- HPE AMD FirePro S7150x2 Accelerator Kit

Based on AMD's Graphics Core Next (GCN) technology, the AMD FirePro GPUs enable seamless integration of accelerated computing and digital rendering with HPE ProLiant servers for high-performance computing and large data center, scale-out deployments.
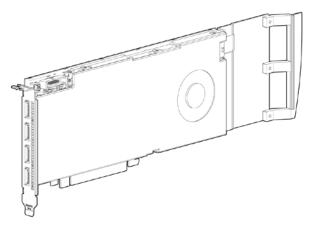
The AMD FirePro GPUs support AMD STREAM technology, a set of GPU hardware and software features designed specifically to address high-performance workloads and workflows, including application requirements for high single and double floating point performance, ECC Memory support for increased computational accuracy, bi-directional low latency data transfers, and more. AMD FirePro cards are optimized for OpenCL™, an open and cross-platform programming standard used for general-purpose computations. When combined with the AMD APP Acceleration Software Development Kit and AMD supported development tools such as compilers and libraries, developers and customers can take full advantage of AMD FirePro for GPU compute. The AMD FirePro cards also support OpenGL and other rendering applications for full graphics processing of complex 3D models. The AMD FirePro accelerators provide all of the standard benefits of GPU computing while enabling maximum reliability and tight integration with system monitoring and management tools such as HPE Insight Cluster Management Utility. The HPE accelerator ecosystem includes HPE Cluster Platform specification and qualification, HPE-supported accelerator-aware cluster software, and also third-party accelerator-aware cluster software for AMD FirePro GPUs on HPE ProLiant Servers. In particular, the HPE Insight Cluster Management Utility (CMU) will monitor and display AMD FirePro GPU health sensors such as temperature. Insight CMU is integrated with popular schedulers such as Adaptive Moab, Altair PBS Professional, UNIVA Grid Engine and IBM Platform LSF - all of which have the capability of scheduling jobs based on GPU requirements.

Overview

AMD FirePro S9150 GPU   AMD FirePro W7100 GPU

What's New

- Introducing the addition of the AMD FirePro S7150x2

Models

AMD Accelerators	HPE AMD FirePro S7150x2 Accelerator Kit	M3X68A
	HPE AMD FirePro S9150 Accelerator Kit	J0H11A
	HPE AMD FirePro W7100 Accelerator Kit	J0H10A

NOTE: Please see the HPE ProLiant DL380, ML150, ML350, XL190r, XL250a Gen9 and SL270s SE Gen8 server QuickSpecs for configuration rules including requirements, if any, for enablement kits.

Standard Features

AMD FirePro Accelerators

Performance of the HPE AMD FirePro S7150x2 GPU

- 4096 STREAM processors (2048 per GPU)
- 500 GFlops of double-precision peak performance (250 GFlops per GPU
- 7.54 Tflops of single-precision peak performance (3.77 TFlops per GPU)
- GDDR5 memory optimizes performance and reduces data transfers by keeping large data sets in 16 GB of local memory
  The high speed PCIe Gen 3.0 data transfer maximizes bandwidth between the HPE ProLiant server and the FirePro GPU.

Performance of the HPE AMD FirePro S9150 GPU

- 2816 STREAM processors (44 compute units)
- 206 GFlops of double-precision peak performance
- 3.3 Tflops of single-precision peak performance
- GDDR5 memory optimizes performance and reduces data transfers by keeping large data sets in 16 GB of local memory
  The high speed PCIe Gen 3.0 data transfer maximizes bandwidth between the HPE ProLiant server and the FirePro GPU.

Performance of the HPE AMD FirePro W7100 GPU

- 1792 STREAM processors (28 compute units)
- 2.53 TFlops of double-precision peak performance
- 5.07 Tflops of single-precision peak performance
- GDDR5 memory optimizes performance and reduces data transfers by keeping large data sets in 8 GB of local memory
  The high speed PCIe Gen 3.0 data transfer maximizes bandwidth between the HPE ProLiant server and the FirePro GPU.

Reliability

- ECC Memory meets a critical requirement for computing accuracy and reliability for datacenters and supercomputing centers. It offers protection of data in memory to enhance data integrity and reliability for applications.
- Passive heatsink design eliminates moving parts and cables reduces mean time between failures.

Supported Operating Systems	**NOTE:** For HPE ProLiant Gen9 Servers with the Intel Xeon E5-2600v3 series processors, AMD FirePro are supported only on 64-bit versions of Linux operating systems RHEL 6 and SLES11, and Windows Server 2012. **NOTE:** For HPE ProLiant Gen9 Servers with the Intel Xeon E5-2600v4 series processors, AMD FirePro is supported only on 64-bit versions of Linux operating systems RHEL 6, 7 and SLES11, and Windows Server 2012.

HPE Warranty	The HPE AMD FirePro GPUs have one year parts exchange warranty. For details on HPE Qualified Options Limited Warranty visit: **http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html**

Optional Features

HPE High Performance Clusters	HPE Cluster Platforms	HPE Cluster Platforms are specifically engineered, factory-integrated large-scale ProLiant clusters optimized for High Performance Computing, with a choice of servers, networks and software. Operating system options include specially priced offerings for Red Hat Enterprise Linux and SUSE Linux Enterprise Server. A Cluster Platform Configurator simplifies ordering. **http://www.hp.com/go/clusters**
	HPE HPC Interconnects	High Performance Computing (HPC) interconnect technologies are available for this server as part of the HPE Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by Hewlett Packard Enterprise when integrated within an HPE cluster. Flexible, validated solutions can be defined with the help of configuration tools. **http://www.hp.com/techservers/clusters/ucp/index.html**
	HPE Insight Cluster Management Utility	HPE Insight Cluster Management Utility (CMU) is a Hewlett Packard Enterprise-licensed and Hewlett Packard Enterprise-supported suite of tools that are used for lifecycle management of hyperscale clusters of Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. **http://www.hp.com/go/cmu**
Service and Support	HPE Technology Services for Server options HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time. Protect your business beyond warranty with HPE Care Pack Services HPE Care Pack Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.	
Get connected to Hewlett Packard Enterprise to improve your support experience	Connecting products to Hewlett Packard Enterprise will help prevent problems with 24x7monitoring, prefailure alerts, automatic call logging, and parts dispatch. With Connected products, you can have a dashboard to manage your IT anywhere, anytime, from any device	
HPE Support Center	Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers. Learn more **http://www.hp.com/go/hpsc** The HPE Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalize IT support anywhere, anytime. HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Care Pack or Hewlett Packard Enterprise contractual support agreement. **NOTE:** HPE Support Center Mobile App above is subject to local availability.	

Optional Features

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

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

For more information   To learn more about HPE Care Pack Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized ServiceOne Channel Partner. Or visit: **http://www.hp.com/services/proliant** or **http://www.hp.com/services/bladesystem**

Technical Specifications

Form Factor	FirePro S7150x2, S9150, W7100	10.5 in x 4.4 in PCIe x16 form factor
Number of GPUs	FirePro S9150, W7100	1 GPU
	FirePro S7150x2	
		2 GPUs
Double Precision floating point performance (peak)	Fire Pro S7150x2	500 GFlops (250 GFlops per GPU)
	FirePro S9150	206 GFlops2.53 TFlops
	FirePro W7100	
Single Precision floating point performance (peak)	FirePro S7150x2	7.54 TFlops (3.77 TFlops per GPU)
	FirePro S9150	3.3 TFlops
	FirePro W7100	5.07 TFlops
Total Dedicated Memory	FirePro S7150x2	16 GB GDDR5 (8 GB per GPU)
	FirePro S9150	16 GB GDDR5
	FirePro W7100	8 GB GDDR5
Memory Bandwidth	FirePro S7150x2	256 GB/sec
	FirePro S9150	320 GB/sec
	FirePro W7100	160 GB/sec
Number of slots	FirePro S7150x2	1
	FirePro S9150	2
	FirePro W7100	1
Power Consumption	FirePro S7150x2	275W TDP
	FirePro S9150	235W TDP
	FirePro W7100	150W TDP
System Interface	FirePro S7150x2, S9150, W7100	PCIe x16 Gen3
Thermal Solution	FirePro S7150x2 S9150, W7100	Passive cooling by host system airflow
		Active cooling

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett Packard Enterprise offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: **http://www.hp.com/go/green**. To recycle your product, please go to: **http://www.hp.com/go/green** or contact your nearest Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site at: **http://www.hp.com/go/green**. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
15-Aug-2016	From version 3 to 4	Updated	Update all the sections and general info throughout the QuickSpecs, added FirePro S7150x2
31-Mar-2016	From version 2 to 3	Updated	Update all the sections and general info throughout the QuickSpecs
03-Feb-2015	From version 1 to 2	Modified	Add information about FirePro W7100
09-Sept-2014	Version 1	Created	Create the QuickSpecs for the AMD FirePro Accelerators for HPE ProLiant Servers

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