AMD

AMD FirePro™ S9000

HIGH DENSITY SERVER GRAPHICS

The Industry's Most Powerful Multifunctional Server Graphics Card for Compute, Workstation Graphics and VDI

Key Features:

→ **Specially designed for use in rackmount servers, blades and PCIe® expansion chassis**

→ **Passive thermal solution for deployment flexibility**

→ **Energy efficient design and dual-slot heatsink help reduce power costs**

→ **6GB GDDR5, largest frame buffer offered in an AMD passively cooled form factor**

→ **Optimized performance for workstation graphics applications**

→ **Removable retention bracket**

→ **Support for SMBus temperature reporting at boot up**

→ **Massively parallel architecture for GPU compute**

→ **Support for Citrix® and VMware® virtual machines**

→ **Support for Microsoft® RemoteFX**

→ **PCIe® 3.0 compliant**

→ **Designed and thoroughly tested by AMD**

→ **Planned minimum four year lifecycle**

→ **Limited three year warranty**

IT departments are faced with many challenges: doing more with less resource, configuring computing solutions to meet a variety of end user needs, reigning in time spent on system support and maintenance, preventing data leakage, and supporting multiple operating systems and application versions. AMD FirePro™ technology is designed to help IT meet these challenges and more. AMD FirePro™ S9000 server graphics deployed in the data center can help IT transition end-user desktops to a virtualized data center while still providing individuals with the graphics acceleration required to run their applications.

Delivering 3.23 TFLOPS of peak single precision floating point performance — up to 2.4 times that of competing solutions — AMD FirePro™ S9000 is capable of tackling the most demanding compute-intensive, data-parallel tasks[2]. With 6GB of GDDR5 memory, 264 GB/s of memory bandwidth and 806 GFLOPS of peak double precision floating point performance, AMD FirePro™ S9000 is AMD's most powerful multifunctional server graphics card ever created[5].

With AMD FirePro™ S9000 there is only one solution for IT to maintain, update and stock to meet the most demanding centralized computing needs. Coupled with a single unified driver, AMD FirePro™ S9000 server graphics offer IT a flexible and scalable solution capable of supporting Remote Graphics and Virtual Desktop Infrastructure (VDI) deployments, rendering farms,

High Performance Computing implementations, and traditional workstation graphics applications for Computer Aided Design and Engineering, (CAD/CAE) and Media & Entertainment (M&E).

GPU Compute for High Performance Computing

AMD FirePro™ S9000 server graphics are designed to meet the most demanding data center performance and reliability requirements. For customers undertaking projects with intense processing and accuracy requirements, like computational fluid dynamics and structural mechanics, numeral analytics and molecular dynamics, AMD FirePro™ S9000 delivers 806 GFLOPS of peak dual precision floating point performance and error correcting code (ECC) memory support.

Additionally, AMD FirePro™ S9000, and the current family of AMD FirePro™ server graphic products, supports key industry standard APIs, including OpenCL™, OpenGL and DirectX®.
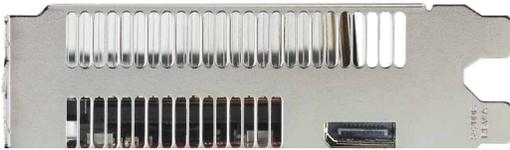
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HIGH DENSITY SERVER GRAPHICS

The Leading Edge of Graphics Virtualization

AMD FirePro™ technology supports leading virtualization technologies from Citrix®, VMware® and Microsoft® that enable the delivery of graphically accelerated virtual machines. With an AMD FirePro™ S9000 server graphics card installed in a rack, blade server or PCIe® expansion chassis, it can support a large number of concurrent user computing sessions – including rich media like full motion video and 3D applications. With RemoteFX, all users need to connect is a PC client device or a zero client portal. No special hardware is required at each end user's workspace – just a network connection, display, keyboard and mouse. Users have the ability to work seamlessly with business productivity applications, video, graphically rich OS interfaces, as well as CAD/CAE and M&E applications.

AMD FirePro™ S9000 also supports Citrix® XenServer™ and VMware® ESXi with direct GPU pass-through support. A server outfitted with multiple GPUs can power multiple virtual desktops from the data center (one GPU per virtual desktop). With AMD FirePro™ S9000 and these leading virtualization technologies, IT can support multiple end users with one server workstation and without sacrificing graphics performance.

AMD FirePro™ S9000 Display Output

FEATURES	BENEFITS
Passive Cooling	→ Simplifies thermal design for servers → Silent operation → Deployment flexibility → Eliminate fan noise and failure
Unified Driver	One driver spans the entire family of AMD FirePro™ technology, helping to simplify maintenance and system administration.
Intelligent Power Management and Monitoring Technologies	AMD PowerTune technology dynamically optimizes GPU power usage and AMD ZeroCore Power technology significantly reduces power consumption at idle[4].
New 28nm Graphics Core Next Architecture	Enables revolutionary floating-point peak performance across a wide range of computing applications: → 806 GFLOPS Double Precision → 3.23 TFLOPS Single Precision
Application Optimization	AMD FirePro™ technology is optimized for workstation graphics applications and supports applications built on key industry standards.
ECC Memory Support	Helps to ensure the accuracy of computations by correcting single or double bit errors as a result of naturally occurring background radiation

PRODUCT DETAILS

Memory
→ 6GB GDDR5 memory
→ 384-bit, 264 GB/s bandwidth

Output Connectivity
→ Features single DisplayPort connector
→ One DisplayPort to DVI (single link) adapter

API and OS Support
→ OpenGL 4.2
→ DirectX® 11[5] (including DirectCompute)
→ OpenCL™1.2[6]
→ Microsoft® Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Microsoft Windows Server® 2008 R2 SP1, Microsoft Windows Server® 2012 and Linux® (32-bit or 64-bit)[5]

Power Consumption and Form Factor
→ Max Power / TDP: 225W
→ Dual-slot, PCIe® 3.0 x16 bus interface
→ Full height / full length form factor

System Requirements
→ 2GB of system memory
→ Power supply plus one 2x4 (8-pin) AUX power connector
→ Available PCIe® x16 slots (2)
→ Microsoft® Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Microsoft Windows Server® 2008 R2 SP1, Microsoft Windows Server® 2012 and Linux® (32-bit or 64-bit)[5]

AMD Warranty and Support
→ Three year limited product repair / replacement warranty
→ Direct toll free phone and email access to dedicated workstation technical support team[7]
→ Advanced parts replacement option

Regulatory Compliance
→ FCC, CE, C-Tick, BSMI, KCC, UL, VCCI, RoHS and WEEE

Windows Server® 2008 R2

CERTIFIED FOR Windows Vista™

Designed for Microsoft® Windows® XP

CERTIFIED FOR Windows 7

Linux™

1 AMD FirePro™ S9000 is a dual-slot passively cooled GPU that delivers 3.23 TFLOPS of peak single precision and 806 GFLOPS of double precision floating point performance, and delivers 264 GB/s memory bandwidth. Compared to Nvidia Tesla M2090, a dual-slot passively cooled GPU capable of 1.33 TFLOPs single precision and 665 GFLOPs double precision peak floating point performance. Visit http://www.nvidia.com/object/tesla-servers.html for Nvidia product specs. FP-53

2 AMD FirePro™ S9000 delivers 3.23 TFLOPS of peak single precision floating point performance, compared to Nvidia Tesla M2090 that is capable of 1.33 TFLOPS peak single precision. Visit http://www.nvidia.com/object/tesla-servers.html for Nvidia product specs. FP-54.

3 AMD FirePro™ S9000 is a dual-slot passively cooled GPU that delivers 3.23 TFLOPS of peak single precision and 806 GFLOPs of double precision floating point performance, and delivers 264 GB/s memory bandwidth. Compared to Nvidia Tesla M2090, a dual-slot passively cooled GPU capable of 1.33 TFLOPs single precision and 665 GFLOPs double precision peak floating point performance. Visit http://www.nvidia.com/object/tesla-servers.html for Nvidia product specs. FP-53

4 AMD PowerTune and AMD ZeroCore Power are technologies offered by certain AMD FirePro™ products, which are designed to intelligently manage GPU power consumption in response to certain GPU load conditions. Not all products feature all technologies – check with your component or system manufacturer for specific model capabilities.

5 Microsoft® DirectX® 11.1, Windows® 8 and Windows Server® 2012 expected to be supported in a future driver release.

6 OpenCL 1.2 conformance expected.

7 Toll free available in the U.S. and Canada only, email access is global.

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