



AMD FIREPRO™ S-SERIES SERVER CARDS FOR CENTRALIZED COMPUTING: GPU Compute, Cloud Computing and Virtual Desktop Infrastructure (VDI)



GPU COMPUTE

Designed to leverage the massive parallel processing power of AMD GPUs, AMD FirePro™ S-Series server cards can tackle compute-centric workflows and accelerate many applications beyond just graphics. AMD FirePro S-Series cards are outfitted with 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, DirectGMA for low latency data transfer, and several intelligent power monitoring and management technologies unique to AMD.

AMD FirePro S-Series cards are optimized for OpenCL™, the 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 S-Series for GPU compute.

CLOUD COMPUTING AND VIRTUALIZATION

Built on the powerful AMD Graphics Core Next Architecture and with GPU acceleration for mainstream virtualization technologies, AMD FirePro™ S-Series server cards can be tapped to deploy virtual desktops for specialized design and engineering professionals as well as traditional knowledge workers. AMD FirePro S-series cards are capable of delivering high quality graphics, low latency application streaming from the Cloud, as well as enable remote access to user desktops. AMD FirePro S-Series server cards support leading hypervisors from Citrix, Microsoft and VMware.

The AMD FirePro S-Series family also includes the AMD FirePro™ R5000 remote graphics card, a one of a kind product that is capable of delivering a full workstation class computing experience over the corporate network to users via a PCoIP enabled software or hardware client. Featuring the latest PCoIP host processor from Teradici, the R5000 is capable of delivering uncompromised quality of graphics and multi-media on par with a physical desktop, including multi-monitor support.

AMD FIREPRO™ S10000

The most powerful server graphics card ever created¹.



AMD FIREPRO™ S9000

Flexible performance for GPU compute or VDI deployments.



AMD FIREPRO™ S7000

The industry's most powerful single-slot multifunctional server graphics card for compute, workstation graphics and VDI².

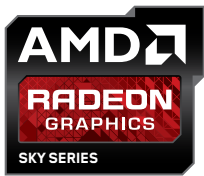


AMD FIREPRO™ R5000

Enables full workstation computing experiences over the corporate IP network.



Model	Performance						Feature										Display Output			
	Single Precision (TFLOPS)	Double Precision (TFLOPS)	Stream Processors	Memory (GDDR5)	Memory Bandwidth (GB/s)	ECC	Max Power	Ethernet Port	PCoIP Host Processor	PCIe® Support	OpenCL™	OpenCL	DirectX®	AMD PowerTune ³	AMD ZeroCore Power ³	AMD RapidFire	Warranty (years)	DVI	DisplayPort	Replaces
S10000 Passive Cooling	5.91	1.48	2x 1792	6GB	2x240	Yes	375W	No	No	3.0	1.2	4.2	11.1	●		●	3	1	1 Mini DP	Tesla K10/ K20X/K20 GRID K2/K1
S10000 Active Cooling	5.91	1.48	2x 1792	6GB	2x240	Yes	375W	No	No	3.0	1.2	4.2	11.1	●		●	3	1	4x Mini DP	Tesla K10/ K20X/K20 GRID K2/K1
S9000	3.23	.806	1792	6GB	264	Yes	225W	No	No	3.0	1.2	4.2	11.1	●	●	●	3	1	1	Tesla K20X/ K20 GRID K2/K1
S7000	2.4	.152	1280	4GB	154	No	150W	No	No	3.0	1.2	4.2	11.1	●	●	●	3	1	1	GRID K2/K1
R5000	1.3	.792	768	2GB	102.4	No	150W	1	1 TERA2	3.0	1.2	4.2	11.1	●	●	●	3	2x Mini DP ⁴	2x	PCoIP Host Card + K2000 or NVS 510



AMD RADEON™ SKY SERIES GRAPHICS CARDS FOR CLOUD GAMING



CLOUD GAMING

Designed to address the emerging needs of the Cloud Gaming market, AMD Radeon Sky Series graphics cards enable service providers to stream PC and console-quality gaming experiences to virtually any device, anywhere. AMD Radeon™ Sky Series graphics cards feature AMD's award-winning Graphics Core Next Architecture for spectacular gaming performance and power efficiency. Equipped with the latest technologies, including PCIe® 3.0 support, DirectX® 11.1 support, and AMD RapidFire technology, the sky's the limit for cloud gaming. With AMD Radeon™ Sky Series cloud gaming service providers can maximize existing infrastructure and resources to support even more simultaneous game streams ranging from social and casual games to AAA titles.

AMD RADEON™ SKY 900

Enables multiple concurrent high performance HD game streams



AMD RADEON™ SKY 700

Enables up to six concurrent high performance HD game streams⁵



AMD RADEON™ SKY 500

Capable of streaming up to six concurrent casual or mainstream games⁵



AMD RAPIDFIRE TECHNOLOGY

“Secret sauce” is an elusive quality that makes something distinctive or special. It's hard to put your finger on, but you know it when you see it. When it comes to AMD Radeon™ Sky series graphics for cloud gaming, our secret sauce is AMD RapidFire technology.

AMD RapidFire technology is a combination of hardware and software that enables cloud gaming partners to benefit from an open API that simplifies the manipulation of key hardware controls to provide HD visual quality, minimal latency and optimal network bandwidth resulting in a compelling and responsive gaming experience from any device over the internet. In line with AMD's commitment to industry standard APIs, like OpenCL™, DirectX® and OpenGL, an industry standard API for cloud gaming will help to align the industry around one platform and drive continued innovations that benefit the industry at large.

AMD RapidFire leverages certified cloud gaming middleware from 3rd parties, such as from CiiNOW, G-cluster Global, Otoy and Ubitus, to simplify the manipulation of key hardware controls and provide HD visual quality, minimal latency and optimal network bandwidth resulting in a compelling and responsive cloud gaming experience to virtually any device, anywhere.

Model	Performance							Feature					Display Output		Replaces		
	Stream Processors	Memory (GDDR5)	Memory Bandwidth (GB/s)	Max Power	PCIe Support	AMD FirePro™ Driver	AMD Radeon™ Driver	OpenCL™	OpenCL	DirectX®	AMD RapidFire	AMD PowerTune ¹	AMD ZeroCore Power ¹	Warranty (years)		DVI	DisplayPort
Sky 900	3584 (2 x1792)	6GB	2x240	300W	3.0	No	Yes	1.2	4.2	11.1	●	●		3	1	1 Mini DP	GRID K340/K520
Sky 700	1792	6GB	264	225W	3.0	No	Yes	1.2	4.2	11.1	●	●	●	3		1	GRID K340/K520
Sky 500	1280	4GB	154	150W	3.0	No	Yes	1.2	4.2	11.1	●	●	●	3		1	GRID K340/K520

¹AMD FirePro™ S10000 delivers 1.48 TFLOPS peak double precision floating point performance, and Nvidia's highest performing card in the market as of January 14, 2013 is the Tesla K20X with 1.31 TFLOPS peak double precision. Visit <http://www.nvidia.com/object/tesla-servers.html> for Nvidia product specs. FP-71

²AMD FirePro™ S7000 delivers 2.4 TFLOPS of peak single precision floating point performance, compared to Nvidia Tesla M2075 that is capable of 1.03 TFLOPS peak single precision. As of October 2013, Nvidia doesn't offer a single-slot server product. Visit <http://www.nvidia.com/object/tesla-servers.html> for Nvidia product specs. FP-58

³AMD PowerTune and AMD ZeroCore Power are technologies offered by certain AMD Radeon™ and 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.

⁴Can drive up two local displays plus an additional two remote displays, for a total of four displays; requires a Dell Wyse P45 or other Teradici TERA2 compatible thin or zero client for remote displays. For more information visit <http://www.teradici.com/where-to-buy/all-pcoip-products.php>.

⁵Test conducted at AMD measuring the ability of a Colfax CX 1250-N4 1U rack mount server with CiiNOW Cumulus Cloud Services version 2.0 running on an AMD Opteron™ 6380 16 core server processor with one AMD Radeon Sky Series model 700 or one Sky Series Model 500, 32GB RAM, and video driver 12.10.171 to stream to games simultaneously. At 60 FPS and 720p resolution, three streams were achieved; at 30 FPS and 720p, six streams were achieved. Three games: LEGO® Batman™, Harry Potter™ Years 1-4, and Devil May Cry; six games: Trine, LEGO® Batman™, LEGO® Harry Potter™ Years 1-4 and Years 5-7, Far Cry 3, and CardBoard Castle. FP-77