AMD

AMD FirePro™ S-Series for Virtualization

Pure Virtualized Graphics

Solution Brief: AMD Multiuser GPU for Oil & Gas Exploration

Delivering Powerful GPU Acceleration and Simplified Management for Remote Users

VDI powered by AMD Multiuser GPU (MxGPU) technology allows users to access GPU-accelerated high-end 3D applications and data from remote office and field locations.

Oil and gas companies perform a variety of exploratory and extraction functions, from generating 3D subsurface models of energy reserves to extraction planning, drilling, and other operations. These functions require specialized 3D applications and high-end GPU acceleration. Traditional deployments may require field personnel to commute to the nearest office to access data on a workstation—time that could be better spent working. Managing workstations and the bandwidth to transfer large files between locations can pose significant logistical hurdles.

AMD Multiuser GPU (MxGPU) technology offers the following key benefits to the oil and gas industry:

- **Mobility & Remote Access:** Authorized users have access to applications and data at virtually any time from virtually any location on virtually any device. All compute and graphics processing occurs on the server. All data stays in the datacenter, and all authorized users have instant access to all updates.
- **Performance:** Hardware-based virtualization brings workstation-grade 2D/3D graphics acceleration to the datacenter using the Single Root I/O Virtualization (SR-IOV) PCIE® virtualization standard. This eliminates proprietary and complex software from the hypervisor while also removing potentially vulnerable abstraction layers. Each VM uses native AMD drivers with 100% compatibility and access to all GPU graphics and compute functions on the server. Each GPU can support 1 to 16 users and requires no profiles.
- **Simplicity:** IT departments need not support individual workstations across multiple locations or provide bandwidth to transfer large datasets between locations. Centralizing data storage protects against unauthorized access or loss.
- **Cost Effectiveness:** Replacing individual workstations with mobile devices reduces hardware costs and IT management overhead. It also reduces the need for personnel to be on site to work, and can also reduce large file transfers between locations.

Empowers Mobility and Collaboration

Replacing an individual workstation with an access portal means that users have full access to applications and data at virtually any time, from virtually any location, on virtually any device, including thin and zero clients. Giving every user the same OS and application environment helps ensure compatibility.

Users transmit commands to the virtual machines and receive fully rendered pixels at full resolution and with full graphics performance. Storing and processing data in the datacenter reduces time spent transferring and tracking multiple copies and versions between users.

Delivers full AMD FirePro™ Acceleration

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AMD FIREPRO

Simplifies IT Management

MxGPU-based VDI frees IT from continually procuring, maintaining, and repairing individual workstations across remote locations. System maintenance and upgrades take place in the datacenter, with all affected users seeing near-immediate results.

Storing and processing data in the datacenter reduces the need for local copies while improving version control and helping ensure proper backup and archival. It also protects data against situations such as losing a laptop loaded with sensitive data, data loss caused by a virus or hardware failure on a local workstation, and unauthorized access or theft.

Reduces Overall Costs

AMD Multiuser GPU technology can help lower costs across the board compared to traditional workstations or laptops. Cost reduction begins by eliminating the need to procure, provision, and maintain workstations across multiple locations. Further savings can be realized by reducing time and bandwidth spent waiting to transfer large files between locations and then merge changes. Further, the ability to access applications and data from remote or field locations can reduce commuting time and boost productivity. The ability to respond to emerging situations from virtually any location at virtually any time on virtually any device can also help mitigate the costs of emergencies or other time-critical operations.

The AMD FirePro S7150 GPU can support 1-16 users.
The AMD FirePro S7150x2 GPU can support 1-32 users.

AMD FirePro S7150 and S7150x2 Specifications

- **Max. Power:** 150W (S7150), 265W (S7150x2)
- **Form Factor:** Full height/full length PCIe x16
- **Cooling:** Passive (active available for S7150)
- **RAM:** 8GB (S7150) or 16GB GDDR5 (S7150x2)
- **Interface:** 256-bit
- **Performance:** 3.77 TFLOPS single-precision and 250 GFLOPS double-precision peak floating-point performance (S7150). 7.54 TFLOPS single-precision and 500 GFLOPS double-precision peak floating-point performance (S7150 x2).
- **ECC Memory:** supported
- **API Support:** DirectX® 11.1, OpenGL® 4.4 and OpenCL™ 2.0
- **OS Support:** Microsoft® Windows 8.1, Windows® 7, and Linux® (32- or 64-bit)
- **Virtualization:** VMware® ESXi™ 6.0 Hypervisors, VMware View and Horizon View

Warranty and Support

- Three-year limited product repair/replacement warranty
- Direct toll-free phone (US, Canada) and global email access to dedicated technical support team
- Advanced parts replacement option

For more information, please visit http://www.amd.com/mxgpu