



Breakthrough Performance for Advanced Engineering Workflows

Dell Precision and AMD FirePro™ ultra high-end graphics deliver world-class performance for graphics - and compute-intensive workflows.

Visual supercomputing for the desk

Dell has collaborated with AMD to offer certified workstation solutions for the most demanding workflows. The AMD FirePro™ W9100 and W8100 GPUs put supercomputer performance into the hands of Design, Manufacturing and Engineering professionals, allowing them to quickly and efficiently tackle the largest and most complex projects.

You can achieve new levels of detail, speed and responsiveness with leading-edge memory configurations, compute and multi-display performance at your fingertips. Load massive assemblies and data sets and manipulate them in real time, work with multiple applications and visualize every detail of your digital prototyping pipeline across multiple 4K displays¹.

Leading GPU compute performance from a single GPU

Powered by OpenCL™, engineering professionals can now work with multiple graphics- and compute-intensive applications simultaneously using just one GPU.

The AMD FirePro™ W9100 and W8100 GPUs not only deliver massive graphics performance but also industry-leading compute power from a single GPU and are equipped with 16GB / 8GB GDDR5 of ultra-fast on-board memory. With such visual supercomputing performance, users can tackle the most complex concurrent engineering projects from 3D modeling to simulation and design in ultra-high resolutions running graphics and compute-intensive applications on the same workstation and from a single GPU.

Dell Precision Workstations with AMD FirePro™ graphics deliver world-class performance

Performance excellence for 3D CAD Modelling

Dell Precision workstations with AMD FirePro™ graphics are optimized and certified for the leading 3D CAD modelling applications, including **CATIA®**, **NX™**, **PTC Creo®** and **SOLIDWORKS®**.

With up to 3.7 Billion triangles per second and 8 or 16GB of ultra-fast GDDR5 memory, engineers can manipulate geometry-intensive designs with high frame rates and in ultra-high resolution with ease.

In addition, AMD FirePro™ GPUs support the latest graphics features such as RealView™ with Ambient Occlusion in **SOLIDWORKS® 2015** and the new GPU-accelerated Order Independent Transparency (OIT) mode in **PTC Creo 3.0**. These features can help improve the user's sense of "design intuition" and aid in better decision-making throughout the product development stages.



Industry:

Design and Manufacturing (CAD/CAM/CAE)

Target Workflows:

3D CAD Design
Engineering Analysis
Visualization

Certified Applications:

3D CAD Modelling

- ▲ CATIA®
- ▲ NX™
- ▲ PTC Creo®
- ▲ SOLIDWORKS® & many more

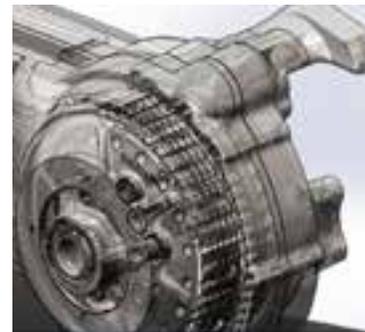
Engineering Analysis

- ▲ Autodesk® Moldflow® *
- ▲ Dem Solutions EDEM *
- ▲ NX™ Nastran® *
- ▲ SIMULIA Abaqus® *
- ▲ Vratix SpeedIT FLOWCL® *

Design Visualization

- ▲ AMD FireRender® *
- ▲ Autodesk® VRED®
- ▲ Optis THEIA-RT® *

* with OpenCL™ 1.1/1.2 support



Classic Blended Mode



With OIT

CUTTING-EDGE GRAPHICS PERFORMANCE	INDUSTRY-LEADING GPU COMPUTE POWER	UNPRECEDENTED MEMORY CONFIGURATION	UNLIMITED 4K DISPLAY CAPABILITIES ¹
Up to 2816 Stream Processors	Up to 5.24 TFLOPS Single-precision compute	Choice of 8GB or 16GB GDDR5 GPU Memory	Up to six 4K Displays 10-bit color Low-latency SDII/O Framelock/Genlock (Requires FirePro™ S400 synch module)
32 GB/s PCI Express 3.0 Bandwidth	Up to 2.62 TFLOPS Double-precision compute	320 GB/s Memory Bandwidth	

The AMD FirePro™ Advantage:

- ▲ More than 100 ISV certifications and optimizations
- ▲ GPU-accelerated application performance with OpenCL™
- ▲ 3-year limited warranty and extended availability
- ▲ Highest level of customer support – Customers have the ability to contact the AMD technical team directly



GPU compute power for faster engineering analysis

Dell Precision™ workstations with AMD FirePro™ graphics deliver up to 2.62 TFLOPS of double-precision compute power from a single GPU.

Thanks to advances in GPU technology and the rise of OpenCL™, the open standard for parallel programming, Independent Software Vendors (ISVs) are increasingly optimizing their applications and leveraging the GPU to assist the CPU in solving complex datasets faster.

Tap into the power of AMD FirePro™ GPU compute for advanced numerical and data analytics and deliver accurate physics simulations more quickly. For example, adding a FirePro™ W9100 GPU to your system can increase performance by up to 3.4x over a CPU-only solution with **SIMULIA Abaqus 6.14**³.

Abaqus 6.14 Performance data³ with OpenCL™

Benchmark: S2A: 1.8 M DOF Direct Solver (Flywheel)

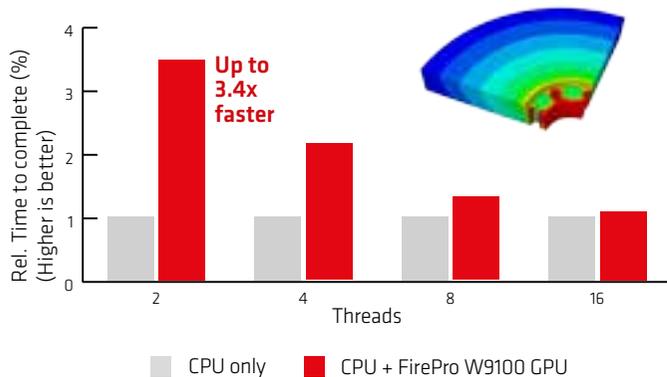
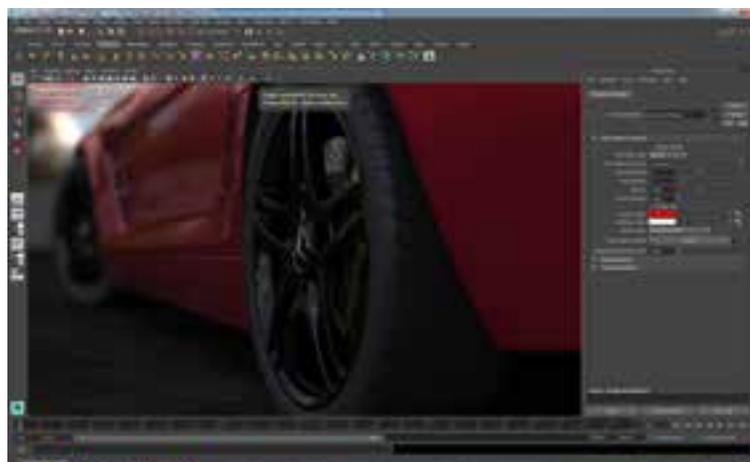


Photo-realistic rendering for design visualization

When conducting design reviews with GPU-accelerated rendering applications like Autodesk® VRED®, Optis THEIA-RT or AMD FireRender, workflows benefit from the massive graphics and computational performance delivered by up to 2816 Stream Processors as well as the 16GB of ultra-fast GPU memory available with the AMD FirePro™ W9100 GPU.

In order to ensure that engineering projects don't get compromised visually when the "pixels hit the screen", FirePro™ W8100 and W9100 graphics cards offer discrete connectivity for four (W8100) or six (W9100) 4K displays via DisplayPort 1.2 and AMD Eyefinity technology¹.

In summary, Dell Precision workstations with AMD FirePro™ W8100 and W9100 GPUs deliver the reliability, innovation and performance to accelerate engineering projects beyond just graphics.



AMD FirePro™ W9100 graphics

- ▲ First graphics card with 16GB GPU memory⁴, now available in Dell Precision Tower 7910 and R7910

AMD FirePro™ W8100 graphics

- ▲ Add best-in-class GPU Compute to your workstation², available in Dell Precision Tower 5810, 7810, 7910

For more information, visit in.amdfireprohub.com/resources/partners/dell/

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¹Requires 4K displays and content; performance dependent on file size. AMD Eyefinity technology supports up to six DisplayPort™ monitors on an enabled graphics card. Supported display quantity, type and resolution vary by model and board design; confirm specifications with manufacturer before purchase. To enable more than two displays, or multiple displays from a single output, additional hardware such as DisplayPort-ready monitors or DisplayPort 1.2 MST-enabled hubs may be required. A maximum of two active adapters is recommended for consumer systems. See www.amd.com/eyefinityfaq for full details.

²AMD FirePro™ W8100 delivers 2.1 TFLOPS peak double-precision floating point performance, while the closest competing solution from Nvidia (as of August 2015) is the Quadro M5000 which offers only 0.134 TFLOPS (per <http://www.anandtech.com/show/9096/nvidia-announces-quadro-m6000-quadro-vca-2015>). FP-161

³In AMD internal testing on Abaqus 6.14, the test system using the AMD FirePro W9100 completed the S2 Flywheel with centrifugal load benchmark test in 220 minutes using only 2 CPU threads v. 64 minutes when using the discrete GPU. Lab test system configuration: Workstation with Intel E5-2643 2 core with/without discrete FirePro W9100 GPU, 32GB RAM, Windows7-64, AMD driver 13.352.1014. FP-124

⁴AMD FirePro™ W9100 features 16GB GDDR5 memory. Nvidia's highest memory card in the market as of August 2015 is the Quadro M6000 with 12GB GDDR5 memory. Visit http://images.nvidia.com/content/quadro/product-literature/line-card/12611_ProGraphicsLineCard_GENERIC_JUN15_US_FNL_HR.pdf for Nvidia product specs. FP-163. SG/11/15 #657

