SOLUTION OVERVIEW | PTC® CREO® PARAMETRIC 2.0

Breakthrough innovation for 3D CAD workflows

A close technology partnership between AMD and PTC brings advanced features and productivity gains, uniquely to AMD FirePro™ Professional Graphics & PTC® Creo® Parametric 2.0 users

PTC Creo®

Industry:

Manufacturing (CAD/CAM)

Application:

PTC® Creo® Parametric 2.0

Challenges:

- Competitive pressure
- Faster time-to-market
- More demanding designs

Solution:

- AMD FirePro professional graphics cards are certified for PTC Creo 2.0 and enable advanced workflows at incredible value

Value Propositions:

- Exclusive workflow performance gains with PTC Creo Parametric 2.0 and AMD FirePro
- Rapid design and greater "design intuition" with GPU-accelerated transparency mode (OIT)
- Overall enhanced performance and interactivity
- AMD Catalyst Pro drivers optimised and certified for PTC Creo Parametric 2.0

The AMD FirePro Advantage:

- Three-year warranty and extended availability – Compared to consumer graphics, AMD FirePro graphics cards have a planned minimum four-year lifecycle.
- Highest level of customer support – Customers have the ability to contact the AMD technical team directly.
- Energy efficiency – AMD FirePro graphics cards are based on highly efficient GPU technology. A single card can power 3 (up to 6) displays minimising heat and energy costs.

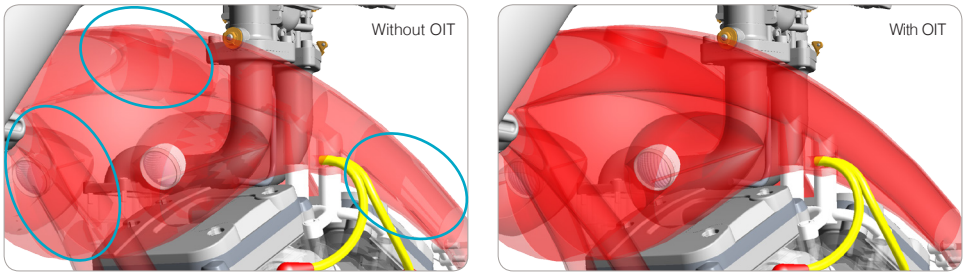
Developing greater competitive advantage for working PTC® Creo® designers

The AMD FirePro™ graphics team, working closely with PTC, maintains engineering efforts to help ensure the best workflow performance and productivity for PTC Creo Parametric 2.0 users. AMD FirePro Professional Graphics cards give PTC Creo users access to features and performance like no other workstation graphics products on the market; opening the door to breakthrough innovation and greater competitive advantage.

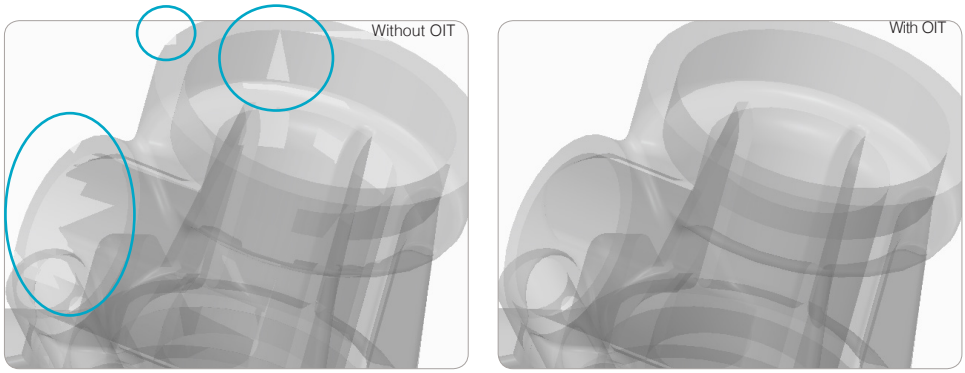
Rapid design and greater "design intuition" with GPU-accelerated transparency mode

AMD FirePro Professional Graphics unleash the power of GPU-accelerated transparency mode (OIT - Order independent transparency), a feature uniquely available to AMD FirePro Professional Graphics customers running PTC Creo Parametric 2.0. OIT uses ultra-fast, GPU-accelerated OpenGL functions that provide up to 17x faster 3D frame rates than PTC Pro/ENGINEER Wildfire 5.0.

At the same time, OIT assembles a "pixel-accurate" representation of the model and its surrounding geometry while maintaining user interactivity and visual quality. This creates a more practical transparent 3D viewpoint to continuously work within, helping improve the sense of "design intuition" and aid in better decision-making throughout the product development stages.



OIT fixes visual artifacts caused by inaccurate "depth sorting" of the geometry that often happens in the older "blended mode". This means some parts of the object are being rendered incorrectly with the old blended mode technology.



OIT also removes "jagged" triangles or distorted "banding" typically seen on objects that are used within the older "blended mode".

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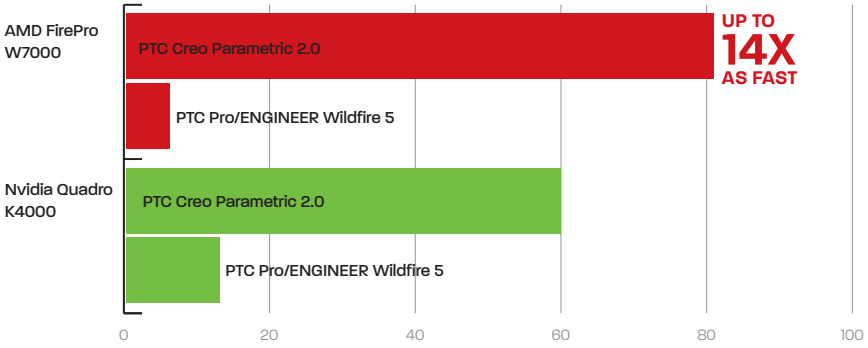
AMD FIREPRO & PTC CREO

GPU memory optimisations enable enhanced performance and interactivity

Developed by AMD in close collaboration with PTC, advanced OpenGL optimisations (known as "VBO -Vertex Buffer Object") greatly increase 3D frame rate and interactivity for PTC Creo 2.0 users. These performance benefits exploit the on-board memory processing of modern GPUs to deliver additional, always-on 3D acceleration with advanced datasets and workflows. As a result, PTC Creo designers running AMD FirePro graphics experience up to 14x faster performance when working with complex datasets -helping them maintain their productivity and creative flow[2].

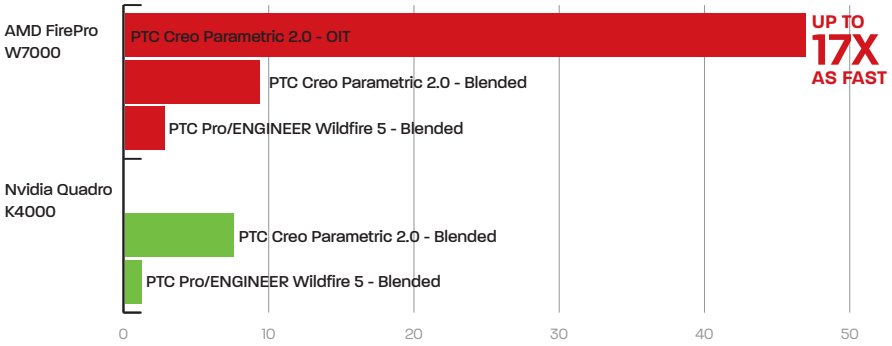
VBO benchmark ("Always-on" 3D viewport performance enhancements)
Up to 14x faster 3D frame rates and interactivity[1]

PTC Creo® Parametric® 2.0 vs. PTC Pro/ENGINEER Wildfire 5.0
(large dataset, shaded mode)
measured in frames per second -
higher scores = better user interactivity



OIT comparisons (GPU-accelerated Transparency mode vs. "blended mode")
Benchmarking graph showing up to 17x faster viewport performance with PTC Creo® Parametric® 2.0 "OIT" accelerated transparency mode[2]

Transparency Performance
(medium sized dataset, shaded mode)
measured in frames per second -
higher scores = better user interactivity



Optimised and Certified for PTC Creo

To help ensure optimised performance and compatibility, AMD FirePro Professional Graphics solutions are thoroughly tested and certified by PTC for workstation-class reliability across the suite of PTC applications. When combined with HP, Dell and other workstations certified by PTC, AMD FirePro Professional Graphics deliver advanced performance, reliability and value: providing an unbeaten user experience for PTC Creo designers.

For more information, visit www.fireprographics.com/creo

1 Based on comparison of PTC Creo 2.0 Shaded, FPS Motorcycle running internal benchmark, "PTC Creo_Fraps_Bench_2.1_Results v2" using PTC's combine dataset and "shaded" mode. Configuration: Intel Xeon E5-1660 @ 3.3Ghz 6-Core, 8GB, Windows 7 x64, 1920x1200, PTC Creo Parametric 2.0 M030, PTC Pro/ENGINEER Wildfire 5.0 M0170 Drivers: AMD FirePro 9.003.3.3, FPS measured with Fraps 3.4.9, Nvidia Quadro 310.90 FPS measured with Fraps 3.4.9

2 Based on comparison of PTC Creo 2.0 Blended vs. OIT Transparency, FPS Motorcycle, running internal benchmark, "PTC Creo_Fraps_Bench_2.1_Results v2" using AMD's motorcycle dataset and "shaded" mode. Configuration: Intel Xeon E5-1660 @ 3.3Ghz 6-Core, 8GB, Windows 7 x64, 1920x1200, PTC Creo Parametric 2.0 M030, PTC Pro/ENGINEER Wildfire 5.0 M0170
Drivers: AMD FirePro 9.003.3.3, FPS measured with Fraps 3.4.9, Nvidia Quadro 310.90 FPS measured with Fraps 3.4.9