



Autodesk VRED with RTX: Technical Preview

Physically accurate rendering at unheard-of levels of single-workstation performance

OVERVIEW

The Nissan GT-R50 is a \$1.2-million supercar being rendered here in real-time, with physically-correct ray tracing. This technical preview of Autodesk VRED is built on the latest Optix 7.0 rendering SDK with full support for the features of RTX GPUs. It is running on a single Asus E9000 desktide workstation with four Quadro RTX 80000 GPUs. The result is real-time, noise-free frames and full physically-correct global-illumination. RTX is changing the world of high-end industrial design with Quadro workstations and RTX Servers ready to replace complicated, power-hungry and expensive racks of CPU-based servers.

1. Interactive RTX ray tracing on a single workstation with 4 GPUs perform real-time noise-free, physically correct rendering. This would require 16 current-generation dual-Xeon CPU servers
2. RTX ray tracing makes rendering far more efficient and cost-effective than large clusters of CPUs that are currently used for ray tracing.
3. VRED with RTX produced beautiful, noise-free photorealistic renderings of heavy automotive CAD models in real time.
4. VRED is the standard tool in the automotive industry for visualizing CAD designs. It is widely used for real-time presentations for executive design reviews, where performance and rendering quality justify large infrastructure investments.
5. RTX ON is transforming design workflows.

KEY POINTS

1. RTX workstation with 4 GPUs provides nearly linear (4x) performance scaling compared to VRED on a single-GPU workstation and replaces up to 32 CPUs for real-time interactive rendering at high resolutions and frame rates.
2. The Tensor Cores on the GPUs use AI for real-time denoising.