NVIDIA EGX™ SERVER FOR SCALABLE VISUALIZATION SOLUTIONS DESIGN GUIDE

VERSION: 1.1

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Chapter 1.
SOLUTION OVERVIEW

NVIDIA EGX Server™ is a validated combination of qualified partner systems hosting NVIDIA Quadro RTX A6000, A40, RTX 8000 or RTX 6000 GPUs and Quadro Sync II cards providing the most advanced display technologies and interfaces to create the ultimate visual workspace for maximum productivity and dynamic large-scale visualization. Easily deploy and manage single or multiple displays on a desktop, drive head-mounted displays, build expansive digital signage walls, and create immersive high-resolution stereoscopic environments.

NVIDIA EGX™ Server for SVS sets a new standard for professional synchronized display deployments, requiring unparalleled rendering and synchronized graphics performance, all with breakthrough possibilities that realtime ray tracing and AI can provide.

Chapter 2.
SOLUTION DETAILS

NVIDIA EGX Server for SVS is a reference design comprised of (a) NVIDIA Quadro RTX A6000, A40, RTX 8000 or RTX 6000 graphics cards; (b) Quadro Sync II cards and a (c) Qualified OEM server system. This validated solution provides unprecedented graphics scaling with 8 GPUs driving up to 32 displays with no modifications required to the applications or scaling down the resolution.

Built on the NVIDIA Ampere™ architecture, the NVIDIA® Quadro RTX™ A6000 and NVIDIA® A40, combine 48GB of graphics memory with the latest generation RT Cores, Tensor Cores, and NVIDIA Ampere architecture CUDA® cores for unprecedented graphics, rendering, and AI performance. Additional support for a range of commercially available remote access software means you can access the power of your Quadro desktop workstation from anywhere. Achieve breakthrough innovations with the world's most powerful graphics solution

NVIDIA Quadro RTX 8000 and RTX 6000, powered by the NVIDIA Turing™ architecture and the NVIDIA RTX platform, brings the most significant advancement in computer graphics in over a decade to professional workflows. New RT Cores and Tensor Cores bring the power of realtime ray tracing and AI-enhanced workflows to millions of design and creative professionals. Combined with NVIDIA NVLink™ technology, RTX 8000 scales graphics memory and performance to drive the most demanding rendering, AI, and visual computing workloads.

NVIDIA Quadro Sync II solutions enable the creation of dazzling ultra-high resolution, perfectly synchronized displays to meet the visualization and presentation needs across industries. Designed for flexibility and scalability, Quadro Sync boards connect to select NVIDIA Quadro GPUs, synchronizing them with the displays or projectors attached to them. Quadro Sync also enables NVIDIA Quadro Mosaic™ technology on those synchronized displays and projectors, providing an easy way to scale the resolution of any application across multiple GPUs.

EGX Servers, built by our OEM Partners, undergo NVIDIA's Qualification test suite. Among systems that qualify as an EGX Server there is a subset that has gone through additional testing and validation for SVS workload. These EGX Server Validated systems capture best practices from NVIDIA and its ecosystem partners.
Configurations for the Validated EGX Servers are listed in the below segment.

2.1 VALIDATED SERVER CONFIGURATIONS

Table 1 outlines the servers utilized to complete the NVIDIA EGX Server validation process.

Table 1: Validated Server Configurations

Server Model	Graphics	Configuration
System Tyan Thunder HX FA77B7119	8x Quadro RTX 6000 / 8x Quadro RTX 8000 4x Quadro RTX NVLink HB bridge 2-slot 2x Quadro Sync II card	• Dual-Socket Intel 2nd Gen Xeon® Scalable Processors • (24) DIMM slots supporting up to 3TB DDR4-2667
Supermicro 4029GP-TRT2	8x Quadro RTX 8000 4x Quadro RTX NVLink HB bridge 2-slot 2x Quadro Sync II card	• Dual Intel® Xeon® Gold 6126 processor: 2.6-3.7GHz; 12 Cores, 24 Threads • 256GB ECC DDR4 memory • 1TB M.2 PCIe NVMe SSD