



# NVIDIA RTX™ SERVER FOR SCALABLE VISUALIZATION SOLUTIONS DESIGN GUIDE

VERSION: 1.0



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# Chapter 1.

## SOLUTION OVERVIEW

NVIDIA RTX Server™ is a validated combination of qualified partner systems hosting NVIDIA Quadro RTX 6000 or RTX 8000 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 RTX™ 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 RTX Server for SVS is a reference design comprised of (a) NVIDIA Quadro 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.

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.

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

Configurations for the Validated RTX Servers are listed in the below segment.

## 2.1 VALIDATED SERVER CONFIGURATIONS

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

Table 1: Validated Server Configurations

Server Model	Graphics	Configuration
<b>System Tyan Thunder HX FA77B7119</b>	8x Quadro RTX 6000 / 8x Quadro RTX 8000 4x Quadro RTX NVLink HB bridge 2-slot 2x Quadro Sync II card	<ul style="list-style-type: none"><li>• Dual-Socket Intel 2nd Gen Xeon® Scalable Processors</li><li>• (24) DIMM slots supporting up to 3TB DDR4-2667</li></ul>
<b>Supermicro 4029GP-TRT2</b>	8x Quadro RTX 8000 4x Quadro RTX NVLink HB bridge 2-slot 2x Quadro Sync II card	<ul style="list-style-type: none"><li>• Dual Intel® Xeon® Gold 6126 processor: 2.6-3.7GHz; 12 Cores, 24 Threads</li><li>• 256GB ECC DDR4 memory</li><li>• 1TB M.2 PCIe NVMe SSD</li></ul>

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