

Optimized Solutions For Visual Computing & Scientific Simulation



Enterprise AI for visual computing and scientific simulation

Enterprise AI is transforming organizations by streamlining core processes and workflows to enhance organizational and employee efficiency. Key visual computing workloads such as real-time rendering, 3D modeling, and complex simulations demand specialized solutions that deliver accelerated compute performance, massive parallel processing, and real-time responsiveness.

These workloads matter because they can enable critical business decision making, accelerate innovation, and drive research outcomes. Real-time rendering speeds up the production of creative content, 3D modeling accelerates engineering and visualization to shorten product development cycles, and scientific simulations allow enterprises and research institutions to model complex systems and make data-driven decisions more quickly. To support this, enterprises are adopting solutions that are not only optimized for graphical computing workloads, but also the environments in which they are being deployed. The result is right-sized AI infrastructure that maximizes efficiency while also integrating easily with existing IT equipment, ensuring organizations are able to maximize ROI from their AI investments.

Supermicro and NVIDIA accelerating enterprise AI

Supermicro and NVIDIA provide flexible solutions optimized for visual computing and scientific simulation performance, combining industry-leading system architectures with the latest generation GPUs and software to create full-stack AI solutions that simplify the deployment of enterprise AI in any environment.

Key technical advantages

- **System flexibility:** Supermicro platforms for a range of environments—including high-density SuperBlade® for large-scale HPC, compact rackmount and tower workstations for collaborative environments, and the industry-standard 2U RTX PRO™ Server that can easily integrate into existing server racks.
- **Flexible GPU options:** NVIDIA RTX PRO™ 6000 Blackwell Server Edition GPU, RTX PRO™ 6000 Blackwell Workstation Edition GPU, RTX PRO™ 6000 Blackwell Max-Q Workstation Edition GPU, and L4 GPU deliver true universal processing performance to handle enterprise HPC and graphical computing workloads on common infrastructure.
- **Efficiency-optimized architectures:** Resource-saving architectures utilize shared components to reduce power consumption and the use of raw materials, while all-in-one workstation platforms are a self-contained AI solution that does not require specialized power and cooling facilities.
- **Supported software stack:** Supermicro's NVIDIA-Certified Systems™ are validated to support NVIDIA software solutions including NVIDIA Omniverse™ for digital twins and simulation, NVIDIA CUDA-X GPU acceleration libraries, and NVIDIA Cosmos™ for physical AI.

Business outcomes

- Deploy flexible infrastructure that can serve AI, graphics, and HPC workloads across the organization.
- Accelerate innovation and decision making based on advanced simulations.
- Leverage advanced AI and graphics processing to speed up creative workflows.

Supermicro Systems optimized For Visual Computing & Scientific Simulation

Key points of value

- High density configurations to maximize performance-per-dollar
- Resource-saving architectures utilize shared components to enhance efficiency
- Self-contained configurations make it easier to deploy AI in offices, laboratories, and field locations
- Easily and securely share GPU resources in centralized and collaborative environments

Relevant verticals/industries

- Media & entertainment
- AI model fine tuning & inference
- Manufacturing
- Scientific research
- Engineering



SuperBlade

Up to 120 GPUs per rack
Shared cooling, power and switching
Air or liquid cooling options



Rackmount Workstation

Up to 4 GPUs in 2U
Ideal for VDI and centralized infrastructure



Tower Workstation

All-in-one AI/Graphics platform
Supports active-cooling GPUs
Ideal for offices, labs, and field offices



2U NVIDIA RTX PRO Server

Scalable AI platform
Up to 2 GPUs in 2U
Supports DC-MHS standard

SBI-411E-1G

- CPU - Single 5th Gen Intel® Xeon® processor
- **Maximum GPU Quantity** - 1 double-width per blade
- **Memory** - 28 DIMM slots; up to DDR5-5600
- **Storage** - 2 E1.S + up to 6 M.2
- **Power** - Up to 8 redundant 3000W Titanium Level power supplies

AS -2115HV-TNRT

- CPU - Single AMD Ryzen™ Threadripper™ PRO 9000WX/7000WX Series processor
- **Maximum GPU Quantity** - 4 double-width
- **Memory** - 8 DIMM slots; up to DDR5-6400
- **Storage** - Up to 8 hot-swap 2.5" NVMe/SATA/SAS drive bays
- **Power** - 2x 2600W/2000W/1600W redundant Titanium Level power supplies

AS -531AW-TC

- CPU - Single AMD Ryzen™ Threadripper™ PRO 7000X/WX or 9000X/WX Series or processor
- **Maximum GPU Quantity** - 1 double-width
- **Memory** - 4 DIMM slots; up to DDR5-6400
- **Storage** - Up to 6 internal fixed SATA drives + 2 internal fixed NVMe drives
- **Power** - Single 1000W Gold Level or 1300W/2000W Titanium Level power supply

SYS-222C-TN

- CPU - Dual Intel® Xeon® 6700/6500 series processors with P-cores or 6700 series processors with E-cores
- **Maximum GPU Quantity** - 4 double-width
- **Memory** - 32 DIMM slots; up to DDR5-6400
- **Storage** - 88 front hot-swap 2.5" NVMe/SAS/SATA drive bays
- **Power** - 2x 2000W Redundant Titanium Level power supplies



SBI-411E-1G, SBI-612B-1C2N,
SBI-612B-1NE34, SBI-612B-SNE34,
SBI-612BA-1NE34, SBI-612BA-SNE34
NVIDIA L40S - 1 GPU (NVIDIA-Qualified)



NVIDIA RTX PRO 6000 Blackwell
Max-Q Workstation Edition - 4 GPUs
(NVIDIA-Qualified)
NVIDIA L40S - 4 GPUs

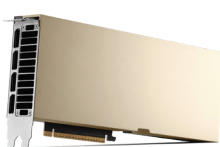


NVIDIA PCIe NVIDIA RTX PRO
6000 Blackwell Max-Q WS Edition - 1 GPU
(NVIDIA-Qualified)
NVIDIA PCIe NVIDIA RTX PRO 6000 Blackwell
WS Edition - 1 GPU (NVIDIA-Qualified)



NVIDIA RTX PRO 6000 Blackwell Server Edition - 2
GPUs (NVIDIA-Qualified)

NVIDIA GPUs optimized for visual computing & scientific simulation



NVIDIA RTX PRO™ 6000 Blackwell Server Edition GPU

- Universal GPU performance - 5th Gen Tensor Cores + 4th Gen Ray Tracing Cores
- 96GB GDDR7 to support models up to 70b parameters
- Up to 600W
- Peak FP4 AI Performance: 3.7 PFLOPS
- Multi Instance GPU (MIG) for secure GPU sharing in VDI and virtual machine environments
- Best for: Agentic & generative AI, media & entertainment, AI-driven rendering & graphics, scientific computing & data analytics



NVIDIA RTX PRO™ 6000 Blackwell Workstation Edition GPU

- Universal GPU performance - 5th Gen Tensor Cores + 4th Gen Ray Tracing Cores
- 96GB GDDR7
- 600W
- Double Flow Through cooling
- Best for: AI development, AI-driven rendering & graphics, HPC, data science, video content & streaming, game development



NVIDIA RTX PRO™ 6000 Blackwell Max-Q Workstation Edition GPU

- Universal GPU performance - 5th Gen Tensor Cores + 4th Gen Ray Tracing Cores
- 96GB GDDR7
- 300W
- Active cooling
- Best for: AI development, AI-driven rendering & graphics, HPC, data science, video content & streaming