SOLUTION BRIEF

SUPERMICRO'S VIRTUAL DESKTOP INFRASTRUCTURE (VDI) SOLUTIONS FOR THE MODERN ERA

EXECUTIVE SUMMARY

Enablement of remote workers due to the globalization of the modern workforce has become a differentiating factor of advanced and progressive companies. With the many rapid changes in our environment, support for a myriad of remote workers extends beyond office workers, but also the creative and design professionals, engineers, and whomever may need workstation-class systems and GPU resources. Supermicro has proven and scalable solutions to support performance-critical workloads and disaggregated collaboration for remote workforces.

SUPERMICRO'S VIRTUAL DESKTOP (GRID vPC) SOLUTIONS

For many all-purpose use cases for office functions, the virtual desktop or NVIDIA GRID vPC solution is an ideal option.

Focusing on the density of the infrastructure, along with cost and performance for the user experience, Supermicro has multiple options.

Working with VDI using NVIDIA virtual GPU (vGPU) supports many programs, including Windows 10, requiring graphics acceleration that, without a GPU for data offload, overwhelms the CPU, degrading the user experience and virtual machine (VM) responsiveness. Supermicro's vGPU Virtual Desktop solution allows for up to 33% better density with better overall user experience compared to VDI infrastructure with CPU only solution.

Supermicro's solution includes several different options to fit your needs.

WHY THE "BEST" CONFIGURATION IS BETTER

- Available higher GPU and CPU and power resources to make sure that all workloads are supported

- 2B GRID vPC profile recommended for higher resolution and/or multiple monitors

- More networking options with options for SIOM

- Upgradable to Quadro vDWS software solution with high powered Quadro RTX GPUs with support for Ray Tracing

	GOOD Lowest cost per user	BETTER Universal GPU high utilization	BEST (1B) Highest GPU performance GRID vPC @1B	BEST (2B) Highest Density GRID vPC @ 2B
SERVER	SYS-2029U-E1CRT (2U)		SYS-2029GP-TR (2U)	
SUPPORT USER	64 CCU		96 CCU	
NVIDIA GRID SW	GRID vPC – 1B (1GB FB)		GRID vPC – 1B (1GB FB)	GRID vPC – 2B (2GB FB)
NVIDIA GPU	2x NVIDIA M10	4x NVIDIA T4	4x Quadro RTX 6000-P	4x Quadro RTX 8000-P
CPU	Slower and Lower Core Count CPU 6240R 24C @ 2.4 GHZ		Faster and Higher Core Count CPU 6248R 24C @ 3.0 GHZ	
SYSTEM MEMORY	Recommend 384-512 GB ~6-8 GB/CCU		Recommend 768 GB ~8 GB/CCU	

SUPERMICRO'S VIRTUAL WORKSTATION (QUADRO vDWS) SOLUTIONS

Supermicro has a long history of designing and manufacturing high powered GPU servers. These GPU servers, combined with NVIDIA'S Quadro Virtual Data Center Workstation (Quadro vDWS) software solution, enables a remote virtual machine to have similar performance as a bare metal workstation with GPU. The Quadro vDWS software solution allows a user to dynamically allocate resources (from 1Q profile to combining up to 4 GPUs in 1 VM). This capability can minimize functionality differences between the bare metal workstation and the VM.

Below are configurations for a professional design or engineering user using NVIDIA's datacenter level Quadro GPUs, the Quadro RTX 6000 passive and Quadro RTX 8000 passive GPUs. We built a solution using frame buffer sizes of the more commonly found, lower performance Quadro RTX 4000 and Quadro RTX 5000. For better performance, a higher FB/vGPU profile can be selected, which allocates more GPU resources among fewer users.

2U VS 4U

- 2U is an easier point of entry. Less connected GPUs and less available resources

- 4U is a fully capable and populated solution with greatest available resources for the VMs.

BENEFITS OF QUADRO RTX 8000 OVER QUADRO RTX 6000

- Double Frame Buffer in Quadro RTX 8000

- Able to have higher frame buffer profile at same density (for bigger models and datasets)

	2U Solution		4U Solution	
SERVER	**SYS-2029GP-TR**		**SYS-4029GP-TRT**	
SUPPORT USER	15 CCU		24 CCU	
NVIDIA GRID SW	Quadro vDWS – 8Q (8GB FB)	Quadro vDWS – 16Q (16GB FB)	Quadro vDWS – 8Q (8GB FB)	Quadro vDWS – 16Q (16GB FB)
NVIDIA GPU	5x Quadro RTX 6000-P	5x Quadro RTX 8000-P	8x Quadro RTX 6000-P	8x Quadro RTX 8000-P
CPU	Can use lower core CPU because less VMs 6226R 16C @ 2.9 GHz		Need higher core CPU because more VMs 6248R 24C @ 3.0 GHZ	
SYSTEM MEMORY	Recommend 960 GB ~64GB/CCU		Recommend 1536 GB ~64GB/CCU	

SUPERMICRO IS HERE TO HELP!

For any and all your Virtualization needs and use cases, Supermicro has a solution for you. We understand the challenges that everyone is facing and are here to help.

Please feel free to contact your Supermicro Representative to learn more.

FOR MORE INFORMATION

- **Supermicro VDI Solutions:** https://www.supermicro.com/en/solutions/nvidia-vgpu

- **NVIDIA vGPU Solutions:** https://www.nvidia.com/en-us/data-center/virtual-solutions/

- **vGPU Certified Servers List:** https://www.nvidia.com/en-us/data-center/resources/vgpu-certified-servers/

ABOUT SUPER MICRO COMPUTER, INC.

Supermicro® (NASDAQ: SMCI), the leading innovator in high-performance, high-efficiency server technology is a premier provider of advanced server Building Block Solutions® for Data Center, Cloud Computing, Enterprise IT, Hadoop/Big Data, HPC and Embedded Systems worldwide. Supermicro is committed to protecting the environment through its "We Keep IT Green®" initiative and provides customers with the most energy-efficient, environmentally-friendly solutions available on the market.

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