NVIDIA GRID™ K1 AND K2
GRAPHICS-ACCELERATED VIRTUAL DESKTOPS AND APPLICATIONS

NVIDIA GRID™ technology offers the ability to offload graphics processing from the CPU to the GPU in virtualized environments. This gives the data center manager the freedom to deliver true PC graphics-rich experiences to more virtual users for the first time.

The NVIDIA GRID K1 and K2 boards provide:

GPU Virtualization[1]

GRID boards feature the NVIDIA® Kepler™ architecture that, for the first time, allows hardware virtualization of the GPU. This means multiple users can share a single GPU, improving user density while providing true PC performance and compatibility.

Low-Latency Remote Display

NVIDIA's patented low-latency remote display technology greatly improves the user experience by reducing the lag that users feel when interacting with their virtual machine. With this technology, the virtual desktop screen is pushed directly to the remoting protocol.

H.264 Encoding[2]

The Kepler GPU includes a high-performance H.264 engine capable of encoding simultaneous streams with superior quality. This provides a giant leap forward in cloud server efficiency by offloading the CPU from encoding functions and allowing these functions to scale with the number of GPUs in a server.

Power Efficiency

GRID GPUs are designed to provide data center-class power efficiency, including the revolutionary new streaming multiprocessor, called "SMX". The result is an innovative, proven solution that delivers revolutionary performance per-watt for the enterprise data center.

Maximum User Density

NVIDIA GRID boards have an optimized multi-GPU design that helps to maximize user density.

GRID K1 boards, which include four Kepler-based GPUs and 16 GB of memory, are designed to host the maximum number of concurrent users. GRID K2 boards, which include two higher-end Kepler GPUs and 8 GB of memory, deliver maximum density for users of graphics-intensive applications.

24/7 Reliability

GRID boards are designed, built, and tested by NVIDIA for 24/7 operation. Working closely with leading server vendors such as Cisco ensures that GRID cards perform optimally and reliably for the life of the system.

Widest Range of Virtualization Solutions

GRID boards enable GPU-capable virtualization solutions from Citrix, Microsoft, and VMware, delivering the flexibility to choose from a wide range of proven solutions.

IT managers can now:

Leverage industry-leading virtualization solutions, including Citrix, Microsoft, and VMware

Add the most graphics-intensive users to virtual solutions

Improve the productivity of all users

Users can now:

Explore highly responsive windows and rich multimedia experiences

Access all critical applications, including the most 3D-intensive

Access their most important apps from anywhere, on any device

In collaboration with:

CISCO™

1. Available for Citrix Xenserver | 2. Consult your software provider to see if this is supported

Specifications

	GRID K1	GRID K2
Number of GPUs	4 x entry Kepler™ based GPUs	2 x high-end Kepler™ based GPUs
Total NVIDIA® CUDA® Cores	768	3,072
Total Memory Size	16 GB DDR3	8 GB GDDR5
Max Power	130 W	225 W
Aux Power	6-pin connector	8-pin connector
Board Dimensions	10.5" long, 4.4" high, dual slot	
Display IO	None	
PCIe	x16, Gen3 (Gen2 compatible)	
Cooling Solution	Passive	

Software Partners

The NVIDIA compatibility guarantee ensures that virtualized users experience the same state-of-the-art graphics they have at their desk. NVIDIA works with over 100 leading companies to ensure this experience meets their stringent application certification standards. A list of these solutions can be found at **www.nvidia.com/gridcertifications.**

	NVIDIA COMPATIBILITY GUARANTEE	APPLICATION CERTIFICATIONS	GRAPHICS APIs SUPPORTED	GRID K1	GRID K2
VIRTUALIZED APPLICATIONS					
Citrix XenApp	✔		DirectX 9,10,11 OpenGL 4.4	✔	✔
VIRTUAL DESKTOPS					
Citrix XenDesktop with HDX 3D Pro running NVIDIA GRID vGPU[1]	✔	✔	DirectX 9,10,11 OpenGL 4.4	✔	✔
Microsoft RemoteFX in Windows Server 2012			DirectX 9,10,11 OpenGL 1.1	✔	✔
VMware Horizon View with vSGA[2]			DirectX 9 OpenGL 2.1	✔	✔
VIRTUAL REMOTE WORKSTATIONS					
Citrix XenDesktop with HDX 3D Pro	✔	✔	NVIDIA CUDA DirectX 9,10,11 OpenGL 4.4	4 Users	2 High-End Users
VMware Horizon View with vDGA	✔	✔	NVIDIA CUDA DirectX 9,10,11 OpenGL 4.4	4 Users	2 High-End Users

Recommended Cisco UCS™ Servers

Cisco UCS C240 M3

Form Factor	2U rack
CPU Processors	1 or 2 Intel® Xeon® processors E5-2600 and E5-2600 v2 families
GRID Boards	2 GRID K1 boards (total 8 GPUs) or 2 GRID K2 boards (total 4 GPUs) or 1 GRID K1 board (4 GPUs) and 1 GRID K2 board (2 GPUs)
Memory	24 DIMM slots providing up to 768GB

Cisco UCS 460 M4

Form Factor	4U rack
CPU Processors	2 or 4 Intel® Xeon® processors E7-4800 v2 and E7-8800 v2 families
GRID Boards	2 GRID K1 boards (total 8 GPUs) or 2 GRID K2 boards (total 4 GPUs) or 1 GRID K1 board (4 GPUs) and 1 GRID K2 board (2 GPUs)
Memory	96 DIMM slots providing up to 6TB

For more information or to purchase available systems, visit **www.nvidia.com/vdi.** To find out more about the Cisco solutions, visit **www.cisco.com/en/US/products/ps12370/**

1. NVIDIA GRID™ vGPU™ is only supported on compatible versions of Citrix XenServer. Consult Citrix for compatibility. | 2. Only compatible with VMware vSphere Hypervisor. Consult VMware for compatibility.