



# NVIDIA VIRTUAL GPU

## HOW TO BUY

### OVERVIEW

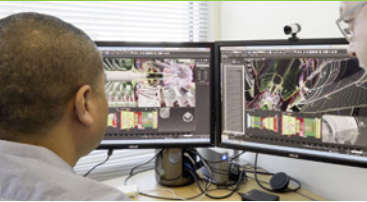

NVIDIA virtual GPU software enables the delivery of graphics-rich virtual desktops and workstations accelerated by NVIDIA GPUs, the most powerful data center GPUs on the market today. With NVIDIA virtual GPU software, GPU resources can be divided so that GPUs are shared across multiple virtual machines, or multiple GPUs can be allocated to a single virtual machine to power the most demanding, compute-intensive workloads.

The portfolio of NVIDIA virtual GPU software products includes:

- NVIDIA Quadro® Virtual Data Center Workstation (Quadro vDWS)
- NVIDIA GRID® Virtual PC (GRID vPC)
- NVIDIA GRID Virtual Applications (GRID vApps)
- NVIDIA Virtual Compute Server (vComputeServer)

To run these software products, you'll need an NVIDIA GPU and a software license that addresses your specific use case.

### FIND THE BEST VIRTUAL GPU SOFTWARE PRODUCT FOR YOUR USERS.

Use Case			
Compute Type	Client Computing	Client Computing	Server Workloads
Virtual GPU Software Edition	Quadro Virtual Data Center Workstation	GRID Virtual PC / Virtual Applications	NVIDIA Virtual Compute Server
GPU Hardware	Recommended: T4, P40, Quadro RTX™ 6000/8000 Supported: V100, V100S, P6	Recommended: M10, T4, P6 Supported: RTX 6000/8000, V100, V100S	Recommended: T4, V100, V100S Supported: RTX 6000/8000, P40, P6

Now available in CSP marketplaces, NVIDIA Quadro Virtual Workstation software provides enterprises that want to pair cloud-based workstations with traditional on-premise infrastructure with even greater flexibility and business agility.

### NVIDIA VIRTUAL GPU SOFTWARE FEATURE LIST

Configuration and Deployment	Quadro vDWS	GRID vPC	GRID vApps	vComputeServer
Desktop Virtualization	✓	✓		
Server Virtualization				✓
RDSH App Hosting	✓ <sup>1</sup>	✓	✓	
RDSH Desktop Hosting	✓ <sup>1</sup>	✓	✓	
Windows OS Support	✓	✓	✓	
Linux OS Support	✓	✓ <sup>2</sup>		✓
GPU Pass-Through Support <sup>3</sup>	✓		✓	✓
Bare-Metal Support <sup>4</sup>	✓		✓	✓
NVIDIA Graphics Driver	✓ <sup>1</sup>	✓	✓	
NVIDIA Quadro Driver	✓			
NVIDIA Compute Driver				✓
Guaranteed Quality-of-Service Scheduling <sup>5</sup>	✓	✓	✓	✓
Multi-GPU	✓ <sup>13</sup>			✓

	Quadro vDWS	GRID vPC	GRID vApps	vComputeServer
NVIDIA® NVLink™	✓			✓
ECC Reporting and Handling	✓			✓
Page Retirement	✓			✓
<b>Display</b>				
Maximum Hardware Rendered Display	Four 5K or Two 8K	Four QHD, Two 4K <sup>11</sup> , One 5K	One <sup>6</sup>	One 4K
Maximum Resolution	7680 x 4320 <sup>15</sup>	5120 x 2880	1280 x 1024	4096 x 2160
<b>Support</b>				
NVIDIA Direct Enterprise-Level Technical Support	✓	✓	✓	✓
Maintenance Releases, Defect Resolutions, and Security Patches for up to 3 Years <sup>9</sup>	✓	✓	✓	✓
NGC Ready Support				✓

Data Center Management	Quadro vDWS	GRID vPC	GRID vApps	vComputeServer
Host, Guest, and Application-Level Monitoring <sup>7</sup>	✓	✓	✓	✓
Live Migration <sup>2</sup>	✓	✓	✓	✓
Advanced Professional Features				
ISV Certifications	✓			
NVIDIA CUDA® / OpenCL	✓ <sup>9</sup>			✓
Graphics Features and APIs				
NVENC	✓	✓		✓
OpenGL Extensions, Including WebGL	✓	✓	✓	
Insitu Graphics/GL Support				✓
Quadro Performance Features and Optimizations	✓			
DirectX	✓	✓	✓	
Vulkan Support	✓			✓
Profiles <sup>10</sup>				
Max Frame Buffer Supported	48 GB	2 GB <sup>2</sup>	48 GB	48 GB
Available Profiles	0Q, 1Q, 2Q, 3Q, 4Q, 6Q, 8Q, 12Q, 16Q, 24Q, 32Q <sup>12</sup> , 48Q <sup>14</sup>	0B, 1B, 2B <sup>2</sup>	1A, 2A, 3A, 4A, 6A, 8A, 12A, 16A, 24A	4C, 6C, 8C, 12C, 16C, 24C, 32C, 48C

## CHOOSE A SOFTWARE LICENSING MODEL

### ANNUAL ENTERPRISE SUBSCRIPTION

Annual subscription includes software license and NVIDIA Support, Update, and Maintenance Subscription (SUMS).

GRID Virtual Applications	\$10 per concurrent user subscription
GRID Virtual PC	\$50 per concurrent user subscription
Quadro Virtual Data Center Workstation	\$250 per concurrent user subscription
NVIDIA vComputeServer	\$150 per GPU subscription

### PERPETUAL ENTERPRISE LICENSE

Perpetual License includes indefinite software license; SUMS is required and is available in four-, or five-year increments. One-year SUMS available only for renewals

GRID Virtual Applications	\$20 perpetual license \$5 SUMS per year
GRID Virtual PC	\$100 perpetual license \$25 SUMS per year
Quadro Virtual Data Center Workstation	\$450 perpetual license \$100 SUMS per year
NVIDIA vComputeServer	Perpetual license not available

For more details on what's supported in each version of NVIDIA virtual GPU software, see the [NVIDIA Virtual GPU Packaging, Pricing, and Licensing Guide](#).

Licensing for cloud-based workstations with NVIDIA Quadro Virtual Workstation software will vary with CSP pricing.

Licensing by service providers reselling or hosting NVIDIA virtual GPU services is provided through the NPN Partner Program for [Cloud Service Providers](#).

## FIND THE BEST NVIDIA DATA CENTER GPU FOR YOUR ENVIRONMENT.

NVIDIA virtual GPU software runs on NVIDIA GPUs, is based on the NVIDIA Turing™, Volta™, Pascal™, and Maxwell™ GPU architectures, and is supported in [certified servers](#).

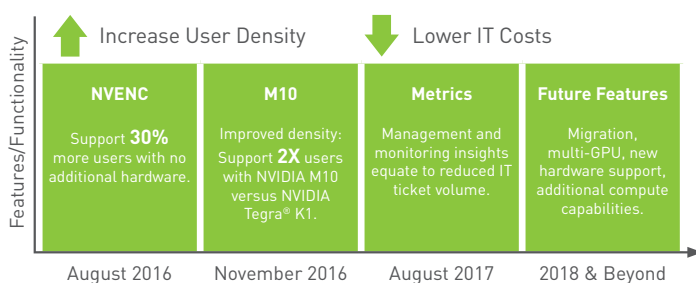
For more information, [learn how to buy the NVIDIA virtual GPU solution in four easy steps](#).

## NVIDIA VIRTUAL GPU SOFTWARE: EXTENDING THE VALUE OF YOUR VIRTUAL GPU DEPLOYMENT

An NVIDIA virtual GPU software license gives you access to continuous innovation for your virtual GPU deployment, in addition to ongoing support and maintenance. This software license model enables NVIDIA to deliver on new feature requests without requiring new hardware.

Over the past several years, innovations in NVIDIA virtual GPU software have provided customers with increased user density and better management and monitoring insights for their virtual GPU deployment. NVIDIA has an ongoing software roadmap for continued enhancements that will provide additional value to customers.

## IMPROVE TOTAL COST OF OWNERSHIP WITH EVERY NEW RELEASE



*"Immediately we saw a 20 to 30 percent performance improvement in many apps just by updating the code. It was the same board and same hardware. There were no hardware changes. It was incredible."*

**STEVE ATHANAS**

Director of Platforms and Systems Engineering, [UMass Lowell](#)

<sup>7</sup>With packaged GRID vApps license.

<sup>8</sup>Support starting with NVIDIA virtual GPU software Spring 2018 release (version 6.0).

<sup>9</sup>Only supported on 1:1 profiles.

<sup>10</sup>Only NVIDIA M6 hardware supported as primary display device.

<sup>11</sup>Scheduling options include fixed share, equal share, and best effort/time slicing.

<sup>12</sup>GRID vApps supports one 1280 x 1024 display from the GPU card. However, XenApp renders to an offscreen buffer, so it can support multiple software-rendered displays at higher resolutions.

<sup>13</sup>Application-level monitoring only available starting with the NVIDIA virtual GPU August 2017 release (version 5.0).

<sup>14</sup>Available with active Support, Updates, and Maintenance Subscription (SUMS) contract.

<sup>15</sup>Supported on 8 GB 1:1 profile on Maxwell and all profiles on Pascal.

<sup>16</sup>Profiles supported have dependency on GPU selected. For more information, read the [Virtual GPU Software User Guide](#).

<sup>17</sup>Supports up to two 4K displays or four 2560 x 1600 displays on 2B profile. Supports up to four 2560 x 1600 displays on 1B profile. Support for two 4K displays starts with NVIDIA virtual GPU software release 6.0, and support for four 2560 x 1600 displays on 2 GB profile starts with NVIDIA virtual GPU software release 6.2.

<sup>18</sup>32Q profile available with V100

<sup>19</sup>Support available Fall 2018 with NVIDIA virtual GPU software release (version 7.0).

<sup>20</sup>48Q profile available with RTX 8000

<sup>21</sup>Support for 8K displays with Quadro vDWS starts with NVIDIA vGPU software 10.0.