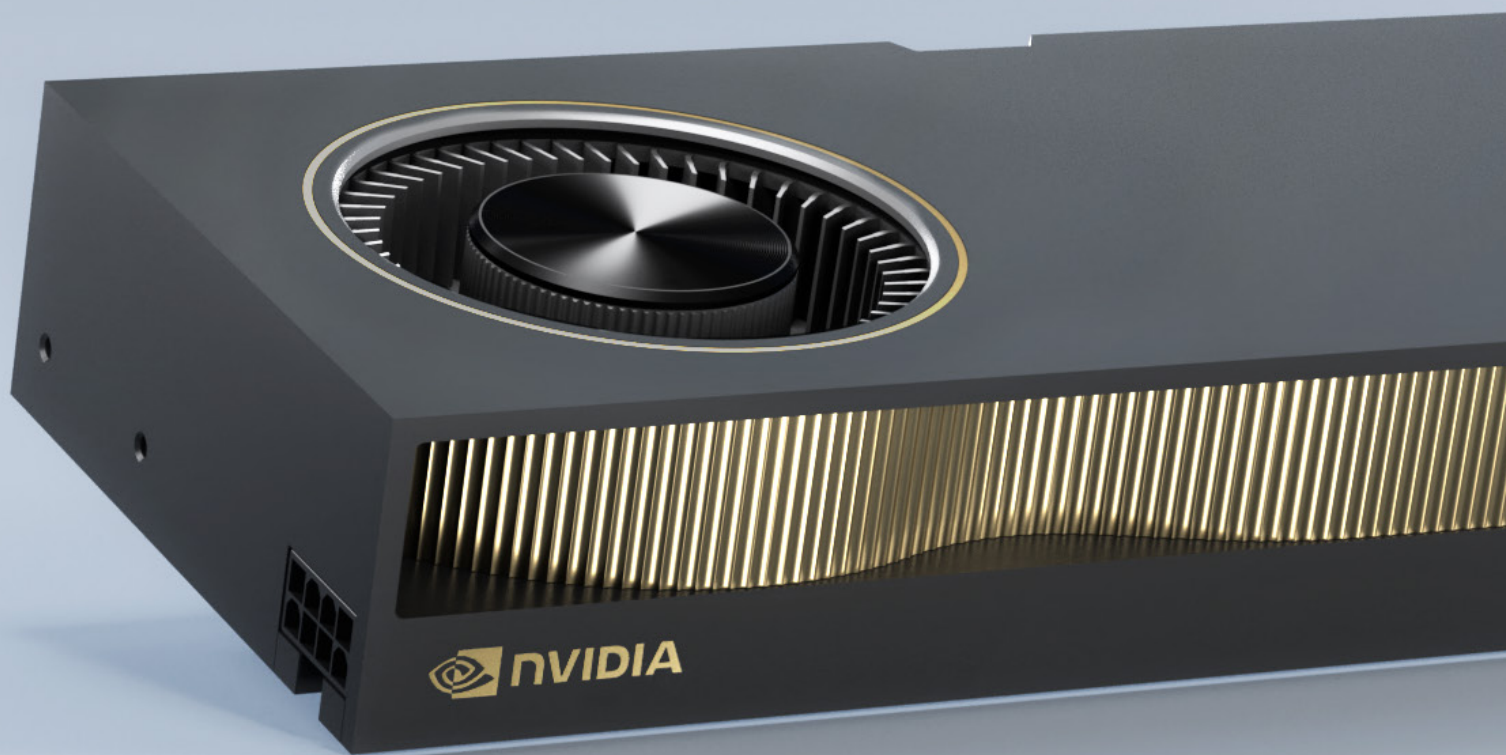


THE RIGHT TOOLS FOR  
PROFESSIONALS  
NVIDIA WORKSTATION GPU<sub>s</sub>



# NVIDIA PROFESSIONAL SOLUTION GUIDE

## Find the Best Workstation GPU for Your Customers Based on Use Case

The current NVIDIA® Quadro® lineup includes NVIDIA Pascal™, Volta™, Turing™, and Ampere architectures. **Please request that your customers contact their software providers for the latest information on application certifications and support.**

**1 ASK**

- > Do you work in a technical profession such as design, engineering, architecture, science, data science, or research?
- > Do you create, render, or visualize large data sets and images for your work?
- > Do you train or use neural networks, computationally intensive applications, or simulations?

**NO**

Go to page 5 for display and video wall recommendations for other industries and professionals.

**2 YES**

- > What is your industry or job?
- > What is the primary application you use?

3

GOOD	BETTER	BEST
<ul style="list-style-type: none"> <li>&gt; Occasional use of application</li> <li>&gt; Small objects and assemblies</li> <li>&gt; About 10% of the users</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Regular use of application</li> <li>&gt; Average to large objects and assemblies</li> <li>&gt; Using all application features</li> <li>&gt; About 80% of users</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Pushing the application to its limits</li> <li>&gt; Extremely large objects and assemblies</li> <li>&gt; Using all application features</li> <li>&gt; About 10% of users</li> </ul>

### DESIGN/ENGINEERING/MANUFACTURING

Application	Platform	Good GPU	Better GPU	Best GPU
Altair HyperWorks	Desktop	NVIDIA Quadro RTX™ 4000	NVIDIA Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Ansys Discovery Live	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000/Quadro GV100
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Ansys Workbench, Ansys AIM, and Ansys EnSight	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Ansys Mechanical, ANSYS Fluent, and Ansys HFSS	Desktop	Quadro GP100	Quadro GV100	2x Quadro GV100
	Mobile <sup>1</sup>	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
Ansys LS-PrePost	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Ansys SPEOS, HFSS SBR+	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
Autodesk 3ds Max	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Autodesk AutoCAD	Desktop	Quadro P620	Quadro P2200	Quadro RTX 4000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Autodesk Fusion 360	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 6000
Autodesk Netfabb 2018	Desktop	Quadro P620	Quadro P2200	Quadro RTX 4000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Autodesk Inventor	Desktop	Quadro P620	Quadro P2200	Quadro RTX 4000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Autodesk VRED	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
BETA CAE ANSA, META	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
COMSOL	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro T1000	Quadro T2000	Quadro RTX 4000
Dassault Systèmes 3DEXCITE DELTAGEN / DELTAVIEW	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Dassault Systèmes CATIA V5-6 and 3DEXPERIENCE	Desktop	Quadro P2200	Quadro RTX 4000	NVIDIA RTX A6000
	Mobile	Quadro T2000	Quadro RTX 4000	Quadro RTX 5000
Dassault Systèmes CATIA Live Rendering	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Dassault Systèmes Abaqus and SIMULIA CST Studio	Desktop	Quadro GP100	Quadro GV100	2x Quadro GV100
	Mobile <sup>1</sup>	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
Dassault Systèmes SIMULIA PowerViz	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Dassault Systèmes SOLIDWORKS	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro T2000	Quadro RTX 4000	Quadro RTX 5000

## DESIGN/ENGINEERING/ MANUFACTURING cont.

		GOOD	BETTER	BEST
<b>Dassault Systèmes SOLIDWORKS Visualize<sup>2</sup></b>	Desktop	Quadro RTX 4000	2x Quadro RTX 4000	2x NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
<b>ESI Group IC.IDO</b>	Desktop	Quadro RTX 5000	2x Quadro RTX 5000	2x NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
<b>Hexagon MSC Nastran</b>	Desktop	Quadro GP100	Quadro GV100	2x Quadro GV100
	Mobile	Not Applicable	Not Applicable	Not Applicable
<b>Hexagon MSC Patran, Apex, ADAMS</b>	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro T1000	Quadro T2000	Quadro RTX 4000
<b>Lumiscaphe P3D Design</b>	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
<b>MathWorks MATLAB</b>	Desktop	Quadro GV100	Quadro GV100	2x Quadro GV100
	Mobile	Quadro RTX 5000	Quadro RTX 5000	Quadro RTX 5000
<b>PTC Creo</b>	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro T2000	Quadro RTX 4000	Quadro RTX 5000
<b>PTC Creo Simulation Live</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000/Quadro GV100
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Siemens Simcenter STAR-CCM+</b>	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Siemens Simcenter Nastran</b>	Desktop	Quadro GP100	Quadro GV100	2x Quadro GV100
	Mobile	Not Applicable	Not Applicable	Not Applicable
<b>Siemens NX</b>	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Siemens Simcenter 3D, and Simcenter FEMAP</b>	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Siemens NX + Ray Traced Studio (Iray)</b>	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Siemens Solid Edge</b>	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro P1000	Quadro P2200	Quadro RTX 3000

## VIRTUAL REALITY VIEWER (VR VIEWER)

<b>ANSYS VRXPERIENCE</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	Up to 3x NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
<b>Autodesk Live</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Siemens NX VR, Process Simulate VR, Teamcenter VR</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Siemens Simcenter STAR-CCM+ VR</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 6000

## ARCHITECTURE/ENGINEERING/CONSTRUCTION

<b>Autodesk 3ds Max</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	Up to 3x NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Autodesk ReCap 360</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 6000
<b>Autodesk Revit</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Bentley LumenRT</b>	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	2x NVIDIA RTX A6000
	Mobile	Quadro RTX4000	Quadro RTX 5000	Quadro RTX 5000
<b>Bentley MicroStation</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Enscape Enscape3d</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	Up to 3x NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>McNeel Rhino</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Nemetschek Allplan</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Nemetschek Graphisoft ArchiCAD</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
<b>Nemetschek Vectorworks</b>	Desktop	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
	Mobile	Quadro RTX 3000	Quadro T2000	Quadro RTX 4000
<b>Trimble SketchUp Pro</b>	Desktop	Quadro RTX 4000	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro RTX 3000	Quadro T2000	Quadro RTX 4000

## MODELING/ANIMATION/ VISUALIZATION/EFFECTS

		GOOD	BETTER	BEST
Adobe® After Effects®	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Autodesk 3ds Max	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Autodesk Arnold	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	2x NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
Autodesk Maya	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Chaos V-Ray GPU	Desktop	Quadro RTX 4000	NVIDIA RTX A6000	Multiple NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
Maxon CINEMA 4D	Desktop	Quadro P2200	Quadro RTX 4000	NVIDIA RTX A6000
	Mobile	Quadro T2000	Quadro RTX 4000	Quadro RTX 5000
Otoy Octane	Desktop	Quadro RTX 4000	NVIDIA RTX A6000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
NewTek Lightwave	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro T2000	Quadro RTX 4000	Quadro RTX 5000
Redshift Renderer	Desktop	Quadro RTX 4000	NVIDIA RTX A6000	NVIDIA RTX A6000
	Mobile	Quadro RTX 3000	Quadro RTX 4000	Quadro RTX 5000
SideFX Houdini	Desktop	NVIDIA RTX A6000	2x NVIDIA RTX A6000	2x NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000

## VIDEO EDITING

Adobe Media Encoder	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro T2000	Quadro RTX 4000	Quadro RTX 5000
Adobe Premiere® Pro	Desktop	Quadro RTX 4000	Quadro RTX 5000	NVIDIA RTX A6000
	Mobile	Quadro T2000	Quadro RTX 4000	Quadro RTX 5000
Autodesk Flame	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	2x NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
Avid Media Composer	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro T2000	Quadro RTX 4000	Quadro RTX 5000
Blackmagic Design DaVinci Resolve	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	Multiple NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
ColorFront Transkoder and On-Set Dailies	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	Multiple NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
FilmLight Baselight	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	2x NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000
Grass Valley EDIUS	Desktop	Quadro P620	Quadro P2200	Quadro RTX 4000
	Mobile	Quadro T1000	Quadro T2000	Quadro RTX 4000
MAGIX VEGAS Pro	Desktop	Quadro P620	Quadro P2200	Quadro RTX 4000
	Mobile	Quadro T1000	Quadro T2000	Quadro RTX 4000
RED Digital Cinema REDCINE-X PRO	Desktop	Quadro RTX 5000	NVIDIA RTX A6000	2x NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000

## IMAGE EDITING/ARTISTIC DESIGN

Adobe Photoshop®	Desktop	Quadro P620	Quadro P2200	Quadro RTX 4000
	Mobile	Quadro P620	Quadro T1000	Quadro RTX 3000
Adobe Illustrator®	Desktop	Quadro P620	Quadro P2200	Quadro RTX 4000
	Mobile	Quadro P620	Quadro T1000	Quadro RTX 3000
Allegorithmic Substance Designer	Desktop	Quadro P2200	Quadro RTX 4000	Quadro RTX 5000
	Mobile	Quadro T2000	Quadro RTX 4000	Quadro RTX 5000
Allegorithmic Substance Painter	Desktop	Quadro RTX 4000	2x Quadro RTX 4000	NVIDIA RTX A6000
	Mobile	Quadro RTX 4000	Quadro RTX 5000	Quadro RTX 5000

1 For visualization | 2 SOLIDWORKS Visualize users may require more powerful and/or multiple GPUs for improved rendering performance, depending on rendering frequency and scene complexity. | **Please request that your customers contact their software providers for the latest information on application certifications and support.**



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- > Online sales and product training modules
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## Find the best enterprise solution for your customers based on their needs

### ASK

- > Are you using integrated graphics?
- > Are you looking to drive a single or multiple displays or video walls?
- > Do you work in financial services, education, insurance, any commercial environments, government agencies, hospitals or call centers?

**YES!**

### Recommend\*

Are you...	Work Environment		GOOD	BETTER	BEST	Background and Advantages
<b>Using Windows 10?</b> Customer is using integrated graphics.	Windows 10 is graphically intense. A dedicated graphics card will give a better overall user experience. For multiple displays, the customer will need a dedicated graphics card.	Desktop	Quadro P400	Quadro P620	Quadro P1000	All cards support up to four displays. For additional or high-resolution displays, recommend P620 or P1000. P620 provides an additional display port, increased performance, and more memory. P1000 provides double the memory of P620.
		Mobile**	Quadro P620			
<b>Using Linux?</b>	Is this to drive a single display? Yes: Tends to be for a compute solution. No: Is this for high-resolution display or video wall?	Desktop	Quadro P400	Quadro P620	Quadro P1000	For additional or high-resolution displays, recommend P620 or P1000. P620 provides an additional display port, increased performance, and more memory. P1000 provides double the memory of P620.
		Mobile**	Quadro P620			
<b>Using 4K displays?</b>	No: Do you plan on using 4K displays in the future?	Desktop	Quadro P400	Quadro P620	Quadro P1000	Future-proof your customer's system for when they will use higher-resolution displays. They'll need larger GPU memory. P620 provides an additional display port, increased performance, and more memory. P1000 provides double the memory of P620.
		Mobile**	Quadro P620			
<b>Building a video wall or using digital signage? Do you need to drive eight displays or more?</b>			2x Quadro P2200	2x Quadro RTX 4000	2x Quadro RTX 5000	Two cards are needed if driving eight displays. RTX 4000 allows use of NVIDIA Sync II and Mosaic, and the user gets increased memory of up to 6 gigabytes (GB). RTX 5000 adds error correcting code (ECC memory) and doubles the memory up to 16 GB.
<b>Currently using or have you used NVIDIA NVS™?</b>	<b>If yes, your customer has an environment that uses multiple displays.</b>					
	Ask your customer which NVS card they use and look below for recommendations.					
	Are you using NVS 310 or NVS 315?		Quadro P400	Quadro P620	Quadro P1000	Advantages of P620 is an additional display port and better performance. P1000 has more memory for higher-resolution and future-proofs customer's system.
	Are you using NVS 510?		Quadro P620	Quadro P1000	Quadro P1000	P1000 has the same number of display ports, but the user gets double the memory.
Are you using NVS 810?		2x Quadro P2200	2x Quadro RTX 4000	2x Quadro RTX 5000	Two cards are needed if driving eight displays. RTX 4000 allows use of NVIDIA Sync II and Mosaic, and the user gets increased memory of up to 6 GB. RTX 5000 adds error correcting code (ECC memory) and doubles the memory up to 16 GB.	

\*All Quadro graphics cards offer power efficiencies to decrease power consumption and minimize total cost of ownership (TCO).

\*\*Check with the OEM manufacturer for specific feature support.

# ENTERPRISE GRAPHICS VS. CONSUMER GRAPHICS

NVIDIA makes industry-leading graphics cards for a variety of uses.

When you come across a customer who's using gaming cards for professional applications, make sure they're aware of the unique benefits that NVIDIA enterprise graphics cards offer.

## BENEFITS OF PROFESSIONAL GRAPHICS OVER CONSUMER GRAPHICS

Enterprise graphics cards are built for years of non-stop use:

- > Designed and tested for reliable performance 24 hours a day, 7 days a week.
- > Extended availability and support is offered on all professional cards, including bug fixes for professional applications.

Enterprise graphics cards are built for workplace environments:

- > More GPU memory, smaller footprints, and less power consumption.
- > Deployment can be for tens or hundreds of PCs in offices.
- > **Application certified:** NVIDIA graphics cards and drivers are continuously tuned and tested for software compatibility and stability on 100% of certified professional software applications.

NVIDIA graphics cards provide enterprise support tools for remote administration and deployment, as well as professional features such as:

- > **NVIDIA Quadro View** desktop management software features a full suite of display management tools like flexible window snapping, user profiles, window management, and hotkey support.
- > **NVIDIA Quadro Experience** delivers productivity tools like 4K recording, automatic alerts for driver updates, and gaming features.
- > **NVIDIA Mosaic** display technology lets you combine up to 16 high-resolution displays or projectors to create a seamless large-scale visualization.
- > **Advanced 3D stereo** supports stereoscopic 3D display on HDMI 3D TVs, projectors, and displays, allowing for viewing images and ultrasounds in 3D.

PERFORMANCE	ENTERPRISE	GAMING	INTEGRATED
Professional application-specific feature development and tuning	•		
Driver optimizations to maximize professional application performance	•		
Unique features to support professional workflows	•		
IT tools for easy deployment and management	•		
Gaming profile*	•		
Extreme performance scaling with Multi-GPU	•		

## RELIABILITY

Professional application-specific testing by NVIDIA	•		
100+ professional application certifications by independent software vendors (ISVs)	•		
Certified across workstation platforms by leading original equipment manufacturers (OEMs)	•		
Unified, rock-solid driver with deterministic release schedule	•		
Tested and certified by NVIDIA and OEM partners for 24/7 reliability	•		
Extended availability	•		

## SUPPORT

Deep workflow experience across vertical industries	•		
Long-life cycle availability and support	•		
Bulk availability for large enterprises	•		
Global technical pre-sales and post-sales support	•		
Online end-user forums for fast support from subject matter experts	•		

\* Most games will run fine on Quadro graphics cards. Enable the "Game Development" profile if any unexpected results occur while gaming.