



THE RIGHT TOOLS FOR
PROFESSIONALS
NVIDIA WORKSTATION GPUs



NVIDIA PROFESSIONAL SOLUTION GUIDE

Find the best professional graphics solution for your customers based on their needs

The current NVIDIA® RTX™ lineup includes NVIDIA 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

- > Are you a technical professional?
- > Is your title: designer, engineer, architect, scientist, analyst, data scientist or researcher?
- > Do you create, render or visualize large data and images for your work?
- > Do you train or use neural networks?
- > Do you use computationally intensive applications or run simulations?

2

YES

You have found an NVIDIA RTX Customer

- > What industry do you work in or what is your job?
- > What is the primary application you use?

NO

Go to page 6 for display and video wall recommendations for other industries and professionals.

3

GOOD

- > Occasional use of application
- > Small objects and assemblies
- > About 10% of the users

BETTER

- > Regular use of application
- > Average to large objects and assemblies
- > Using all application features
- > About 80% of users

BEST

- > Pushing the application to its limits
- > Extremely large objects and assemblies
- > Using all application features
- > About 10% of users

DESIGN/ENGINEERING/MANUFACTURING

Altair® HyperWorks®	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Altair AcuSolve®	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5000	NVIDIA RTX A5500 RTX A6000
Altair ultraFluidX® Altair nanoFluidX	Desktop	2x NVIDIA RTX A5500	4x NVIDIA RTX A5500	4x NVIDIA RTX A6000
Altair OptiStruct	Desktop	Quadro GV100	Quadro GV100	Quadro GV100
Altair Thea Render®	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	Multiple NVIDIA RTX A5500 RTX A6000
ANSYS® Discovery	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
ANSYS Workbench™, AIM, EnSight, LS-PrePost	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
ANSYS Mechanical, ANSYS Fluent and ANSYS HFSS	Desktop	Quadro GV100	Quadro GV100	2x Quadro GV100
ANSYS HFSS SBR+	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
ANSYS SPEOS	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Autodesk® 3ds Max®	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Autodesk AutoCAD®	Desktop	NVIDIA T1000 8GB	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500
Autodesk Fusion 360	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Autodesk Netfabb 2018	Desktop	NVIDIA T1000 8GB	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500
Autodesk Inventor®	Desktop	NVIDIA T1000 8GB	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500
Autodesk VRED	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Beta CAE ANSA, META	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
COMSOL	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000

DESIGN/ENGINEERING/ MANUFACTURING cont.

		GOOD	BETTER	BEST
Dassault Systèmes 3DEXCITE DELTAGEN / DELTAVIEW	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Dassault Systèmes CATIA V5-6 and 3DEXPERIENCE	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Dassault Systèmes CATIA Live Rendering	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Dassault Systèmes SIMULIA CST STUDIO	Desktop	NVIDIA RTX A5500	NVIDIA RTX A6000	Quadro GV100
Dassault Systèmes SIMULIA Abaqus	Desktop	Quadro GV100	Quadro GV100	2x Quadro GV100
Dassault Systèmes SIMULIA PowerViz	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Dassault Systèmes SOLIDWORKS	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Dassault Systèmes SOLIDWORKS Visualize²	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500 RTX A6000	2x NVIDIA RTX A5500 RTX A6000
ESI Group IC.IDO	Desktop	NVIDIA RTX A5500 RTX A6000	2x NVIDIA RTX A5500	2x NVIDIA RTX A6000
Lumiscaphe P3D Design	Desktop	NVIDIA RTX A5000	NVIDIA RTX A6000	NVIDIA RTX A5500 RTX A6000
MSC Apex Generative Design	Desktop	Quadro GV100	Quadro GV100	Quadro GV100
MathWorks MATLAB	Desktop	Quadro GV100	Quadro GV100	2x Quadro GV100
Hexagon/MSC Nastran	Desktop	Quadro GV100	Quadro GV100	2x Quadro GV100
Hexagon/MSC Patran Apex, ADAMS	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
PTC Creo	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
PTC Creo Simulation Live	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
PTC Creo Generative Topology Optimization Extension (GTO)	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5000 RTX A5500	NVIDIA RTX A6000
Siemens Simcenter 3D, STAR-CCM+, and FEMAP	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Siemens NX	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Siemens NX + Ray Traced Studio (Iray)	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Siemens Solid Edge	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Siemens NX Nastran	Desktop	Quadro GV100	Quadro GV100	2x Quadro GV100

VIRTUAL REALITY VIEWER (VR VIEWER)

ANSYS VRXPERIENCE	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Autodesk Live	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Beta CAE Meta VR	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Dassault Systèmes eDrawings Pro VR	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Luxion KeyShot KeyVR	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Siemens NX VR, Process Simulate VR, Teamcenter VR	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Siemens Simcenter STAR-CCM+ VR	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000

ARCHITECTURE / ENGINEERING / CONSTRUCTION

		GOOD	BETTER	BEST
Autodesk 3ds Max®	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500 RTX A6000	Up to 3x NVIDIA RTX A5500 RTX A6000
Autodesk AutoCAD®	Desktop	NVIDIA T1000 8GB	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500
Autodesk ReCap 360	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Autodesk Revit®	Desktop	NVIDIA T1000 8GB	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500
Bentley ContextCapture	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Bentley LumenRT	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500	NVIDIA RTX A5500 RTX A6000
Bentley MicroStation	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Enscape Enscape3d	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500 RTX A6000	Up to 3x NVIDIA RTX A5500 RTX A6000
Hexagon/BricsCAD	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Hexagon Geospatial ERDAS IMAGINE	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Hexagon Geospatial ImageStation	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Luciad Lightspeed	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
McNeel RHINO	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Nemetschek Allplan	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Nemetschek Graphisoft ArchiCAD	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Nemetschek Vectorworks	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Trimble Sketchup Pro	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000

MODELING/ANIMATION /VISUALIZATION/EFFECTS

Adobe After Effects CC	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Adobe Dimension	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Autodesk 3ds Max	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Autodesk Arnold	Desktop	NVIDIA RTX A5500	NVIDIA RTX A6000	2x NVIDIA RTX A5500 RTX A6000
Autodesk Maya®	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Chaos V-Ray GPU	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500 RTX A6000	Multiple NVIDIA RTX A5500 RTX A6000
Foundry NUKE	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Luxion KeyShot	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500 RTX A6000	2x NVIDIA RTX A5500 RTX A6000
Maxon CINEMA 4D	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Otoy Octane	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500 RTX A6000	Multiple NVIDIA RTX A5500 RTX A6000
NewTek Lightwave™	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Redshift Renderer	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500 RTX A6000	Multiple NVIDIA RTX A5500 RTX A6000
SideFX Houdini	Desktop	NVIDIA RTX A5500	2x NVIDIA RTX A5500 RTX A6000	Multiple NVIDIA RTX A5500 RTX A6000
Substance 3D Stager	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000

VIDEO EDITING

		GOOD	BETTER	BEST
Adobe Media Encoder	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Adobe Premiere Pro	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Autodesk Flame	Desktop	NVIDIA RTX A5500 RTX A6000	NVIDIA RTX A5500 RTX A6000	2x NVIDIA RTX A5500 RTX A6000
Avid® Media Composer®	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Blackmagic Design DaVinci Resolve	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500 RTX A6000	Multiple NVIDIA RTX A5500 RTX A6000
ColorFront Transkoder & On-Set Dailies	Desktop	NVIDIA RTX A5000	NVIDIA RTX A5500 RTX A6000	Multiple NVIDIA RTX A5500 RTX A6000
FilmLight Baselight	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500 RTX A6000	2x NVIDIA RTX A5500 RTX A6000
Grass Valley Edius®	Desktop	NVIDIA T1000 8GB	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500
Magix Vegas Pro™	Desktop	NVIDIA T1000 8GB	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500
RED Digital Cinema REDCINE-X PRO	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5500 RTX A6000	2x NVIDIA RTX A5500 RTX A6000

IMAGE EDITING / ARTISTIC DESIGN

Adobe® Photoshop®	Desktop	NVIDIA T1000 8GB	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500
Adobe® Illustrator®	Desktop	NVIDIA T1000 8GB	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500
Substance 3D Sampler	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Substance 3D Designer	Desktop	NVIDIA RTX A2000 12GB	NVIDIA RTX A4500 RTX A5000	NVIDIA RTX A5500 RTX A6000
Substance 3D Painter	Desktop	NVIDIA RTX A4000 RTX A4500	NVIDIA RTX A5000 RTX A5500	2x NVIDIA RTX A5500 RTX A6000

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 customer contact their software provider for the latest information on application certifications and support.

Find the best professional graphics 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
Using Windows 10? Customer is using integrated graphics.	Windows 10 is graphically intense. A dedicated graphics card will give a better overall user experience. For multiple displays, customer will need a dedicated graphics card.	DESKTOP	NVIDIA T400 4GB	NVIDIA T1000 8GB	NVIDIA T1000 8GB	All cards support up to four displays. For additional or high-resolution displays, recommend NVIDIA T1000 8GB. NVIDIA T1000 8GB provides an additional port, increased performance, more memory, and more CUDA Cores and higher single-precision performance.
Using Linux?	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	NVIDIA T400 4GB	NVIDIA T1000 8GB	NVIDIA T1000 8GB	For additional or high-resolution displays, recommend NVIDIA T1000 8GB. NVIDIA T1000 8GB provides an additional port, increased performance, more memory, and includes more CUDA Cores and higher single-precision performance.
Using 4K displays?	No? Do you plan on using 4K displays in the future?	DESKTOP	NVIDIA T400 4GB	NVIDIA T1000 8GB	NVIDIA T1000 8GB	Future proof your customer for when they will use higher resolution displays as they will need more frame buffer memory. NVIDIA T1000 8GB provides an additional port, increased performance, more memory, and includes more CUDA Cores and higher single-precision performance.
Building a video wall or using for digital signage? Do you need to drive 8 displays or more?			2x NVIDIA T1000 8GB	2x NVIDIA RTX A4500	2x NVIDIA RTX A6000	Two cards are needed if driving eight displays. RTX A4500 allows use of Quadro Sync II and NVIDIA Mosaic multi-display technology, and the user gets 20GB of memory and error correcting code (ECC). RTX A6000 provides 48GB of memory.
Currently using or have you used an older P-Series?	If yes, your customer has an environment that uses multiple displays.					
	Ask your customer which graphics card they use and look below for recommendations					
	Are you using P400?		NVIDIA T400 4GB	NVIDIA T1000 8GB	NVIDIA T1000 8GB	Advantages of NVIDIA T1000 8GB is an additional port, better performance, and includes more CUDA Cores and higher single-precision performance.
	Are you using P620?		NVIDIA T1000 8GB			NVIDIA T1000 8GB has the same number of ports, but the user gets enhanced single-precision performance.
Are you using P2200?		2x NVIDIA T1000 8GB	2x NVIDIA RTX A4500	2x NVIDIA RTX A6000	Two cards are needed if driving eight displays. RTX A4500 allows use of Quadro Sync II and NVIDIA Mosaic multi-display technology, and the user gets 20GB of memory and error correcting code (ECC). RTX A6000 provides 48GB of memory.	

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

**Check with 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 RTX professional 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 RTX professional graphics cards and NVIDIA RTX enterprise 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 RTX Desktop Manager software** features a full suite of display management tools like flexible window snapping, user profiles, window management, and hotkey support.
- > **NVIDIA RTX Experience** delivers productivity tools such as the ability to record video at up to 8K, automatic alerts for driver update, gaming features, and application optimization.
- > **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 NVIDIA RTX and Quadro graphics cards. Enable the "Game Development" profile if any unexpected results occur while gaming.