NVIDIA Redefines Workstations to Power New Era of AI, Design, Industrial Metaverse

Global System Builders Tap Into Performance of NVIDIA RTX Ada GPUs and SmartNICs for Next-Generation Laptop and Desktop Workstations

GTC—NVIDIA today announced six new NVIDIA RTX™ Ada Lovelace architecture GPUs for laptops and desktops, which enable creators, engineers and data scientists to meet the demands of the new era of AI, design and the metaverse.

Using the new NVIDIA RTX GPUs with NVIDIA Omniverse™, a platform for building and operating metaverse applications, designers can simulate a concept before making it a reality, planners can visualize an entire factory before it is built and engineers can evaluate their designs in real time.

The NVIDIA RTX 5000, RTX 4000, RTX 3500, RTX 3000 and RTX 2000 Ada Generation laptop GPUs deliver breakthrough performance and up to 2x the efficiency of the previous generation to tackle the most demanding workflows. For the desktop, the NVIDIA RTX 4000 Small Form Factor (SFF) Ada Generation GPU features new RT Cores, Tensor Cores and CUDA® cores with 20GB of graphics memory to deliver incredible performance in a compact card.

The latest NVIDIA RTX Ada Generation GPUs provide the accelerated computing power required for today's highly collaborative content-creation, design and AI workflows. A new generation of desktop workstations that combine high-end NVIDIA GPUs and smart networking with the latest Intel CPUs can drive innovation for the next wave of product and building designs, AI-augmented applications and industrial metaverse content.

"Running data-intensive applications like generative AI and real-time digital twins in the metaverse requires advanced computing power," said Bob Pette, vice president of professional visualization at NVIDIA. "These new NVIDIA RTX GPUs provide the horsepower needed for creators, designers and engineers to accomplish their work from wherever they're needed."

Customers Supporting NVIDIA RTX GPUs
Many professionals are already using NVIDIA RTX GPUs to accelerate their workflows.

"General Motors is working to bring electric vehicles to more customers faster and at more price points, and virtual-reality tools are enabling us to test and make decisions at a quicker pace," said Bryan Styles, director of immersive technology at General Motors. "The fidelity, frame rates and overall performance of the NVIDIA RTX 6000 Ada Generation GPU is well matched to the high demand we have from our product development workflows."

"The NVIDIA RTX 6000 Ada Generation GPU is one step ahead of our evolving real-time pipeline for live-action filmmakers," said Raphaël Goudin, virtual production supervisor at Versatile Media Ltd. "It's adding efficiency, ease and, more importantly, creative power directly to filmmakers."

"The NVIDIA RTX 6000 Ada Generation GPU is a game changer that lets us produce images quicker and accomplish things that previously weren't even possible," said Jon Ferguson, vice president of virtual design and construction at Layton Construction. "For the first time, we can start producing images with the primary question being 'What would help this image?' rather than 'What can our computers handle?'"

NVIDIA RTX Laptops Deliver Creative Power to Professionals Anywhere
NVIDIA's new laptop GPUs deliver up to double the performance and power efficiency over the previous generation for mobile workstations.

The new GPUs include the latest generations of NVIDIA Max-Q and RTX technologies for optimal energy efficiency and photorealistic graphics, and are backed by NVIDIA Studio technologies for creators. Products with NVIDIA RTX GPUs benefit from RTX optimizations in over 110 creative apps, NVIDIA RTX Enterprise Drivers for the highest levels of stability and performance in creative apps, and exclusive AI-powered NVIDIA tools: Omniverse, Canvas and Broadcast.

Professionals using these laptop GPUs can run advanced technologies like DLSS 3 to increase frame rates by up to 4x compared to the previous generation, and NVIDIA Omniverse Enterprise for real-time collaboration and simulation.

NVIDIA RTX 4000 SFF Enables Enhanced Performance, Productivity
The NVIDIA RTX 4000 SFF GPU offers a new level of performance and efficiency for mini-desktops, powering artists, designers and engineers who prefer small workstations.

By delivering unprecedented rendering and visualization performance to compact workstations, the RTX 4000 SFF GPU enables users to enjoy a fluid experience in computer-aided design, graphic design, data analysis, AI applications and

software development. Additionally, systems integrators developing specialized solutions — for example, in healthcare or large-scale displays — can benefit from the card's combination of performance and compact size.

"The versatile NVIDIA RTX 4000 SFF Ada Generation GPU offers Genetec users performance increases of up to 80% and empowers them to decode, view and analyze more video streams," said John Burger, product line manager for video appliances at Genetec. "As camera resolutions continue to increase and require additional resources to be decoded, the NVIDIA RTX 4000 SFF offers an ideal solution in a compact form factor for Genetec and its partners."

Next-Generation RTX Technology
The new RTX desktop and laptop GPUs feature the Ada architecture's latest technologies, including:

- **CUDA cores**: Up to 2x the single-precision floating point throughput of the previous generation.
- **Third-generation RT Cores**: Up to 2x the throughput of the previous generation, with the ability to concurrently run ray tracing with either shading or denoising capabilities.
- **Fourth-generation Tensor Cores**: Up to 2x faster AI training performance of the previous generation, with expanded support for the FP8 data format.
- **DLSS 3:** New levels of realism and interactivity for real-time graphics by multiplying performance with AI.
- **Greater GPU memory:**
    - The RTX 4000 SFF provides 20GB of memory with greater bandwidth than the previous generation. The GPU can transfer data to and from its memory more quickly, resulting in improved graphics, compute and rendering performance.
    - The new NVIDIA RTX Ada Generation Laptop GPUs provide up to 16GB of graphics memory to handle the largest models, scenes, assemblies and advanced multi-application workflows.
- **Extended-reality capabilities:** The RTX 4000 SFF and new NVIDIA RTX laptop GPUs provide support for high-resolution augmented-reality and virtual-reality devices, and deliver the high-performance graphics required for experiencing stunning AR, VR and mixed-reality content.

Availability
Next-generation desktop workstations featuring NVIDIA RTX GPUs will be available starting this month from global workstation manufacturing partners including BOXX, HP Inc. and Lenovo.

The new NVIDIA RTX laptop GPUs will be available starting this month in mobile workstations from global workstation manufacturer partners. The new NVIDIA RTX 4000 SFF GPU will be available from global distribution partners such as Leadtek, PNY and Ryoyo Electro starting in April at an estimated price of $1,250 and from global workstation manufacturers later this year.

To learn more about NVIDIA RTX, watch NVIDIA founder and CEO Jensen Huang's GTC 2023 keynote. Register free for GTC to attend sessions with NVIDIA and industry leaders.

About NVIDIA
Since its founding in 1993, NVIDIA (NASDAQ: NVDA) has been a pioneer in accelerated computing. The company's invention of the GPU in 1999 sparked the growth of the PC gaming market, redefined computer graphics, ignited the era of modern AI and is fueling the creation of the metaverse. NVIDIA is now a full-stack computing company with data-center-scale offerings that are reshaping industry. More information at https://nvidianews.nvidia.com/.

Certain statements in this press release including, but not limited to, statements as to: the benefits, impact and performance of NVIDIA RTX Ada Lovelace architecture GPUs for laptops and desktops, NVIDIA Omniverse, NVIDIA Max-Q and RTX technologies, NVIDIA RTX Enterprise Drivers, DLSS 3 and NVIDIA Omniverse Enterprise; and the availability of NVIDIA RTX laptop GPUs and the NVIDIA RTX 4000 SFF GPU are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners' products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the most recent reports NVIDIA files with the Securities and Exchange Commission, or SEC, including, but not limited to, its annual report on Form 10-K and quarterly reports on Form 10-Q. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

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