THE FUTURE OF STORYTELLING STARTS NOW

Accelerating and enhancing real-time production pipelines from the Desktop to the data center and the cloud.

Image courtesy of Lucasfilm

NVIDIA

Image courtesy of Pixotope

TECHNOLOGY ADVANCEMENTS ACCELERATE PRODUCTION AND ENHANCE CREATIVITY

Film and television studios are continuously challenged to increase production value under extreme budget constraints—and produce high-quality, original content that stands out from a growing list of competitors. Streaming services are creating the constant need for releases to satisfy a growing subscriber base, forcing studios to extend their infrastructure to support their teams in a distributed workforce. Meanwhile, broadcasters are reinventing traditional linear workflows that are bound by fixed-function devices to AI-enabled workflows with flexible, software-defined, and standards-compliant broadcast infrastructure. Media and entertainment (M&E) professionals are looking for advanced technologies to accelerate time to market, increase data analytics, enhance creativity, and support the best talent in a remote work environment—all while reducing IT costs and dramatically accelerating production from desktop to data center and the cloud.

> Learn more about NVIDIA M&E Solutions

REINVENTING GRAPHICS FOR ARTISTS

As a trusted technology partner for M&E professionals worldwide, NVIDIA is creating the future of storytelling with breakthroughs in graphics, AI, and data center technology. Powered by the greatest leap in graphics computing since NVIDIA's invention of GPU in 1999, NVIDIA RTX™ fuses AI, real-time ray tracing, programmable shading, and video transcoding to power the most advanced, visually rich film and television productions ever created. Whether you're creating complex scenes for real-time virtual production, live streaming the future of broadcast, or building expansive 3D worlds for the next generation of immersive content, NVIDIA solutions for Media & Entertainment accelerate workflows and expand creative potential.

> Learn more about NVIDIA RTX

LIVE STREAMING THE FUTURE OF BROADCAST

Realize the future of broadcast with AI, IP video workflows, and immersive real-time graphics powered by NVIDIA's full technology stack. NVIDIA Professional GPUs, NVIDIA Networking technologies, as well as systems, pre-trained AI models, developer toolkits and software platforms deliver a live production infrastructure that is flexible, hybrid, software-defined, and hardware-accelerated.

> Learn more about Professional Broadcast Solutions

NVIDIA solutions can assist in five key areas:

3D CONTENT COLLABORATION AND PHYSICALLY ACCURATE SIMULATION

Revolutionize your studio's workflow with NVIDIA Omniverse Enterprise, an open platform built to accelerate media and entertainment production pipelines. With live links between leading content creation tools and seamless collaboration in a real-time ray-traced, simulated world, teams are empowered to create at the speed of imagination.

Omniverse Enterprise is powered by NVIDIA-Certified Systems™ to accelerate production like never before. Drive seamless, real-time collaboration across locations and teams, and maximize creative iterations with faster time to production. Power real-time, high-quality, multi-GPU ray tracing and interactive path tracing on USD content with **NVIDIA RTX** and achieve high-performance simulation of complex, 3D, physically accurate worlds with minimal effort using the latest in NVIDIA simulation and AI technologies.

> Learn more about Omniverse

RENDERING

With distinct advantages over CPU rendering, from previsualization through to final frames, GPU rendering has become an industry standard. NVIDIA-Certified systems and GPU render nodes can deliver up to 60X the performance of traditional dual-CPU nodes. With GPU rendering, artists can choose to generate more iterations or render substantially faster than by traditional means. With next-generation RT Cores, photorealistic ray-tracing can now be achieved in real- time, enabling higher fidelity workflows from interactive rendering to virtual production and live on-air graphics.

> Learn more about GPU rendering

VIRTUALIZATION AND CLOUD INFRASTRUCTURE

Industry consolidation, geographically dispersed productions, and increased security concerns are driving studios and broadcasters to virtualized, remote production. With NVIDIA RTX Virtual Workstation (vWS) or NVIDIA Virtual PC (vPC) software and NVIDIA data center GPUs, M&E professionals can keep projects moving forward securely, while scaling compute resources to meet specific project needs across locations, on-set, or on the go.

> Learn more about virtual workstations

AI-ACCELERATED CONTENT CREATION

AI is changing the way content is created and managed, and it's being considered for all facets of the production pipeline. Studios and broadcasters are beginning to implement AI, not only for content creation but also from business decision-making to recommender systems, transcription, translation, and conversational AI.

NVIDIA is at the forefront of the AI revolution in graphics and video, with the goal of reducing the time spent on repetitive tasks so artists and editors can focus on creative iterations. All NVIDIA RTX GPUs feature exclusive Tensor Cores to accelerate deep learning tasks. Deep learning dramatically simplifies content creation and editorial, expanding the possibilities of image and video processing, and makes it effortless to auto-tag and manage stored content so it can be repurposed for future use.

> Learn more about AI for content creation

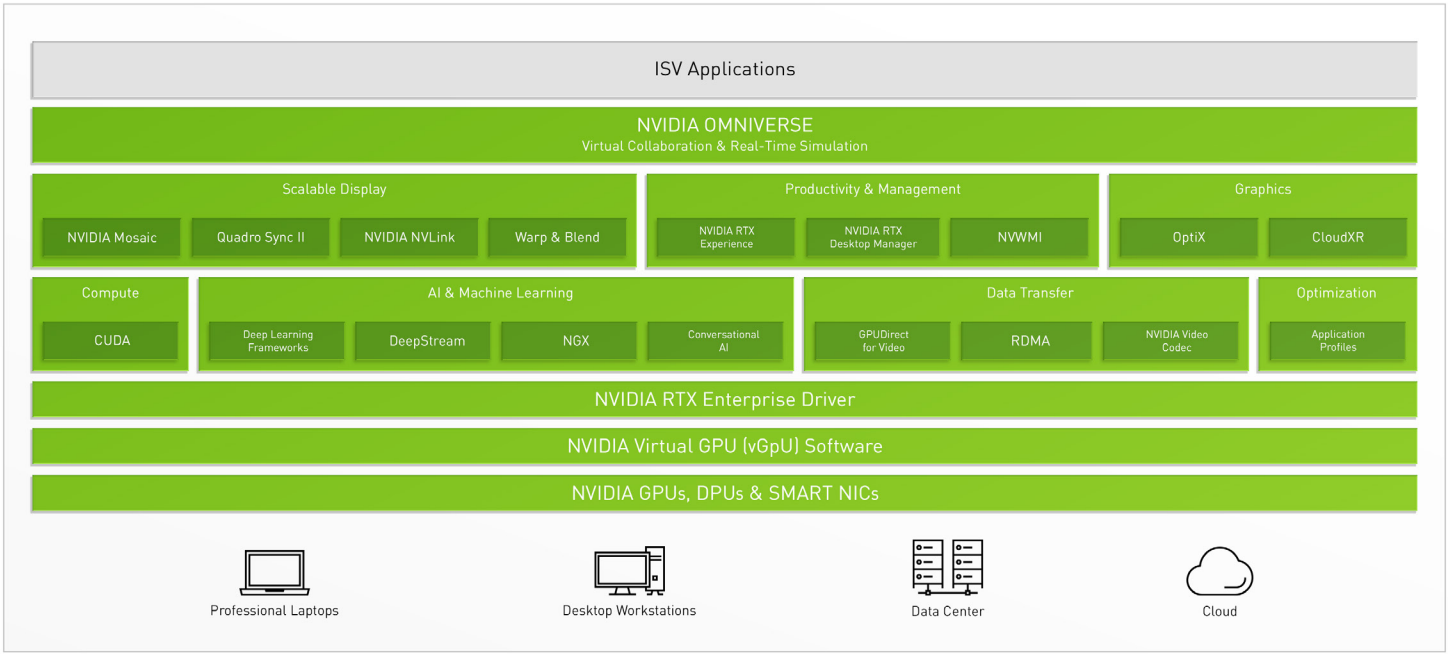
VIRTUAL PRODUCTION

One of the fastest-growing production methodologies to be adopted by studios and broadcasters is virtual production and one of the hallmarks of virtual production is the use of real-time technologies such as game engines. This has fundamentally changed production workflows, increasing creative iterations, and enabling real-time review and approval without the need to wait for overnight renders. Combined with LED volumes, studios can shoot visual effects in-camera creating the illusion of the on-screen talent being immersed in a real environment. Similarly, broadcasters can rise above the competition with the next generation of virtual studio infrastructure, delivering unprecedented photo-realism, real-time compositing of ultra-high resolution video, augmented reality, and immersive graphics.

> Learn more about NVIDIA Omniverse for Virtual Production

POWERFUL SOLUTIONS THAT DELIVER RESULTS

Media and entertainment professionals know they must work smarter to meet project budgets and deadlines, which means taking advantage of the latest technology for greater efficiency.

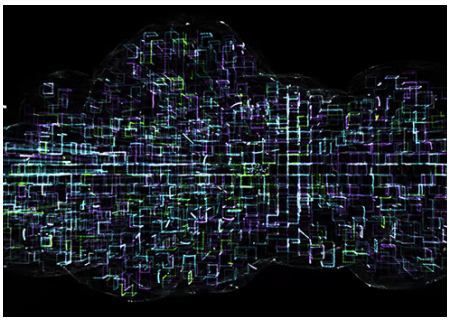


Workstations

NVIDIA RTX professional GPUs power the next-generation of desktop and remote virtual workstations. Tackle the most graphics and memory-intensive tasks by bringing the latest advancements in real-time ray tracing, artificial intelligence, and advanced graphics to your production pipeline.

NVIDIA-Certified Systems

Tackle complex workloads in the data center with certified servers at a fraction of the cost, space, and power requirements of CPU-based solutions. Servers powered by NVIDIA data center GPUs can deliver the combined benefits of virtualization, simulation, rendering, AI, and data science.



Cloud

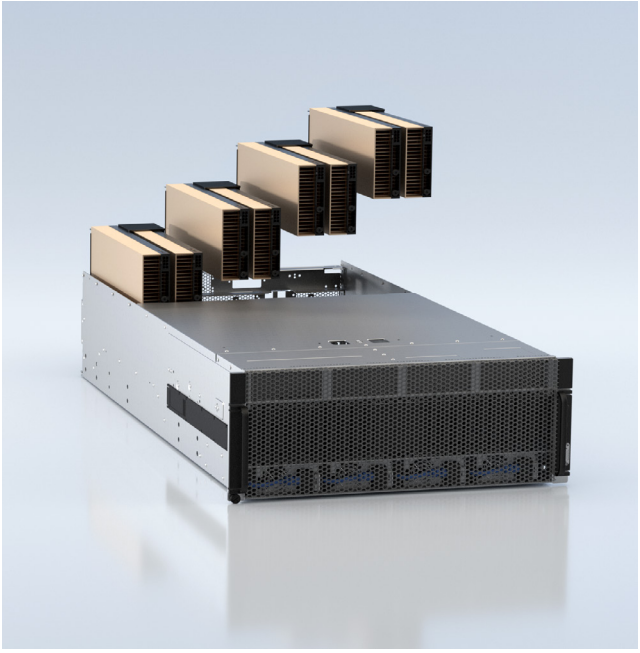
Experience GPU-accelerated cloud computing with NVIDIA RTX virtual workstations accessible from major Cloud Service Provider partners. Spin up compute GPUs to train neural networks, run data analytics, or AI inference—paying for only what you need, when you need it.

NVIDIA-CERTIFIED SYSTEMS

Delivering the most powerful unified data center solutions to the M&E industry.

NVIDIA professional GPUs, along with NVIDIA vGPU software, are at the heart of the next-generation NVIDIA-Certified platform for professional visualization. The NVIDIA-Certified systems deliver the performance and features that can power professional graphics and computing anywhere.

With NVIDIA RTX Virtual Workstation (vWS) software studios can simplify deployment of a high-performance, cost-effective infrastructure, providing a solution that is tested and certified with industry-leading partners and software applications on trusted hardware partner servers. It enables professionals to do their work from anywhere, while increasing productivity, improving data center utilization, and reducing IT and maintenance costs. Deploying powerful virtual workstations with advanced graphics capabilities helps artists and broadcasters tackle a variety of workloads from anywhere—from interactive rendering to graphics-rich virtual workstations.



ACCELERATED COMPUTING WORKFLOWS:

- Artists can work interactively on large 3D datasets and render film-quality scenes. NVIDIA-Certified systems can render up to 60X faster than a dual-CPU render node.
- Deep learning can enable new capabilities while reducing repetitive tasks, allowing artists and broadcasters to spend more time on creative work.
- Real-time video production and post-production with ultra-high resolution, high frame rates, and high-dynamic range (HDR) are now possible.
- Encoding and decoding can be accelerated with dedicated silicon on NVIDIA GPUs with NVENC.
- Studios and broadcasters can benefit from real-time engines for production, from animated television shows to live on-set graphics in the broadcast studio.

TESTED AND CERTIFIED FOR ENTERPRISE-CLASS RELIABILITY

The NVIDIA RTX platform ensures that users have a smooth, responsive experience while editing, rendering, and working with high resolution video and massive 3D datasets. To ensure the best possible experience for your IT investment, RTX professional graphics solutions are tested and certified by leading workstation and server OEMs. They've also received independent software vendor (ISV) certifications for more than 100 professional applications.

KEY OEM PARTNERS

KEY ISV PARTNERS

WHAT OUR CUSTOMERS ARE SAYING ABOUT NVIDIA RTX

"Cinesite was proud to partner with Autodesk and NVIDIA to bring Arnold to the GPU, but we never expected to see results this dramatic. This means we can iterate faster, more frequently, and with higher-quality settings. This will completely change how our artists work."

Michele Sciolette
CTO, Cinesite

"With NVIDIA RTX technology, The Future Group and Riot Games are showcasing real-time animation, broadcast graphics, virtual sets and mixed reality. This new technology is elevating the bar of what's possible for live broadcast."

Marcus B. Brodersen
CEO, Pixotope Technologies

"Most artists don't even notice a difference between NVIDIA vGPU powered VMs and physical workstations."

Graham Jack
Chief Technology Officer, DNEG

"Real-time ray tracing massive datasets in a remote workstation environment is finally possible with the new NVIDIA RTX A6000, HP ZCentral and NVIDIA's Omniverse."

Chris Eckardt
Creative Director and CG Supervisor, Framestore

> Learn more about NVIDIA RTX products and solutions

> Read more customer success stories

For more information, visit **www.nvidia.com/media**

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