THE FUTURE OF STORYTELLING STARTS NOW

Real-Time Content Creation from the Desktop, to the Data Center and Cloud

Image courtesy of Lucasfilm

NVIDIA

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. To create efficiencies, media and entertainment (M&E) professionals are looking for advanced technologies to accelerate time to market, enhance creativity, and support the best talent in a remote work environment, while reducing IT costs. As a result, studios now rely on artificial intelligence, virtual production, real-time rendering, and content collaboration to dramatically accelerate production — from desktop, to data center and 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

NVIDIA provides a full technology stack for the professional broadcast industry—from GPUs, DPUs, and network switches, to NVIDIA-Certified systems, developer toolkits, and software platforms for real-time graphics, video streaming, and accelerated computing. NVIDIA RTX brings the power of AI to the broadcast industry to enable innovative new capabilities like recommender systems, auto-highlight generation, content filtering and ratings, viewer insights and analytics, and intelligent metadata tagging.

> Learn more about Professional Broadcast Solutions

NVIDIA solutions can assist in six key areas:

3D CONTENT COLLABORATION & PHYSICALLY ACCURATE SIMULATION

Revolutionize your studio's workflow. NVIDIA Omniverse Enterprise is an open platform built to accelerate film and television production pipelines. With live links between leading content creation tools and seamless collaboration in an interactive, 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 path tracing on USD content with NVIDIA RTX. 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**

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 are beginning to implement AI, not only for content creation but also from business decision-making through to recommender systems and conversational AI.

NVIDIA is at the forefront of the AI revolution in graphics, with the goal of reducing the time spent on repetitive tasks so artists can focus on creative iterations. NVIDIA RTX features Tensor Cores to accelerate deep learning tasks. Deep learning AI dramatically simplifies content creation and animation, expands 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**

RENDERING

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

> **Learn more about GPU rendering**

VIRTUALIZATION & CLOUD

Industry consolidation, geographically dispersed productions, and increased security concerns are driving studios 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**

VIRTUAL PRODUCTION

One of the fastest-growing production methodologies to be adopted by studios is virtual production. Virtual production has given studios the opportunity to visualize stories in ways they've never been able to before and to iterate on their ideas in real-time. This has fundamentally changed production workflows, and in essence has dramatically evolved content creation.

> **Learn more about NVIDIA Omniverse for Virtual Production**

VIRTUAL STUDIO FOR LIVE PRODUCTION

Broadcasters around the world rely on cutting-edge NVIDIA RTX™ GPUs for augmented reality, virtual sets, and on-air graphics for live production. NVIDIA Networking and NVIDIA RTX combine to help broadcasters rise above the competition with the next generation of virtual studio infrastructure, delivering unprecedented photo-realism, real-time compositing of ultra-high resolution video and graphics to full-scale LED volumes for virtual production.

> **Learn more about RTX Professional Design & Visualization Solutions**

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.
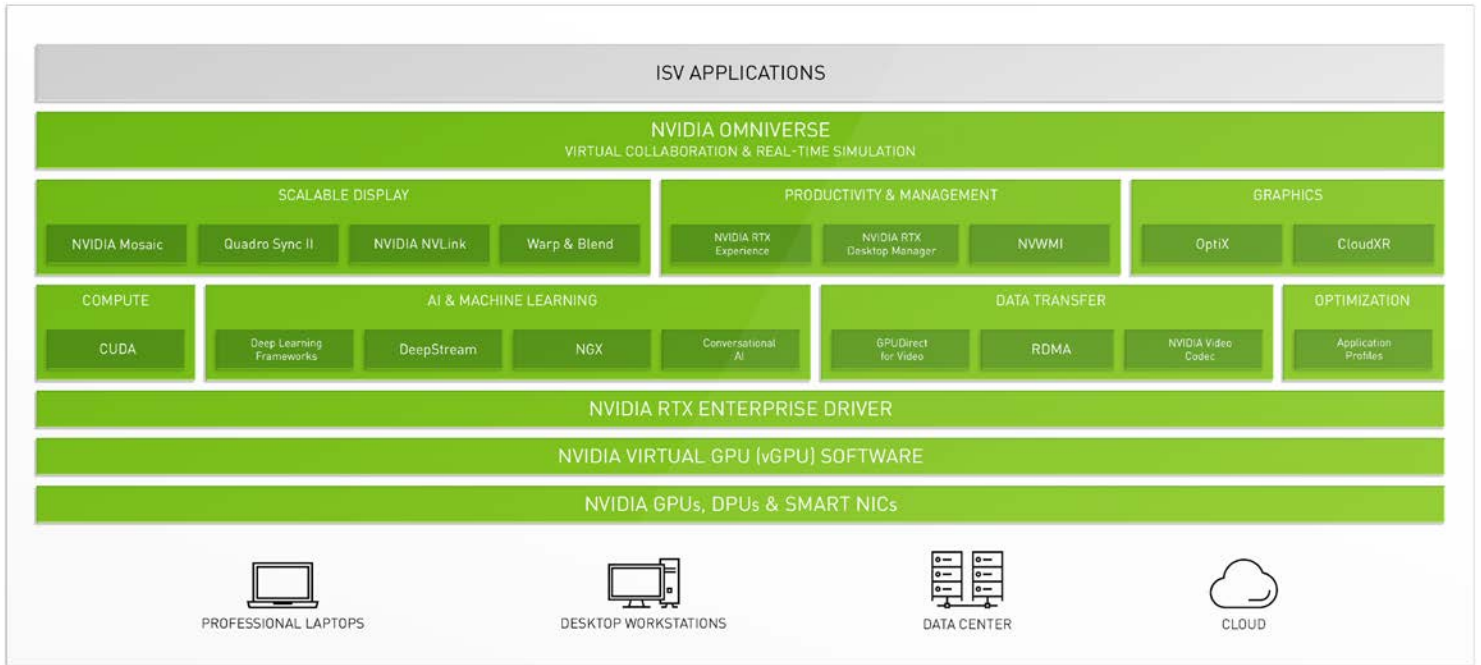
Workstations

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 A40 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 NVIDIA Cloud Service Provider partners. Spin up a GPU-accelerated virtual workstation in minutes, 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

CISCO   DELL Technologies   FUJITSU   Z hp   Hewlett Packard Enterprise   Lenovo

KEY ISV PARTNERS

Adobe   AUTODESK   AVID   Blackmagicdesign   chaos   vizrt

EPIC GAMES   FOUNDRY.   isotropix   PIXAR   REDSHIFT   Unity

WHAT OUR CUSTOMERS ARE SAYING ABOUT NVIDIA RTX

CINESITE
VISUAL EFFECTS

PIXOTOPE
BY THE FUTURE GROUP

DNEG

FRAMESTORE

"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

Connection
we solve IT®

Contact a Connection Account Manager today for more information.
1.800.800.0014 ■ www.connection.com/NVIDIA

M1935721-1022

NVIDIA.