Virtualization in Live Media

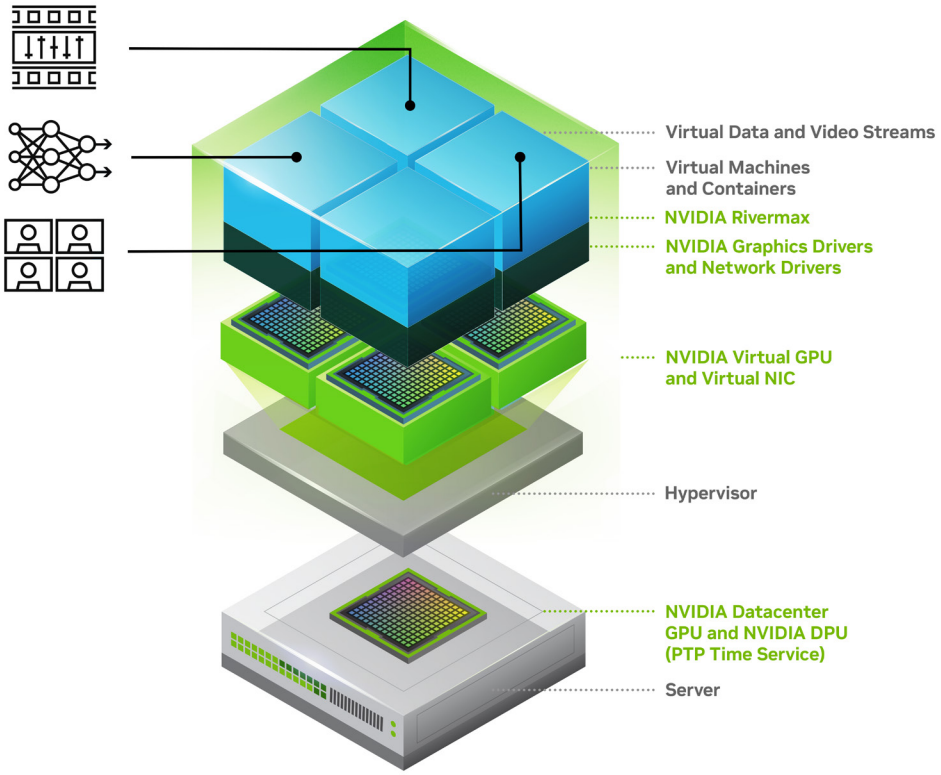
Agile, scalable, secure.

Delivering Infrastructure Flexibility

Virtualizing infrastructure delivers the flexibility that broadcasters, streaming services, sports organizations and companies with media pipelines need as content, workflows, and audience viewing habits change.

It allows for rapid scaling of resources which in turn simplifies IT management, helps accelerate production schedules, and keeps costs low. It also enables a dynamic distribution of content to audiences, allowing for streaming to new platforms as they arise, and delivering a viewing experience that's personalized and engaging.

Whether you're looking to move existing workflows into a virtualized environment, adopt cloud-based applications into your pipeline for a hybrid approach, or transition completely to a cloud-native infrastructure, NVIDIA provides the underlying technologies for each approach.



Full-stack infrastructure enabling virtualization in live media

Key Benefits

- Access to live media applications from anywhere
- Highest performing GPU virtualization
- More flexible utilization of resources in the data center
- No more infrastructure silos for live media workloads
- vGPU support for live migration of GPU-accelerated VMs means no interruption to end users
- Infrastructure and data security
- Minimize cloud OPEX with GPU acceleration

Case Studies

- **Cloud-Enhanced Live Production - Adoption & Deployment Best Practices**
- **Virtualizing Creative Production: How NFL Media Enables Creativity from Anywhere**

Key Technologies	Description
NVIDIA Professional GPUs	**NVIDIA Professional GPUs** from the data center to the cloud provide an extensive suite of solutions for broadcasters that boost performance, reliability, and flexibility. The addition of GPUs delivers exceptional AI, graphics and compute power at a fraction of the cost, space, and power of CPU-based solutions while enabling deployment on virtual servers
NVIDIA RTX™ Virtual Workstation (vWS)	**NVIDIA RTX vWS** software pairs with NVIDIA data center GPUs to create virtual GPUs (vGPUs), extending the benefits of NVIDIA RTX and delivering a graphics-accelerated data center. This enables IT to virtualize any application and provide a workstation-class user experience. GPUs can also be shared across teams through partitioning, which means virtual machines can be provisioned based on the user's workload.
NVIDIA Virtual Networking	The **NVIDIA BlueField®** data processing unit (DPU) is modern data center infrastructure on a chip, delivering accelerated software-defined networking, storage, security, and management services. BlueField accelerates data-intensive tasks by offloading, accelerating, and isolating a broad range of advanced networking, storage, and security services. It also provides virtual machines with accurate timing by running PTP on its Arm processor. **ConnectX Ethernet SmartNICs** offer best-in-class network performance, serving low-latency, high-throughput applications with one, two, or four ports at up to 400 gigabits per second (Gb/s) Ethernet speeds. They accelerate virtualized data centers while enabling a broad range of software-defined capabilities.
NVIDIA Rivermax	Key to SMPTE ST 2110 adoption, **NVIDIA Rivermax SDK** increases GPU processing capacity with direct data transfers to and from the GPU. It reduces CPU load by 65%, works on any CPU architecture and is OS agnostic. It is a fully virtualized streaming solution with natively integrated PTP time service and NMOS Node. It delivers hardware time scheduling and accurate bitrate for any data stream and hardware-enabled SMPTE ST 2110-21 specification compliance.

"By leveraging NVIDIA Virtual GPU technologies to deliver Vizrt's portfolio of innovative visual storytelling tools from on-prem data center or cloud, we bring creativity, flexibility, scalability, and outstanding performance to broadcasters around the world."

Gerhard Lang, Chief Technology Officer, Vizrt

Use Cases

Virtualized workloads and use cases in live media continue to expand, delivering flexibility and scalability for content creation, management and distribution.

- Video editing
- NLE workstations
- 2D creatives
- 3D artists
- Broadcast graphics engines
- Encode and decode
- Video mixers
- Studio graphics
- Virtual production
- Data science
- Content analytics
- Asset management
- AI translation and subtitling

And More.

Partner Ecosystem

NVIDIA partners with leading software and OEM hardware providers, and best-in-class system integrators to develop and deploy solutions for mission-critical live production, on-air graphics, video production, transcoding, content distribution and more.

- AWS
- Alibaba Cloud
- Citrix
- CoreWeave
- Dell
- Google Cloud
- HP
- HP Anyware
- IBM Cloud
- Lenovo
- Microsoft Azure
- Nutanix
- Oracle Cloud Infrastructure
- Quantum
- Red Hat
- Tencent
- VMware

And More.

NVIDIA-Certified Systems

Confidently deploy scalable hardware and software solutions that securely and optimally run accelerated workloads.

Learn more about accelerated servers at **nvidia.com/certified-systems.**

Ready to Get Started?

To learn more about the NVIDIA-accelerated broadcast infrastructure visit: **nvidia.com/live-media**

Contact Sales at: **nvidia.com/en-us/contact/sales**

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