VULTR

SOLUTION BRIEF

The Power of an Enterprise VFX at Home

With remote work showing little signs of declining, companies are looking for ways to effectively empower workers with different skills to work from home. While many roles can be supported with proper Virtual Desktop Infrastructure (VDI) protected by a VPN, the challenge is to provide specialized hardware with advanced processing power to remote employees – such as creative teams working with modern visual effects.

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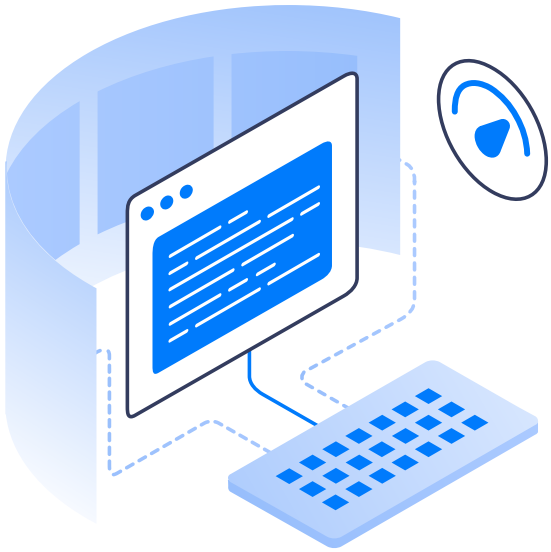
Real-time graphics processing is central to delivering immersive digital experiences to your customers. But the hardware required to create these experiences isn't typically found in an office – let alone in an employee's home office. So how can you possibly expect to enable your remote visual effects workforce?



Vultr's cloud GPUs are the solution. Through secure, reliable access to cloud GPUs your creative team can be located anywhere in the world and use all the resources they would expect from a fully-formed in-house solution. Even the most resource-intensive positions can be remote using GPU access through Vultr's VDI and secured through VPN.

As an added benefit, you can buy only as much GPU time as you need when you need it. Outsourcing your workload to a reliable Vultr cloud GPU solution lets you scale indefinitely while we handle the maintenance.

The benefits of cloud computing for VFX and rendering companies

Investing in a premier graphics processing suite feels like buying an exotic car. It's an initial, significant capital expenditure. Then, you take brief tours to delight in your newfound performance. The technology sits in the garage the rest of the time, accruing upkeep costs. And with the migration to remote work, the hardware investment is even harder to justify.

However, using Vultr's composable architecture and bevy of cloud options, even startup companies can create powerful VFX workspaces that are completely accessible to even the most remote employees. As an established provider dedicated to cloud-native solutions, Vultr can offer a more suitable platform for GPU-intensive applications with high scaling demands. Purchasing discrete units of cloud GPU resources as needed is a cost-effective way to access the latest advancements in VFX rendering technology. It allows your business to maneuver and adapt to your clients' needs.

Flexibility also encourages reliability: Staying agile allows you to adapt to or preempt changes in network conditions as well as your creative team's workload and capacity. Working with a cloud partner enables a globally-accessible foundation for an efficient, agile, distributed VFX workspace.

Vultr's customizable solutions for VFX and rendering companies

Vultr's storage and high-speed networking options help you and your team get the most out of cloud-backed GPUs. Vultr's Cloud GPU instances, powered by NVIDIA GPUs and designed for render-heavy applications, handle most VFX workloads well. For mixed-use applications, you can also choose from two options powered by NVIDIA GPUs designed for high-performance computing (HPC) and general AI.

Control your Cloud GPU costs by right-sizing your GPU capacity with a stable of NVIDIA GPU models. Choose the GPUs best suited to your needs here.

To complement NVIDIA's capable hardware, Vultr offers a complete infrastructure to run your VFX workload. Vultr Cloud GPU instances and block storage are pay-as-you-go, helping you rightsize the tools for each project and pay less for resources that might otherwise sit unused. You can work with datasets on a highly-available hard disk drive (HDD) or Non-Volatile Memory Express (NVMe) solid-state drive (SSD) storage, where Vultr replicates your data for safety, with the option to let Vultr manage your databases.

Vultr's hyper-scalable infrastructure keeps these resources on tap for you. Your team can spin up new virtual GPU (vGPU) instances or provision block storage in seconds. For example, a Vultr Cloud GPU powered by NVIDIA A40 GPUs can quickly handle raytracing-heavy work, such as shading and subsurface scattering, to render photorealistic VFX and virtual prototypes. Once you've processed your workload, Vultr tidies up.

Vultr Cloud GPUs also facilitate your globally-dispersed creative teams to connect securely. NVIDIA A16-powered virtual workstations run on Vultr's high-performance network, supporting a broad range of advanced features. You can integrate your existing network with Vultr Cloud over a private, dedicated connection. Then, configure virtual private cloud (VPC) peering for the seamless remote access your team members need to do their best work. No matter where your creative team resides, your data remains secure, satisfying all your privacy-focused clients (even your most prominent partners).

NVIDIA A100 Tensor Core GPUs enable your developers to run mixed workloads. These instances suit back-end data analytics that power 3D structural modeling and similar applications. The processors can render unpredictable workloads in real time on your network's edge.

Vultr is among the first providers to offer the NVIDIA HGX H100 platform. Fourth-generation Tensor Cores, FP8 precision, and dramatically increased connectivity give the H100 platform an order of magnitude higher performance over the previous generation of GPUs – all secured by built-in NVIDIA Confidential Computing.

Vultr fractional GPUs for VFX and rendering workflows

At times, even your team's most demanding creative efforts won't need the full processing power of an NVIDIA GPU. Vultr's fractional cloud GPUs, developed in collaboration with NVIDIA, are an industry-first fractional GPU offering that uses NVIDIA AI Enterprise software to virtualize and compartmentalize the underlying hardware.

Vultr Cloud GPUs use time-slicing-based virtualization or – on NVIDIA A100 Tensor Core GPUs with enough GPU RAM provisioned – multiple-instance GPU (MIG) virtualization. Rather than scheduling tasks in serial, each MIG-backed vGPU has an isolated path through the chip's memory to run its processes in parallel with other MIG vGPUs on the same physical unit.

Fractional GPUs extend Vultr's dedication to helping you pay for only what you need. Light or inference-based workloads like de-noising likely won't use most of a GPU's capacity. Instead, you can purchase Vultr Cloud GPU compute in increments as small as 1/20 of an NVIDIA Tensor Core A100. Vultr makes GPU compute even more accessible, predictable, and efficient than on-premises solutions or cloud compute that bills by the month.

Virtual desktop infrastructure (VDI) offers similar benefits. Adding contributors to the crew that's taking your VFX project to delivery can be an unnecessary expense. Team members who provide an advisory role don't need a fully-interactive graphics terminal. Similarly, you may want to add temporary workers during testing.

Fractional GPUs let you efficiently saturate a physical GPU or securely claim only the portion you need without other tenants impacting your access or performance.

Additional tools and services for employees in VFX and rendering

Through the use of Vultr's virtual desktop infrastructure, VPN, and VFX tools, you can offer your creative teams a powerful workspace accessible everywhere in the world. But the Vultr advantage doesn't stop there. Using a composable approach, Vultr allows you to give extra power to your teams' workspaces.

By empowering your creative team with a state-of-the-art video streaming service, your VFX team can create, render, and distribute streaming video with ease from anywhere in the world. This seamless transition from creation to distribution increases efficiency and allows remote employees to perform tasks autonomously.

While many businesses are hesitant to perform ultra-intense VFX and rendering flows off site, Vultr's ability to deliver high performance computing through a remote workstation makes these tasks easy and effective. Vultr's huge network of bare metal, GPU, and other cloud compute resources means that your remote workers will have the processing power no matter the task. And since you only pay for this hardware when it's in use, you can scale up and down with your clients' needs.

Vultr can also empower your creative team with the ability to provide real time rendering and streaming with our pixel streaming solution. With this technology, your remote team can create interactive, 3-D experiences that dazzle users – all from any location, including home offices.

Regardless of the needs of your creative team, Vultr has the infrastructure to support them. And with locations worldwide, your remote team can access Vultr GPUs and workstation regardless of where they're located.

The Vultr approach to supporting VFX and rendering companies

Building out your VFX offering may require integrating tools built for different platforms and operating systems (OSs). Vultr Cloud GPU takes a vendor-agnostic approach, offering the freedom to use whichever technologies you rely on to deliver immersive digital experiences.

You can install a pre-packaged environment for GPU development using one of Vultr's one-click applications. The Vultr Marketplace includes packages spanning a wide range of cloud-native use cases.

A default cloud GPU instance offers a flexible starting point if you need more control, as it comes with a clean install of your desired OS and full root or administrator privileges.

Setting the stage

The latest GPUs can seem out of reach for many VFX, rendering, or other businesses hoping to add video creatives to their marketing mix. While they make processing video much faster, it's necessary to outfit your entire creative team with professional graphics hardware, which would require a steep initial investment.

A more affordable and practical solution is to outsource your VFX processing and rendering to the cloud. Your best choice is a robust platform that offers a full spectrum of highly task-specialized tools running on bare metal, high-performance computing (HPC) GPUs suited for mixed-use AI computing, and fully-managed offerings with preloaded software suites. Each option plays a role in a comprehensive cloud GPU strategy.

And by combining these tools with other Vultr features, such as VDI or VPN, you can create economical enterprise-level workspaces for your remote employees anywhere in the world.

Vultr cloud GPUs offer a secure, affordable cloud-native alternative to costly, underused, on-premises GPU resources.

Get started with Vultr's fractional GPU approach to efficiently process your VFX workloads on a managed, high-performance network available to your teams – or clients – worldwide.