

Scale Up/Scale Out for Animation and VFX Workflows



By Steve Crouch, President SUSO

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Everything has changed. People no longer need to go into the office as companies learned they could connect everyone remotely. They learned how to use the “cloud” to augment on-site datacenters or even replace them altogether. “Remote work appears likely to be the most persistent economic legacy of the pandemic,” writes a Goldman Sachs economist.

This new reality has a major impact on the Animation and VFX industries, whose clients and workers can be spread, literally, over the entire world. When work can be done anywhere, it becomes a management problem.

Many Animation and VFX companies have migrated to one of the Hyper-Scalers, especially AWS. Their pitch appears attractive – scale up to any number of CPUs, storage, and GPUs instantly, access from anywhere through multiple service points. Then the bill comes due when you retrieve your files/frames. “The bigger the Hyper-Scaler is, the more expensive the egress fees are, in an attempt to retain customers and prevent them from going to competitors”, states consultant [Alexandre Guerin](#).

It's kind of like ransomware if you think about it.



INTRODUCTION

THE “OLD” WAY

Hybrid architectures emerged as a viable alternative to the all-in-one approach offered by AWS, Azure, and GCP. A hybrid infrastructure is an environment made up of a mix of on-premise data centers, private clouds and/or public clouds. While these architectures offer benefits, they can be challenging for an in-house IT team to manage.

VMWare emerged in 1998 and quickly became the leader in virtualized resources designed to run this new world of “virtual machines” where multiple users could simultaneously access machines and data wherever they physically resided. Unfortunately, it is their legacy that dooms VMWare users to the same high costs and complexity as the hyper-scalers.

VMWare’s dominance is quickly eroding with last year’s purchase by Broadcom. Here’s Forrester’s take on it, <https://www.forrester.com/blogs/vmware-customers-brace-for-impact/>. Thankfully, there are alternatives to VMWare which is what I want to talk about here, focusing on the needs of the Animation and VFX industries.





ULTRA-CONVERGED INFRASTRUCTURE



Benefits

- **Use Your Existing Hardware:** Breathe new life into old servers
- **Better Performance:** Reduce physical server count by 35% or more
- **Ransomware Resilience:** Detect and recover from an attack in minutes.
- **VMware Replacement:** Migration to VergeOS from VMware is seamless with [IOmigrate](#).

Streamline Your IT

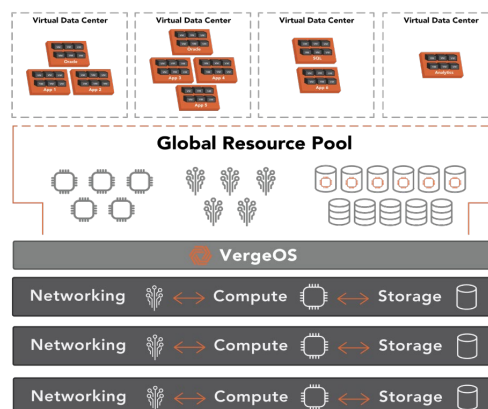
- VergeOS is a data center operating system.
- All services in one software solution.
- Unlike HCI, VergeOS storage services do not run within a virtual machine. Instead, they are integrated with networking and the hypervisor for maximum performance and flexibility.

Have you heard about [VergelO](#)? Their technology creates an Autonomous Infrastructure leveraging cutting-edge artificial intelligence and automation to create self-managing and self-optimizing IT infrastructures. They coined the term “Ultra-Converged Infrastructure” (as opposed to Hyper-Converged Infrastructure) to emphasize the superiority of their approach.

The Verge operating system virtualizes an entire datacenter’s functions, then creates a virtual network of these data centers that can exist anywhere, all with an easy to use single-pane-of-glass interface.

Animation and VFX companies can now efficiently connect artist workstations, local networks, and storage with cloud resources like CPU/GPU render farms, cloud workflow automation systems, mass storage, and backups.

VergelO makes it easy to understand and use this potentially super-complex, distributed web of resources. Now you can pick the most competitive system in each category and make it as easy to use as a proprietary all-in-one product whose downside is the vendor lock-in that holds a company hostage.





GLOBALLY ACCESSIBLE RENDERING



Member of the Trusted Partner Network (TPN) owned and managed by the Motion Picture Association (MPA), a leader in third-party entertainment industry assessments.



ISO27001 Certification

Fox Renderfarm is ISO 27001 certified to keep your assets and information secure.



Non-disclosure agreements are available for customers to protect their rights and interests.



High performance SSD storage.



Automatically detects IT environment and matches cloud infrastructure services.

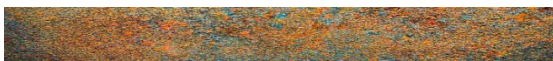
For example, [Fox Renderfarm](#) is a pioneer in cloud rendering and they're located in Asia. An animation company in the US might want to use their services but believes they're too far away to be efficient. In this day and age, nothing could be further from the truth.

[Fox Renderfarm](#) has many things going for it. It has one of the largest render farms in the world with tens of thousands of CPUs and GPUs fine-tuned for complex projects. It's also a certified green data center whose electricity is generated by wind and water (if your government offers global warming offset incentives this can be very valuable). Their pricing model is straight-forward and low. You submit your projects through a web browser or their desktop app. The render output is sent wherever you specify.

When you download your rendered files to a cloud provider like Wasabi (or one of dozens of independent cloud providers) those files become available to your entire team instantly and across all regions. You can also download them simultaneously to an alternate location for backup, which could be another cloud provider or on-premise storage.

You might wonder if sending your data to multiple locations that could be on different continents is inefficient or time-consuming (it's recommended that your backups exist in physically separate regions). **Fox Renderfarm** includes a powerful file transfer acceleration system called [Raysync](#). **Raysync** was spun out as a separate product that can be deployed anywhere, not just in your render pipeline. I'll talk more about Raysync later.

Once your project is safely ensconced in a cloud environment, it's an easy task to push the data to other providers like editorial companies, transcoding/image processing systems, localization and translation services, and subtitling. In this multi-cultural, multi-language world it is the norm for any Animation or VFX project to be touched by many hands. This fact is what promotes complexity and potential for failure or delays. That's why you need a robust Hypervisor system like **Verge.IO** which automates most of the complexity out of the system.



GLOBALY CONNECTED RESOURCES

Automate

- Create automatic data sync tasks on the Raysync Admin Portal.
- With the scheduled sync policy, data can be collected from multiple Clients without manual intervention.

Log and Traffic Audit

- Real-time logs of online transfer, user operation to makes enterprise core business data visible, controllable, traceable.
- Statistics of the number of transferred files, file size, traffic, comprehensive grasp of enterprise data information.

Monitoring

- Visualized dashboard and topology map can comprehensively monitor the information and transfer status of the entire network device.
- Monitor system information for each device node, such as bandwidth, CPU, memory, & disk usage
- Start, pause, edit, or resume file transfer tasks to easily manage from different nodes.
- Real-time email notification for file synchronization

Compatibility

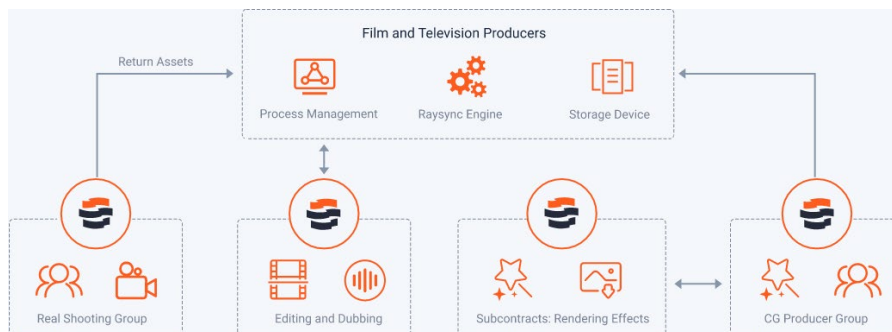
- Supports data transfer and sync across platforms (Microsoft Windows Server, Linux, MacOS, IOS, and Android).
- Support for local storage and other cloud object storage such as Amazon S3, Wasabi, Backblaze, Google, Azure Blob, Google, and other network storage (such as NAS, SMB, etc.).

When your company is dispersed geographically and a project enlists hundreds of artists and service providers, you need a way to connect everyone and everything as if it were all done locally. That's where [Raysync](#) comes in.

[Raysync](#) provides customized file transfer SDKs and APIs, which are deeply integrated with Web and Desktop clients. Through seamless integration with existing systems, **Raysync** maximizes the use of your custom-built IT infrastructure and saves hardware and software costs. Mac, Windows, Linux and other mainstream development platforms are supported.

Raysync synchronizes millions of small and TB-scale files, and it supports multiple concurrent sessions, clusters, and 10Gbps transfer speeds (or even at cloud backbone speeds). It supports one-to-one, one-to-many, and many-to-many sync, incremental backup and other backup modes. Because of its superior acceleration algorithm, it's almost as if everyone is working locally.

Raysync is an enterprise system that manages global transfers through a central control point. Companies can use their SDKs and APIs to embed accelerated transferring within their established workflows. There is no limit on quantities, file sizes, file formats, and transfer volume. Their system is HIPAA-approved reflecting their assurance of total encrypted security, and they are a member of the Entertainment Industry's Trusted Partner Network.





SUMMING UP

As technology continues to advance, organizations are faced with the challenge of managing complex IT infrastructures. This complexity arises from the need to handle various components such as servers, storage systems, networking devices, and software applications.

With the rapid growth of data and the increasing reliance on technology, traditional methods of managing infrastructure have become inadequate and costly. Businesses must grapple with issues such as scalability, security, maintenance, and operational efficiency, all of which contribute to the growing complexity and expense of managing a modern hybrid IT infrastructure.

Animation and VFX companies working solely on AWS, Azure, or GCP would do well to analyze their workflows and adopt a well-designed hybrid architecture to better control costs and performance.



About SUSO – www.SUSO.Pro is a consulting organization headed by Steve Crouch. It provides business development and representation services to companies seeking to establish alternative sales channels mainly in the US market. SUSO also offers system and product design services.

About VergelO – <https://www.verge.io/> is comprised of experienced executives and entrepreneurs in the IT and infrastructure industry passionate about finding a new way to deliver IT by leveraging the power of software. Their roots go back to 2010 when the core team started the revolutionary Yottabyte LLC.

About Fox Renderfarm – <https://www.foxrenderfarm.com/> serves leading VFX companies and animation studios from over 50 countries and regions, including Oscar winners.

About Raysync – <https://www.raysync.io/> empowers enterprises to grow their businesses and succeed in today's digital landscape through extraordinary transfer technology and professional network optimization services.