

CASE STUDY

Giant Animation Enhances Rendering Pipeline for Streamlined Peak Workflow Amid Rapid Growth

BACKGROUND

Up until 2020, Giant Animation operated entirely in-house, managing all infrastructure within their studio. While the company had experimented with the cloud for limited tasks, such as offsite backups and burst rendering, the cloud was not a core part of their operations. This all changed with the onset of the pandemic. As artists transitioned to working remotely across the globe, the limitations of maintaining all infrastructure in-house became clear, particularly in terms of rendering resources. The team quickly realised that keeping all infrastructure on-site was no longer efficient or necessary.

During this time, Giant Animation also experienced significant growth. The studio began taking on more simultaneous productions, which placed immense pressure on their existing infrastructure. The growing demands of these projects required a more scalable solution, prompting the studio to explore the possibility of migrating to the cloud or adopting a hybrid approach – running some productions in-house and others in the cloud.

CHALLENGES

Between 2022 and 2023, Giant Animation experienced unprecedented growth. The team expanded rapidly, growing from approximately 30 artists to 240 artists and support staff in just 15 months. This rapid expansion, alongside multiple simultaneous productions, created severe pressure on the studio's existing infrastructure. The challenge was not just about managing more work but also about optimising the rendering pipeline and efficiently handling peak workloads during the studio's ongoing growth.

AT A GLANCE

THE PROBLEMS

- Infrastructure Limitations
- Scalability challenges
- Uncertainty with public cloud
- Managing peak workloads

THE SOLUTIONS

- Hybrid cloud transition
- Dedicated high-performance resources with workstations and render nodes
- Predictable and transparent costs

THE RESULTS

- Seamless Scaling
- Improved workflow efficiency
- Future-proofed growth
- Predictable & transparent costs



"Since partnering with ERA and Tyrell, the shift has been transformative. What was once a reactive, in-house setup has evolved into a flexible, scalable solution that allowed us to deploy a brand-new, CPU-based render farm without the need for costly infrastructure. This transformation has been crucial in meeting our growing demands."

**Borja Huertas, IT Manager
of Giant Animation**

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CHALLENGES CONTINUED

Several factors made an in-house infrastructure expansion unfeasible:

- **Power and Cooling Constraints:** The server rooms lacked the capacity for additional hardware.
- **Limited Physical Space:** There was not enough space in the office to accommodate additional infrastructure.
- **Increased Demand for Scalable Resources:** The growing number of productions required more computing resources than could be supported by their current setup.

Giant Animation began exploring various public cloud providers, engaging in discussions and proof-of-concept (POC) trials. However, the complexity of implementation and lack of clarity around cloud costs raised concerns. They needed a solution that was both scalable and transparent in terms of costs.

THE SOLUTION

In March 2023, ERA partnered with Giant Animation and their Dublin-based partner, Tyrell, to provide on-demand infrastructure that would support the studio's rapid scaling for a major animation project. Initially, Giant Animation began with workstations and storage from ERA to support a pilot project. However, as the pilot quickly expanded into a longer-term episodic series, and the team grew, it became clear that further infrastructure expansion was necessary.

Tyrell and ERA's solution was tailored to meet the growing needs of the studio. The partnership enabled Giant Animation to transition from a fully in-house infrastructure model to a hybrid cloud solution that offered scalability and flexibility without the complexity and unpredictability of public cloud providers.

The private cloud solution included:

- **100+ Dedicated High:** Performance Workstations: Ensuring seamless artist workflows with consistent, reliable computing power for creative tasks.
- **70+ Dedicated Render Nodes:** Scaling up to over 12,000 CPU cores during peak production periods, ensuring that the studio could manage complex rendering tasks efficiently.
- **Tier 1 Clustered Storage:** Providing high-speed, reliable access to data, critical for handling large animation files.
- **Disaster Recovery (DR) Storage:** Ensuring secure offsite backups at a separate data centre to protect critical assets.
- **Low-Cost Virtual Machines:** Supporting critical infrastructure services such as Active Directory, orchestration servers, license servers, and file transfer systems.

This private cloud solution offered the flexibility to scale resources up and down based on project requirements, while also providing predictability in terms of costs, capacity, and performance - something that was a significant concern when working with public cloud providers.

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THE RESULTS

With ERA's private cloud solution, Giant Animation successfully transitioned to a more scalable and cost-efficient model, enabling them to meet the growing demands of their productions. The results of the transition were transformative for the studio, including:

- **Effortless Scaling:** The private cloud infrastructure allowed the studio to scale resources as needed to handle the demands of multiple simultaneous productions.
- **Elimination of Infrastructure Bottlenecks:** By moving critical workflows to the cloud, the studio overcame previous limitations related to power, cooling, and physical space.
- **Predictable Costs and Top-Tier Performance:** Unlike the unpredictable costs of public cloud providers, ERA's private cloud model allowed for more predictable, transparent pricing while ensuring the same high performance needed to meet deadlines and client expectations.
- **Remote Collaboration:** With the cloud infrastructure, the studio was able to seamlessly integrate remote work into their workflows, enhancing collaboration among artists working from different locations.

This shift to a hybrid cloud approach, which blended in-house hardware with cloud-based resources, allowed Giant Animation to streamline their rendering pipeline and optimise their infrastructure to effectively manage peak workloads. The studio was able to run multiple productions simultaneously with ease, ensuring that the demands of their clients were met while keeping their team working efficiently, no matter where they were based.

Borja Huertas, IT Manager of Giant Animation said "The flexibility to scale up and down as project demands change has been incredibly helpful – something we simply couldn't do before. In the past, we'd either compromise on quality or push deadlines, and that's not something we ever want to do. Now we have more flexibility with rendering than we've ever had, and we're no longer scrambling to find last-minute solutions to solve problems".

FUTURE PROOFING

Thanks to ERA's support, Giant Animation was able to future-proof their operations, ensuring they remain agile and competitive in the ever-evolving animation and VFX industry. The private cloud solution not only met their immediate needs but also positioned them for future growth, giving them the flexibility to adapt quickly to changing project requirements.

The partnership with ERA and Tyrell allowed the studio to continue delivering high-quality, award-winning animations for major clients like BBC, TED, YouTube and DreamWorks while remaining ahead of the curve in an increasingly cloud-driven industry.

CONCLUSION

Giant Animation's journey from managing all infrastructure in-house to embracing a hybrid cloud model was a pivotal moment in their growth story. The scalability, flexibility, and transparency offered by ERA's private cloud solution enabled the studio to meet the demands of their expanding team and multiple simultaneous productions. This shift helped optimise their rendering pipeline and streamline peak workflow management, all while keeping operational costs predictable. With this enhanced cloud infrastructure, Giant Animation is well-equipped to continue delivering top-tier animation while staying agile in the fast-paced world of VFX.



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