SpinVFX's Burstable Cloud Rendering Solution with **Beanfield**

Story

Imagine a world with kick-ass superheroes, the ability to time-travel, or a multi-dimensional Demogorgon and a team of ordinary pre-teens who were destined to save the world. Thanks to SpinVFX, they're able to bring our imagination to life in the richness of HD television and film.

Established in 1987, SpinVFX has always had **a knack for innovation in the media & entertainment industry.** Nestled in downtown Toronto, you can find this creative Visual Effects (VFX) studio taking on challenging film and television projects to produce captivating imagery in everything from **Netflix's Stranger Things** and **The Umbrella Academy,** to **HBO's Game of Thrones** and more.

Over the decades, SpinVFX honed their skills and evolved into an award-winning studio with demand for their work quickly following suit. As they became involved in more projects, they realized they would require more capacity for VFX rendering than what their current data infrastructure offered.

How it should be.

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Challenge

Year over year, VFX studios around the world challenge the status quo to bring us bigger and better visuals. From a beautifully animated hair toss, to an out of the world explosion, the production quality in film content continues to wow us beyond belief. As these visual effects continue to advance, they require more rendering capacity to process the layers of these scenes.

Along with the growth of their business, SpinVFX's clients were asking for their film content to be delivered at a higher resolution, from 2K to 4K, which requires more rendering capacity. SpinVFX recognized that they had to solve for efficiencies in areas that were starting to bottleneck - their rendering capacity.

Having worked with Beanfield in the past, Colin Davies, the CTO of SpinVFX, had confidence in working with the team once again for the exploration of a new solution. Together, we wanted to build out a solution for structuring a burstable cloud service for VFX rendering that would allow them to fulfill their rendering needs without purchasing more on-premise infrastructure.

SpinVFX required:

- A consultancy and collaborative approach from Beanfield and select vendors to define the framework for Proof of Concept (POC) testing to evaluate cloud virtual machine (VM) solutions for their rendering demand, while gaining access to multiple US cloud regions for high compute capacity and best available spot pricing

- Testing to **determine the minimum bandwidth and latency baseline for burstable rendering**, and the render workload performance needed for the cloud VMs to be comparable to their current infrastructure

- Mapping to large US east cloud regions via Beanfield's low-latency HYPERroute for maximum throughput. **Low-latency is integral for the edge-caching to work seamlessly with no lag** and render large files

- Ability to **render frames overnight** to allow artists to have effective working hours during the day and make the changes required during their working hours

- **Flexibility in the solution** to be able to turn render capacity on when projects are in more demand, and turn off the solution during a slow period

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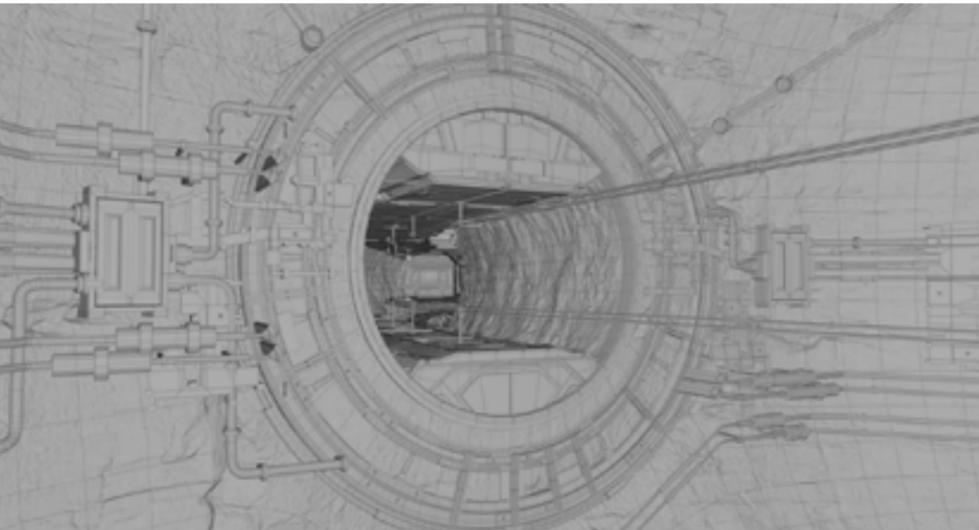
Solution

SpinVFX considered several ways to increase their rendering capacity, such as, making costly infrastructure investments in on-premise servers, renting expensive servers to meet max rendering demand, or looking to the cloud for a cost-effective, but un-tested, solution. As a pioneer in their industry, SpinVFX ultimately chose to trial what a cloud solution had to offer and chose Beanfield as a partner in constructing the solution.

Beanfield:

● Project managed the POC with AWS, and later, Azure, for the SpinVFX team to determine workload capacity of the AWS VMs: between 50 to 300 Amazon EC2, C5, and C4 Virtual Machines in the cloud at any given time to fulfill max rendering needs moving 330TB of data into their AWS test Virtual Private Clouds (VPCs), and pulling 80TB of data back to the studio

● Worked in tandem with SpinVFX and vendors to connect their internal network to multi-cloud infrastructure in several regions using a combination of Direct Connect and ExpressRoute connections. This arrangement supplied performance metrics of the bandwidth and latency; the partnership provided a unique solution that **allowed the media files to stay on-premise** at the SpinVFX office.

Beanfield jumped at the opportunity to build something that had not been trialed before, and **worked closely with SpinVFX, Amazon Web Services (AWS) and Azure to create a solution** that made sense for the studio. The collaboration allowed for a burstable cloud VFX rendering solution that supported the requirements SpinVFX needed to get the job done.

● Designed a custom 10 Gbps low-latency (sub 13 milliseconds) cloud connection to AWS and Azure in Virginia, USA that allowed for the best possible spot pricing and their edge-caching to work smoothly; a key piece in keeping the media files on-premise in lieu of using cloud storage.

● Along with the vendor team, delivered the solution that gave the visual effects artists the ability to render their frames overnight, and come back to work in the morning with the finished frames to either send downstream or make further adjustments

● Offered a **flexible service that allowed SpinVFX to ramp up their capacity and take advantage of a busy period**, while being able to turn down the service when the capacity was not required

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> **This solution was very significant and is a critical part of our business in delivering to our clients. Since implementing the solution, we've been given the flexibility to scale up when we've needed to, and scale back down when we didn't need the resources.**

– Colin Davies
CTO of SpinVFX

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Result

Although the SpinVFX team were no strangers to testing out services for their data infrastructure, Colin mentions they "...needed someone to project manage and really champion this project by pushing it forward. Beanfield had prior knowledge and experience...and that side of it was really crucial in making it all happen, that kind of drive and initiative to pull everything together and make it all work."

With all the partners and stakeholders putting their heads together, as well as, the flexibility given by SpinVFX to the vendor team to try something different, the end result was a sustainable solution that would be beneficial to the studio for years to come.

Since the implementation of the burstable cloud solution, the SpinVFX team has gone on to take part in projects that transport you into another world, such as, **Netflix's Altered Carbon** and **Columbia Picture's Zombieland 2**.

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> **For us, it was Beanfield from the start. We had a time sensitive problem on our hands, and we knew we had to find a solution. Beanfield was able to work with us, not only setting up the connectivity, but crucially, it was also working with the other vendors to coordinate the project, because it all had to work together.**

– Colin Davies
CTO of SpinVFX

Looking Forward

Beanfield continues to work with SpinVFX to add more flexibility and diverse options to their current services in place. With the impact of the COVID pandemic, Colin says "there is a lot of pent up demand to do shooting during this time. People have been binge watching, so there's a really high demand for content, [and when] the flood gates start to open, there's going to be a lot of work. Having the ability to scale with demand is going to be advantageous for us … during the down time, we're able to scale back. We're looking at just improving our processes and continuing to work on challenging shows, and just push the boundaries."

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At Beanfield, it's about building communities, not just networks.

Join our community. Be part of our story.

Beanfield is a telecommunications company unlike the rest. We recognize the importance of connecting communities and the businesses within them, and we do this without sacrificing outstanding customer support and superior services. At Beanfield, it's about building communities, not just networks.

Beanfield builds, owns and operates the largest independent fibre-optic network in Toronto and Montreal, connecting over 2800 commercial and residential buildings. All of our construction, installation, and customer experience teams are in-house, giving you the most efficient and streamlined experience possible, because we believe that's **How it Should Be**.

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