



# Media & Entertainment

## Atomic Fiction Leverages Qumulo File Fabric (QF2) to Meet Rapidly Escalating I/O and Capacity Demands

Award-winning visual effects (VFX) studio, Atomic Fiction, was growing too fast for its old storage solution, especially as it began using more powerful, I/O-intensive VFX software. After an extensive search, they decided on QF2, a modern, highly scalable file storage system, because of its exceptional performance, cost-effectiveness and real-time analytics.

### Cutting-Edge Effects Overwhelm Storage

Atomic Fiction is a visual effects studio whose digital eye candy has wowed viewers of big-budget films including *Star Trek Into Darkness* and *Blade Runner 2049*, as well as powerhouse TV hits like *Stranger Things* and *Game of Thrones*.

Unlike the company's eye-popping VFX, Atomic Fiction's data storage system wasn't much to behold when it first set up shop in 2010. While the Oakland, California-based studio remained small, its home-grown combination of commodity storage hardware and Linux OS was more than sufficient for its needs.

However, as the studio's growth spiked, that storage failed to keep pace. In 2014, Atomic Fiction more than doubled in size, expanding internationally into Montreal, Canada, and taking on much more demanding projects and I/O intensive applications. That's when the company started feeling the hurt, according to Robert Jordan, Head of Systems, Systems Engineering and IT at Atomic Fiction.

"As you might expect, our existing system was built for a different size company," explained Jordan. "Sticking with our existing hardware was a path toward major performance problems, and it wasn't scalable – all the growing pains you'd expect when your company triples in size."

Atomic Fiction primarily leverages its storage for work-in-progress projects and rendering, using such programs as Autodesk's Maya digital 3D modeling and animation software; The Foundry's NUKE, a compositing and finishing tool; and

most recently The Foundry's Katana lighting and look development software. Katana in particular has "significant I/O requirements compared to what we've used before," Jordan noted.

"In this industry, the core of the whole business is really the storage, and if the storage isn't happy, then nothing is happy," he says.

***"People's behavior is influenced by direct, immediate feedback on the impact their work is having on the system. And it can't just be at a macro level. With QF2, our employees can see real-time graphs that update as they work – providing that granular visibility is surprisingly effective."***

— **Robert Jordan,**  
Head of Systems, Systems Engineering and IT, Atomic Fiction

That prompted the search for a new storage solution; it was time to blow up the old infrastructure, Atomic-style. But if the company was going to conduct a full-scale overhaul, it was going to do so with a forward-thinking approach.

"Wayne Gretzky used to say that he skates to where the puck is going to be, not where it's been. That's was our analogy for finding our new storage solution," said Jordan.



### Solution Overview

- 13 Qumulo QC24 Hybrid Storage Appliances
- NFS and REST Protocols
- Qumulo Care enterprise support

### Key Benefits for Atomic Fiction

- Improves performance to meet demanding I/O requirements of latest visual FX software tools
- Delivers real-time analytics for actionable intelligence on data and storage usage
- Influences user behavior and storage impact through live dashboard and API integration
- Encourages smooth deployment and solution success with dedicated Qumulo Care team collaboration

## Qumulo vs. Competition: The Tale of the Tape

As Jordan weighed options for improving storage, he initially looked at software-defined solutions that would allow Atomic Fiction to leverage the commodity hardware already in place. Supposedly this would keep budget low, even if the company had to further augment the system with a second node.

Ironically, “that surprisingly turned out to be the most expensive of all the solutions we looked at,” said Jordan. Indeed, this strategy only tends to be cost-effective if a company already runs large-scale operations with hundreds of servers.

So instead, Jordan concentrated on scalable, capacity-on-demand solutions that could run NFS on a distributed file system. That race boiled down to Qumulo vs EMC/Isilon.

“I first started working with Isilon when they were young and the technology was new and interesting. They had a lot of new breakthrough features that served as low-hanging fruit on their roadmap. Fast forward to today, and that’s the position where I find Qumulo now,” said Jordan. “In contrast, the other storage vendors never seemingly evolved.”

Qumulo’s QF2 offers a modern approach, delivering fast, flexible and highly scalable storage together with the real-time analytics necessary for visibility into data usage and performance at petabyte scale. So with QF2, Atomic Fiction could still rely on commodity hardware, yet at far less cost than if the company had retained its legacy storage equipment.

Jordan was particularly drawn to QF2’s data analytics, something he’d focused on for much of his career. And, given that long experience, he knew that gaining insight into unstructured data storage was always an uphill battle because metadata support and real-time aggregation in the underlying file system just isn’t there. QF2’s technology promised to change all that.

Atomic Fiction has embraced cloud computing, is modest in size but benefits from a scalable ‘big shop’ infrastructure, and employs an exceptional team who wield a generalist approach to get the job done. Our studio has worked on two Oscar-nominated films, *Star Trek Into Darkness* and *The Lone Ranger*. The studio’s Emmy-nominated work can be seen in *Cosmos: A Spacetime Odyssey*, as well as *Flight*, *Looper* and *The Walk*.

To confirm his opinions, Jordan polled a number of industry colleagues to find out what they were using, and thought interesting. “All of the buzz was clearly about QF2,” he noted.

After a further evaluation of specifications and functionality, it became obvious that QF2 was the hands-down superior solution for Atomic Fiction.

## Splitting the Atom: Dissecting Data with Analytics

Atomic Fiction initially deployed 120 TB of storage across 10 nodes of Qumulo’s QC24 hybrid storage appliances at its Montreal facility. The results far exceeded the company’s admittedly high standards. As expected, the production teams saw a marked improvement in performance for rendering and other VFX-related workloads.

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— **Robert Jordan,**  
Head of Systems, Systems  
Engineering and IT, Atomic Fiction

But it’s the real-time analytics that have emerged as a key differentiator – delivering the actionable insight that had been missing for Atomic Fiction. The studio now has real-time performance visibility to immediately recognize hot files and directories, allowing Jordan’s team to ensure those resources remain readily available. The data analytics also give the team up-to-date information regarding capacity and usage, and that’s information he can even share with users.

“People’s behavior is influenced by direct, immediate feedback on the impact their work is having on the system,” comments Jordan. “And it can’t just be at a macro level. With QF2, our employees can see real-time graphs that update as they work – providing that granular visibility is surprisingly effective.” Atomic Fiction currently uses the QF2 dashboard to show storage impact to users, and also plans to use QF2’s rich, well-documented REST API to integrate the data analytics into the company’s own custom tools.

Overall, the entire QF2 deployment has been so successful that Atomic Fiction introduced several more nodes into one of the studio’s other facilities.

But, if Atomic Fiction needed further confirmation that QF2 was the right decision, that proof came in the ongoing, dedicated customer service it receives from their Qumulo Care customer success team. “From sales to engineering, feature ideas to configuration questions – the whole experience has been just fantastic,” said Jordan.

“Qumulo Care is probably the number one thing I like about working with the company. In fact, it’s been one of the best vendor experiences I’ve ever had,” said Jordan.

It seems that in its quest for better storage, Atomic Fiction didn’t just successfully skate to where the puck was going. With QF2, it scored the winning goal.

