



Media & Entertainment

Crafty Apes Relies on Qumulo File Fabric (QF2) for 2D Compositing for La La Land Film

Crafty Apes is a powerhouse in 2D Compositing, but even it was pushed in creating the 8,000+ frame opening sequence for the hit film *La La Land*. Fortunately, the studio knew it could rely on QF2, a modern, highly scalable file storage system, to move mountains of data in order to deliver.

Long Shot Storage

Crafty Apes is a boutique visual effects (VFX) studio that's earned a reputation in the 2D compositing world for its work on hit films and shows ranging from Marvel titles like *Doctor Strange* and *Captain America: Civil War* to Disney's *Pete's Dragon* and Fox's *Hidden Figures*. The massive opening shot to the movie *La La Land*, however, presented a unique and highly complicated challenge.

At more than 5 minutes long and over 8,000 frames, the *La La Land* opening sequence dwarfs the film industry's average of two to five seconds and a hundred frames between cuts. It incorporates rendering of CG cars, added dancers, transitions between multiple takes, wardrobe adjustments, removal of set equipment and much more—a process that required hundreds of renders and terabytes of data. 2D rendering, in general, doesn't really tax compute power, and working with a limited number of frames is usually fairly straightforward. But scale that single shot by an order of magnitude, and suddenly the wheels can come off.

"If moving from one frame to the next takes 20 seconds, how are you ever going to get through more than eight thousand frames?" notes Tim LeDoux, one of the founders of Crafty Apes. "Every little thing adds up and compounds if you can't get near real-time storage throughput." Yet that is what the company had to wrestle with every day for months, using the NUKE VFX compositing, editorial and finishing tool suite to endlessly tweak and re-render in pursuit of the perfect shot.

As a relatively small studio, Crafty Apes couldn't afford to make huge investments in its storage infrastructure. In fact, after it got the bill for customer support on a small legacy EMC Isilon cluster—and realized the support cost was a substantial portion of the entire investment—it immediately dropped the contract and soon began building its own clusters from commodity parts.

"With critical high-profile projects, you want to know exactly what you're going to be leaning on for successful delivery. When the La La Land project came around it was make or break, and we were never down for a moment. QF2 is our rock, allowing us to focus on the visual effects with absolute confidence the data is safe."

— **Tim LeDoux**
Founder/VFX Supervisor
Crafty Apes

At about that time, LeDoux noticed growing industry buzz and excitement about a new startup by the name of Qumulo. After hearing from others about the company's modern approach to scalable file storage and its solid support, Crafty Apes felt confident in taking the plunge on the new system.



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Solution Overview

- 6 Qumulo QC24 Hybrid Storage Appliances
- SMB Protocol
- Qumulo Care enterprise support

Key Benefits for Crafty Apes

- Increases performance to meet high throughput demands for real time compositing
- Lowers costs compared to other scale-out storage solutions
- Increases reliability through Qumulo Care proactive support
- Delivers frequent performance and feature improvements thanks to agile software releases

But that was only the beginning of the story. According to LeDoux, “It turns out that sometimes you learn much more about a company and partner by what they are willing to do after you make the purchase.”

Getting More Than You Pay For

Qumulo offers a modern approach to file storage, delivering fast, flexible and highly scalable storage together with the real-time analytics necessary for visibility into data usage and performance at petabyte scale. Crafty Apes’ interest in a QF2 storage cluster was driven by a desire to keep costs well below that of an equivalent offering from a company like Isilon, while still maintaining overall storage reliability, capacity and performance footprint.

Crafty Apes selected Qumulo’s QC24 hybrid storage appliances, deploying a six node, Windows-based production system capable of storing more than 70TB of data. The installation was simple, with LeDoux and his team handling it themselves under guidance from Qumulo.

Unfortunately, the cluster’s initial SMB throughput didn’t live up to the studio’s expectations for their particular workflow. And for LeDoux, what happened after that is the real story of Qumulo.

“I’ve worked with many different vendors, and while I’ve learned to expect problems I’ve also learned no one’s going to knock themselves out to help me,” he says. “Qumulo is the complete opposite. I’ve never had so many smart people working so hard to curve the product toward what we’re trying to do. We even had Qumulo teams using our apps to open shots and repeatedly test and tweak the system. That’s when you realize how much the right partner matters.”

Crafty Apes also benefited from Qumulo’s agile approach to software updates, where new features and improvements are delivered every two weeks—as opposed to monolithic releases that come out once in a blue moon. This not only makes the system more adaptable to customer needs, it also makes Qumulo more accountable and responsive to customer issues.

“Week to week things were actually happening: new features added, immediate fixes rolled out,” notes LeDoux. “It’s exceptionally rare to see, and having a company actually walk the walk made us all the more eager to work with them.”

A Different Type of Storage Recovery

Today, the performance and feature set of the QF2 cluster at Crafty Apes is significantly better than the studio’s prior solution, which is exactly what’s needed to tackle a challenge like the opening VFX sequence for *La La Land*.

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As the primary storage for the *La La Land* project, the QF2 cluster was critical in keeping production on schedule. “Speed is directly related to our work; if artists are waiting for shots to play back then output drops and that can put an entire project in jeopardy.”

Capacity is also important, as the studio’s volume of data continues to shoot up every year. That’s something that LeDoux finds attractive about using a modern, highly scalable file storage system. “Having a solid storage system that I can easily and affordably scale as needed to meet growth means I have one less thing to worry about,” he says. Crafty Apes is currently in the process of adding several more nodes to its QF2 cluster to support data replication between offices in Atlanta and Los Angeles.

Qumulo Care support has not only been central in getting the company’s storage where it is today, but in continuing to ensure its needs are met. In fact, the company’s expertise has made it easy for LeDoux to just get on a call or hop on Slack and get right to a solution—something he finds hugely beneficial, and a significant improvement over what is typical from other vendors.

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“Qumulo Care knows what’s happening, knows exactly what we’re trying to do, and the team members are very technical—in my experience it’s really rare, and frankly pretty impressive,” he says.

Which of course is the type of solid storage foundation that’s needed when that big, high-profile, can’t-go-wrong project has to be delivered.

Crafty Apes is a full service boutique visual effects company based in Culver City, CA. At Crafty Apes, we recognize that strong 2D compositing is the backbone for stunning visual effects. We pair the most talented artists in the field with the best technology available, and pay extra attention to the detail and integration 2D work requires. The result? Faster turnaround times, less overhead, better communication with our clients, and excellence in visual effects.

