Quantum®

Managing the Avalanche of Data in Digital Cinema and Video Production

Highlights

- **Simplify collaboration across global teams** with all content visible and accessible via a single global namespace

- **Extreme data durability and integrity** helps ensure media assets are protected and highly available through the lifecycle

- **Integrates into existing environments** using off-the-shelf media management and workflow applications that support standard file and cloud interfaces

- **Scale as you grow** with an ActiveScale system that helps reduce storage and management overhead cost

- **Significant storage and management cost savings** with ActiveScale. Helps eliminate costs associated with managing traditional disk and tape storage systems

- **Multi-geo data distribution** reduces cost and improves accessibility via global namespace and built-in DR

Challenge

- The exponential growth in digital content due to higher resolution and frame rates is pressuring existing storage systems and budgets

- Increase in collaborative workflows that spans distance and time require more online storage for working content and archives

- A more flexible infrastructure that better supports variable post-production requirements, which leverages cloud models

- The need to better manage the entire lifecycle of content and the ability to make it easy and fast to find content for reuse and repurposing

- A better disaster recovery capability

As digital cinema replaces traditional workflows, film and video makers are looking for new ways to enhance their story telling. Higher resolution content is becoming pervasive, with 4K production now commonplace and 6K and 8K beginning to ramp up. Higher frame rates are another trend with displays at 60 frames per second (FPS) and 4K capture increasing to 120 fps with some work even being done at 240 fps. High Dynamic Range (HDR) is a technology that offers a more lifelike viewer experience, but also adds to the ever-increasing file size.

These and other trends are driving the need for greater computing, networking and storage performance, and significantly more storage capacity to support modern post-production workflows. For example, 4K TV or digital cinema can produce ~ 6TB per hour, while emerging 8K can approach 100TB per hour. To ingest and process this much content requires a different approach.

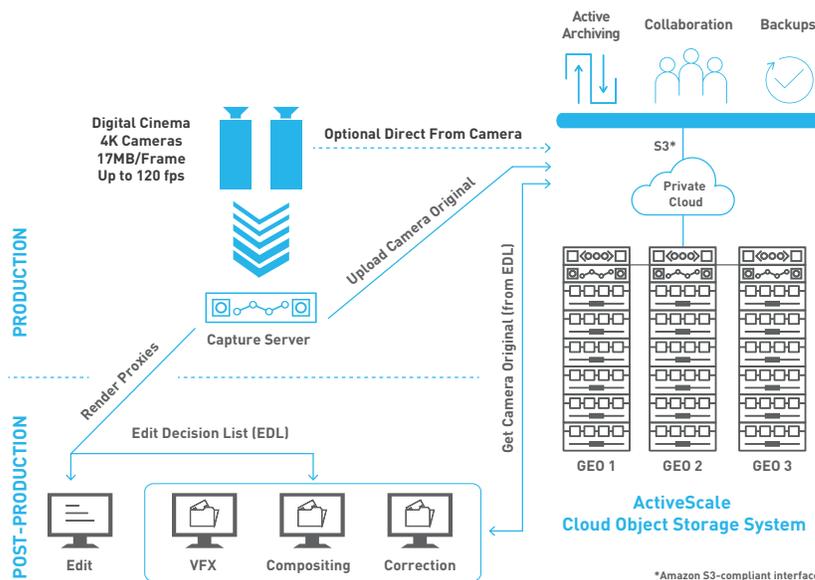## Media Post-Production Workflow with Object Storage

Figure 1: Object storage architecture example for post-production workflow

Traditional Storage is Not Keeping Up

This expanding volume of digital content poses a major challenge for legacy disk and tape storage systems. Solid-state drives are the primary method for capturing video today and are rapidly being adopted to help accelerate work-in-progress. Despite this, the majority of content remains on legacy disk, and ultimately tape archive systems.

Solution

The ActiveScale™ cloud object storage system combined with off-the-shelf media asset and end-to-end workflow management applications enable a modern cloud-scale solution for creative organizations.

Disk-based systems that use RAID for data protection do not scale well for modern petabyte-size media workflows. If a hardware or data integrity issue occur, it can take weeks to rebuild the data, all the while system performance is degraded and it impacts workflow productivity. If another issue occurs at the same time, the risk of data loss would increase substantially. Tape can be slow or produce unsuccessful results that can impact productivity, and worse if data is lost.

Modern workflows need to support collaboration at a global scale. These require seamless access to all the content. Legacy disk systems tend to create silos of data as system capacity grows, making it difficult to ensure a consistent global view and access to all data.

Leveraging cloud object storage systems helps eliminate these challenges, since they were designed for that use from the beginning. Object storage is the foundation of some of the largest public cloud storage infrastructures in the world. The diagram on the previous page is an example of how private and hybrid cloud storage fit into media workflows.

Get Ahead of the Curve with ActiveScale

Having fast access to all content from post-production through archiving is key to monetizing it. Implementing ActiveScale object storage helps address these challenges and keeps you ahead of the data growth curve. The ActiveScale family of object storage systems helps control the cost of primary storage by being the long-term active archive for creative workflows. Other benefits include:

- **Scalable end-to-end asset and workflow management.** Starting small and scaling to enormous capacity, the system is indispensable for rapidly growing content – as an on-premises private cloud or as part of a hybrid-cloud model. ActiveScale supports off-the-shelf media asset and end-to-end workflow management applications.

- **Extreme durability and security** helps companies ensure petabyte-scale media assets are protected over the long-term. Durability up to 19 nines is made possible by intelligently spreading each object across the system. A single copy of data spread across three locations helps protect data from a full site outage. End-to-end security keeps data safe whether at rest or inflight.

- **Easy to install and manage.** ActiveScale is certified with off-the-shelf media asset managers that make configuring and provisioning simple and fast. ActiveScale self-protects and automatically heals itself requiring virtually no IT intervention. Tactical and strategic system management is made easy, whether provisioning new users and capacity, or system analytics that help with system optimization.

- **Accelerate global collaboration** of post-production teams with a single comprehensive view of all content via a global namespace. Post-production teams can seamlessly access and work on content no matter where they are located as long as they have an internet connection.

- **Lower total cost of ownership** with a high density, low power footprint, thanks to Quantum's innovative helium-filled hard disk drives. ActiveScale is perfect to consolidate multiple storage systems, which help reduce complexity and management overhead. The system's self-protecting design means storage admins can manage more capacity, and IT does not have to run out and swap out failed hardware. The system handles repairs quickly and transparently in the background.

Conclusion

The ActiveScale system family is next generation object storage, ideal for rapidly growing media workflows including long-term asset preservation and monetization. Media organizations no longer must make a choice between on-premises storage or cloud-based systems. ActiveScale delivers the scale and efficiency of the cloud with the performance, security and flexibility of being in your data center.

To learn more visit www.quantum.com/objectstorage

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