

M+E

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BUILDING THE CONTENT WORKFLOW OF THE FUTURE WITH CLOUD STORAGE

ABSTRACT: Many M&E companies spread their media assets across a number of different storage formats. Much of their content has been kept on-premises with some being placed in a number of cloud storage services. Managing all of this is very expensive and time consuming. By centralizing storage to the cloud these businesses can break down the different storage silos and improve remote access and collaboration.

Cloud storage is proving to be the central hub for tomorrow's M&E ecosystem

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As media workflows have evolved over the years, the number of storage platforms in operation at a typical content facility has multiplied to support a variety of tasks. It's not uncommon to see everything from ultra-fast NVMe shared storage (for editorial and finishing work) to fast NAS/SAN (for works in progress that need to be close at hand) to on-prem object storage (for cost-effective scalability) to tape (for inexpensive archival storage). But running all of this diverse hardware is complex, time consuming and expensive.

On top of the difficulty in managing multiple storage silos there is the new requirement imposed by the global health crisis that media assets need to be remotely available to artists working from their homes. Since most of the storage systems back at the studio were never designed for access over the internet, media organizations around the world are scrambling to rework their storage infrastructure, with the cloud assuming a larger role to streamline operations, improve asset accessibility and cut costs.

Cloud storage offers a number of immediate and attractive features for media production, post-production and distribution. First, the cloud provides infinite and immediate scalability. When a new project arises or a new media library is acquired that stresses the capacity of your on-prem storage, you just point your workflow manager or file system to the cloud where capacity is limitless.

NOW IS THE TIME to take stock of what is working remotely (and what can be done better) and begin building the workflow of the future with cloud storage as the central hub of a new production, post-production, and distribution ecosystem.

Cloud storage also provides OPEX flexibility and reduces CAPEX outlays. You pay for what you use, when you need it, which is very helpful when projects ebb and flow and workloads are constantly changing. There's no hardware to procure, install, power and maintain.

Cloud storage further provides unmatched protection for your business. The sheer magnitude of cloud storage infrastructure and the architectures employed make the cloud superior to any on-premise solution in terms of data resiliency. All of the top vendors of cloud storage deliver "11 nines" of object durability which translates to the loss of one object out of 100,000,000,000 objects a year. Some vendors also offer an "immutability" feature whereby storage buckets and objects can be set to be 'non-erasable' by anyone — not even an administrator for your account or a malicious hacker.

Lastly, cloud storage provides remote accessibility to content from virtually any location with a decent network connection. In a post-production environment, cloud storage provides a central location to share files and obviates the considerable duplication and physical transfer of files that traditionally would take place between editors, artists and vendors — all of which is time consuming, costly, difficult to track and prone to loss by human error or malicious intent. The pandemic has also suspended live production shoots and has created urgency for content owners to dig into their archives and repurpose assets to keep the programming pipeline filled. An active archive on a "hot" cloud storage service like Amazon S3 or Wasabi is immediate-

ly accessible from anywhere so content can be quickly retrieved, reworked and remonetized.

Of course, cloud storage is not a replacement for everything in a professional environment. The high-performance shared storage that powers feature film/television editorial work, VFX and color grading can never be effectively replaced by the cloud, especially when dealing with 4K and 8K workflows. But the cloud works very well for ...

■ **Nearline Storage** — offloading finished work that is awaiting review, approval and versioning from your valuable Tier 1 NAS/SAN.

■ **Remote Collaboration** — centralizing work-in-progress and archived assets in the cloud allows team members to work from anywhere and opens up access to the best artistic talent wherever they may reside.

■ **Backup/Disaster Recovery** — backing up to the cloud provides off-site protection of your content from hardware failures, accidents and natural disasters. Cloud backup also lets you get back to business from alternate locations when you can't go back to the office.

■ **Archiving** — LTO tape has been the traditional medium for long-term archival storage of digital content. But LTO data access can be slow (or unavailable if the tape is not in the robot and you can't access the building), hardware is prone to mechanical failures, there are costs in terms of infrastructure and manpower, and the tape medium must be upgraded every six or seven years to the latest generation. All of these factors make tape outdated for archiving compared to a fair-priced, hot cloud storage service.

The M&E industry is in the midst of a major transformation in the way content is produced, managed and distributed. The pandemic has forced media organizations of all types and sizes to frantically cobble together new combinations of hardware, software, networking and cloud services to keep operations running and their business afloat. Now is the time to take stock of what is working remotely (and what can be better) and begin building the workflow of the future with cloud storage as the central hub of a new production, post-production and distribution ecosystem. ■



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