SEAGATE

eBook

3 Keys to Supporting Post-Production Innovation

Storage infrastructure considerations for managing high resolution post-production data.

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Data, Data, and More Data

As post-production companies look to the future, they must balance the excitement of new technologies with the behind-the-scenes reality of managing that tech. With innovations like augmented reality and virtual reality, higher resolution filmmaking, and digital streaming becoming mainstream, media and entertainment companies are all wrestling with one common denominator: much larger files.

Ultra-high-definition cameras generate huge files: 4K footage has four times the data as full HD and 8K footage has 16 times the data. AR and VR cameras film up to 360-degree views—from multiple cameras at the same time—and all that data must be readily accessible to a viewer at any given moment.

Production and post-production companies need readily accessible storage systems that can handle this enormous increase in project size. But today's storage solutions cannot simply ingest and store files; companies also need systems that facilitate the creative work to be done with those files, whether providing near-zero lag time and low to no compression for editing or accessibility to a global team of VFX artists.

The optimal storage solution for each organization is as personal and unique as the creative work itself. From transferring data via physical enclosures to sharing files in a hybrid or multicloud environment, there are benefits to every option, depending on the need.

Here are three key considerations to make when upgrading your storage infrastructure to support innovative production technology.

Key #1:
Data Orchestration Efficiency

The intricate movement of data in an increasingly varied ecosystem of on-prem or cloud compounds data management challenges for many businesses. Most enterprise IT decision makers know they need to implement proper DataOps—a discipline focused on connecting data creators with data consumers. For post-production, personnel must be able to access and work with data and files whenever they need them, often in real time. Post-production teams need source files with full resolution to have the best image quality possible, with low to no compression. They need to be able to open, play, and edit those files without any lag or dropped frames, which can be challenging, particularly over a shared network system.

To meet this requirement, more and more organizations are migrating to cloud-based storage solutions. But not all cloud-based solutions are equal.

9ZB: IDC predicts 9ZB of enterprise data will be stored in 2025, up from 0.8ZB in 2015.[i]

14%: IDC reports that data migration to the cloud is projected to grow 14% in 2021.[ii]

Example

Post-production companies should think critically about where their data is stored. For example, companies that mainly rely on public cloud storage can free up much-needed overhead in local environments. But as data volume increases, so does the time required to move information back and forth from on-site to in-cloud servers, such as transferring a day's footage from the set to the post-house or archive.

Enterprises need ways to efficiently move petabyte scales of data across storage systems. Attempts to move data at scale using networks would consume virtually all throughput for extended periods. For example, moving just 20TB of data with a 100Mbps upload speed would take more than 20 days. Even with gigabit-speed optical-fiber service, assuming an average sustained upload speed of 800Mbps, it would take 2.5 days to upload 20TB—and almost a week to upload 50TB. Networks just aren't fast or cost-effective enough to regularly move terabyte- or petabyte-scale data sets.

Why It's Important

So how do we solve for the challenge of where data should be stored and how to best transfer it there? The most efficient solution for many post-production organizations is a mix of public and private cloud storage working in tandem (hybrid cloud) or multiple cloud storage systems running independently in parallel (multicloud). Storage solutions that fit a hybrid or multicloud strategy are all about maximizing efficiency, from ROI and cost to data transfer speed and accessibility. Versatility is key as well; today's M&E companies need the ability to craft the cloud strategy that makes the most sense for current and future production needs.

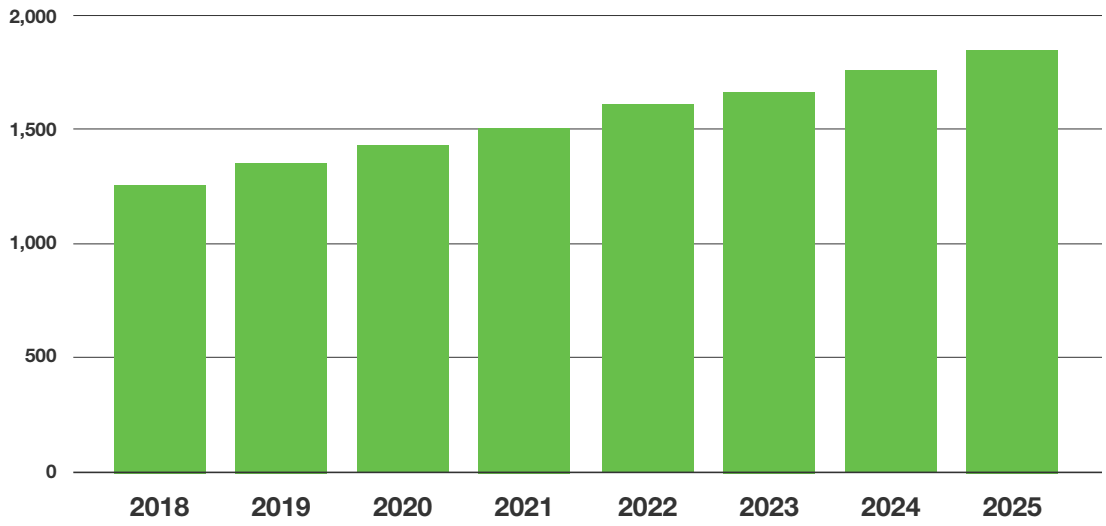
With the introduction of Seagate Lyve™ Cloud storage as a service and Lyve Mobile data transfer as a service, organizations now have a flexible, financially-predictable option. The Seagate Lyve Mass Storage Platform gives post-production companies the ability to implement the best storage architecture for their needs.

Key #2:
Mass-Capacity Storage Scalability

Scalability is equally vital to keeping up with increased data and file sizes. With 4K becoming standard and 8K not far behind, a post-production storage system must be able to scale with evolving technology. During rendering, the post-production team is using not only large quantities of computing power but also storage space. As a result, it can take several hours to get these final files ready to be uploaded to the server.

It's not just about bigger hard drives or greater cloud space. It's about efficiency, as well as the overall system being able to grow and adapt with increased demand.

Estimated M&E Industry Data Growth in Exabytes



Source: IDC's Data Age 2025 study, sponsored by Seagate

An IDC study estimates the M&E industry alone will have 25% data growth between 2018 - 2025.[iii]

Example

To put the importance of scalability and where data is stored into perspective, a recent IDC study[iv] projects the amount of new data created each year is growing at a compound annual growth rate of about 26% between 2015 and 2025.

- Data is shifting to both the core and the edge: By 2025, nearly 80% of the world's data will be stored in the core and edge, up from 35% in 2015.
- On average, organizations now periodically transfer about 36% of data from edge to core.
- By 2025, IDC predicts 12.6ZB of installed capacity—HDD, flash, tape, optical—will be managed by enterprises. Cloud service providers will manage 51% of this capacity.

Why It's Important

Data scalability is something post-production teams should always keep in mind. Public cloud storage options are often the popular choice due to their pay-per-use scalable model. However, the hidden costs of storage tiering and accessing the data can cause delays and unpredictable costs with many services. For public cloud storage, consider a platform which includes simple pricing and zero add-on charges or egress fees, such as Lyve Cloud.

Besides public cloud storage, production companies must have local storage or an on-prem private cloud to allow teams to leverage local computing power for fast ingestion, playback, and editing without being dependent on shared network bandwidth. On-premises storage can work with and complement cloud-based systems. Ultra-fast SSDs, multi-actuator hard drives, and PB-scale storage arrays are scalable on-prem solutions that are ideal components of a robust post-production storage system

Key #3: Reliability & Security

The dependability and security of a storage solution is the final key to consider. It goes without saying that failing to save a grading session or a crashing drive during an edit can be catastrophic. From ingest to production, to archive and re-use, reliability and data security are critical. At the same time, organizations need not only durability and availability of the data, but also data security capabilities so that only those with specific permissions have access to the data they need.

There wasn't a standard storage solution that works for all stages of the data lifecycle until now, with Seagate Lyve.

Example

Lost or leaked footage can mean the end of a production. If you shoot a scene and lose that footage hours, days, or even weeks later, it is almost impossible to consider re-shooting the same scene. Multiple backups help ensure that footage isn't lost, but it can be a slow process.

Leaked content can also compromise productions. If a film or event is leaked prior to the official release or broadcast date, it could lead to lost sales, bad press, and even the project's cancellation. The risk of leaked content is highest during data transportation.

Why It's Important

When film production companies have massive amounts of data to back up and transport every day, Lyve Mobile solutions offer fast transfer speeds to reduce time to transfer, sometimes from hours to just minutes. By providing mass storage capacity, capacity is never an issue during a backup. And because these solutions are portable and ruggedized, they're particularly suitable to transport content from production studio or shooting location to post-production studios or archival data centers.

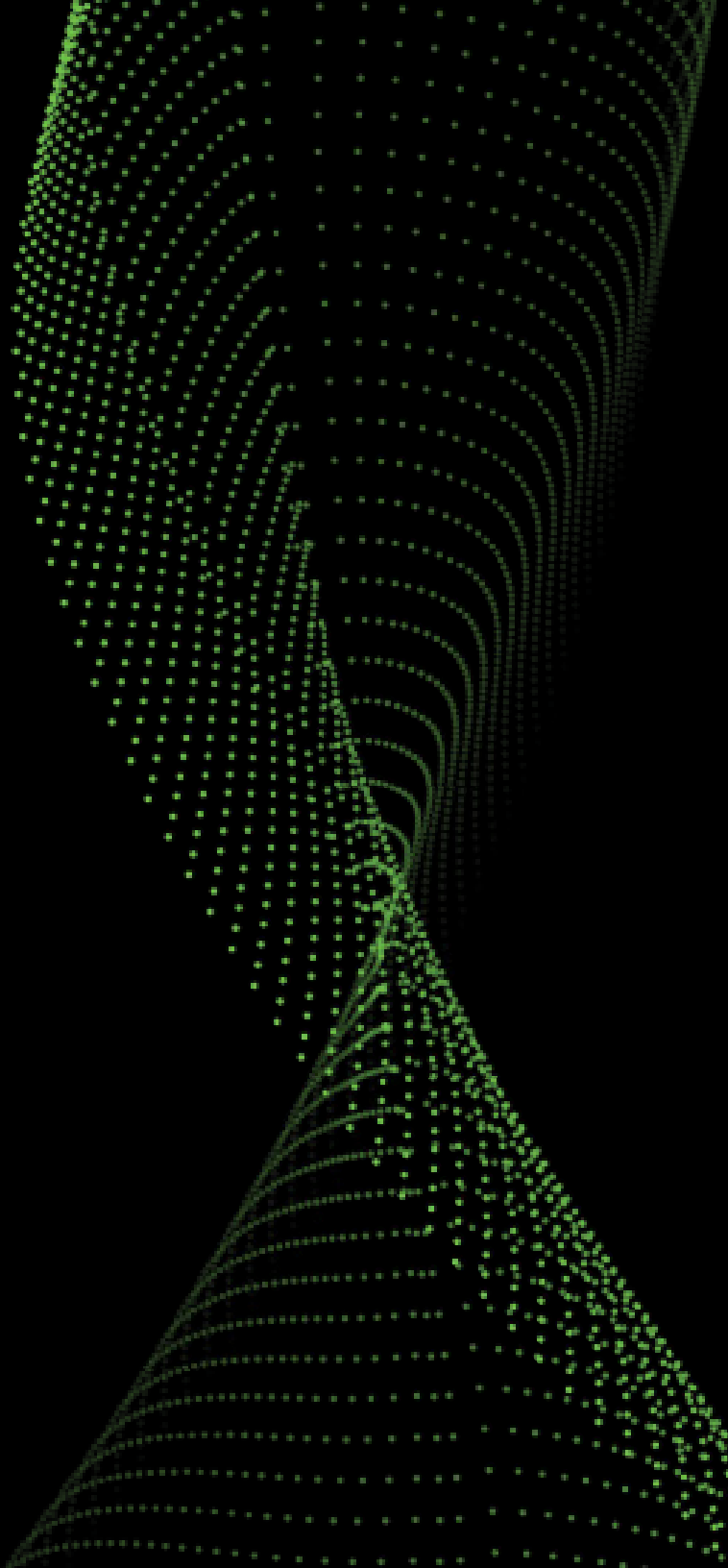
A unified system like Lyve Mobile also increases dependability through vendor compatibility between on-premises drives and cloud-based storage. Not only does this enable greater efficiency through instantaneous file sharing between multiple storage environments, it also more delivers more reliability and helps to ensure production data security and privacy.

Technology like Seagate Secure, which is included with Lyve Mobile solutions, lets you manage Seagate's self-encrypting drives so your production company can restrict footage access to specific people, with no risk of piracy if a storage solution gets physically lost.

Take Your Post-Production Lyve

Seagate offers storage solutions to address post-production companies' biggest data challenges. Seagate's diverse portfolio can be customized for each organization's specific needs, ranging from on-premises All-Flash SAN to Private Clouds and Multiclouds to Lyve Mobile for data transfer. All of Seagate's solutions integrate seamlessly, allowing organizations to build the most efficient, scalable, and reliable system to meet their production's unique demands.

Seagate's Lyve Mass Storage Platform offers an edge-to-cloud ecosystem built with mass data in mind. These solutions, including modular hardware and software, deliver a portfolio that streamlines data access, transport, and management for today's production companies.



References

Seagate and IDC, Rethink Data: Put More of Your Business Data to Work—From Edge to Cloud, 2020

ii Seagate and IDC, Rethink Data: Put More of Your Business Data to Work—From Edge to Cloud, 2020

iii Seagate, Data Age 2025, sponsored by Seagate, November 2018

iv Seagate and IDC, Rethink Data: Put More of Your Business Data to Work—From Edge to Cloud, 2020

Resources

Lyve Mobile – Data Transfer as a Service: www.seagate.com/products/data-transport

Lyve Cloud – Storage as a Service: www.seagate.com/services/cloud/storage

Media & Entertainment Data Solutions: www.seagate.com/solutions/industry/media-and-entertainment

Seagate Resource Center: learn.seagate.com/resources/

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