

## SOLUTION BRIEF

# Blockbuster Storage Performance for Media & Entertainment with WekaIO and ActiveScale™

## Challenges

- Long render times and poor scalability that threaten project timelines.
- Siloed storage infrastructures with underutilized resources.
- Reliance on legacy storage systems, which add complexity and costs.

## Highlights

- Eliminates storage silos and reduces power, cooling, and rack space.
- Automatically migrates colder data to cost-optimized object storage, while allowing admins to control everything from a single screen.
- Extends the Flash performance of primary storage tiers everywhere it's needed while cost-effectively scaling up to petabytes of archival storage.

## Solution

With the combined solution of WekaIO Matrix™ software and ActiveScale object storage, you can convert your media server clusters into a massively parallel scale-out storage system with superior cloud economics. The solution delivers linear performance and sub-millisecond latency where you need it, along with cost-effective long-term storage with industry-leading data durability and protection.

## Reimagining Media Production Infrastructures

It's a brave new world for media consumers, with more content available in more ways than ever before. But for media production, post-production, broadcast professionals, the job has gotten more complex and demanding. Today, they're expected to deliver more types of content, in more formats and resolutions, to many more screens and devices—all under tight timelines. Yesterday's approaches to compute and storage just can't stand up to these requirements. Fortunately, there's a better option. By combining WekaIO Matrix™ software with Western Digital ActiveScale cloud object storage, you can bring Flash or NVMe™ performance to the most demanding media workflows—while dramatically improving the scalability, reliability, and economics of your storage infrastructure.

## Escalating Demands of Modern Media

Multi-camera, multi-gigabyte raw downloads. Emerging VR and AR formats. The shift to Ultra HD 4K and 8K formats, which generate 10 times higher data rates and capacity than before—and 8K Digital Cinema, which generates more than 13x the data of 4K. These trends add up to a need for radical transformation in production and post-production media infrastructures. Animation and CGI at these resolutions requires render farms with enormous compute power and massively scalable storage on a level unlike anything in the past.

Today, most facilities combine traditional SAN and NAS systems to get the performance they need. But this approach can't scale and will only become more complex and expensive over time. To meet demanding project timelines, for example, post-production companies may provision thousands of render nodes. But when their storage systems can't scale performance to support huge render farms, they have to break them down into smaller chunks—creating more complexity, overhead, and delays. Many facilities also use dedicated storage systems for each workflow, such as one system for rendering and another for non-linear editing. The result: lost productivity by having to split up workflows and huge costs to provision and maintain multiple storage "silos"—much of which are underutilized.

## Build a Next-Generation Media Infrastructure with WekaIO and Western Digital

WekaIO Matrix™ software and Western Digital ActiveScale cloud object storage can transform the economics of your storage infrastructure, providing a more scalable, highly available environment for media workloads. Combine on-demand Flash performance for demanding workloads like rendering with an archive built on cost-optimized, highly reliable scale-out private cloud object storage from ActiveScale. And manage the entire environment with Matrix, using a single namespace.

With the combined solution, you can use your Flash storage performance where you need it most: media ingest, non-linear editing, visual effects and other demanding applications. Meanwhile, you can continually push archive data to ActiveScale object storage on demand or automatically, based on policy. You retain the flexibility to maintain consistent performance for any type of media workload. You can scale out storage to petabyte scales easily and cost-effectively—independently from compute. And, you get industry-leading data protection and durability as your media archive grows.

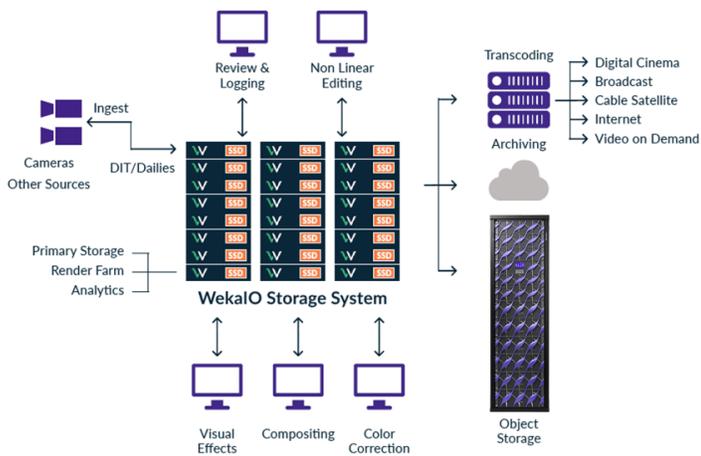


Figure 1: WekaIO with ActiveScale Hyperconverged Storage Architecture

## Unleash Creativity and Collaboration

Faced with higher resolutions or more projects requiring simultaneous editing, rendering, or playback, traditional storage infrastructures just can't deliver consistent performance. With WekaIO Matrix software, you can achieve highly scalable on-demand shared storage with the performance of NVMe (or SATA, or SAS) SSDs. Quickly configure Matrix to support demanding media workflow requirements, such as rendering, which involves millions of small files. The solution seamlessly scales to thousands of compute nodes, delivering linear performance at sub-millisecond latency.

The Matrix and ActiveScale solution breaks down media storage silos, combining the performance of SAN technology with the usability of centralized scale-out NAS in a single storage platform. The fully parallel, distributed Matrix file system distributes both data and metadata across the infrastructure to ensure massively parallel access to data. It delivers low-latency and high-bandwidth performance for the most demanding data and metadata operations with sub-millisecond latency.

Matrix also centralizes content to enable simultaneous, seamless file-sharing via a distributed global namespace. Content creators have immediate shared access to project files, so they can collaborate more effectively. With support for industry-standard access protocols such as NFS, SMB, S3, and REST, they can concurrently access files from any part of the workflow—eliminating the need to make additional copies.

## Industry-Leading Protection and Availability

Patented Matrix data protection intelligently distributes data across the entire file system to deliver twice the resiliency of RAID 6 or triple replication with lower capacity overhead, significantly lowering the risk of data loss. Production and post-production facilities get continuous system and application availability without sacrificing performance or cost.

Of course, the value of content doesn't end when the project is completed. WekaIO and Western Digital deliver the cost benefits and scale of the cloud by tiering cold data in the background to ActiveScale. All files remain part of the global namespace and appear local to users and applications. Integrated policy-based tiering allows directories, files, or portions of a file to be automatically and seamlessly migrated without having to buy special software.

Once in ActiveScale object storage, data is always protected and available, with site-level fault tolerance in multisite configurations. Using erasure coding in object storage instead of triple replication, ActiveScale achieves industry-leading data protection with up to 19-nines data durability. ActiveScale's support for 3-geo configurations also provides advanced data protection and availability with much less complexity, at a much lower cost than conventional geographic spreading. By eliminating the need for expensive replica copies and replication software licenses across multiple sites, you can slash storage costs by 60 percent. At the same time, the system protects your data from bit-rot corruption with automatic, transparent data integrity checks. Each object can tolerate 1,000 bit errors without data loss, eliminating the risks, costs, and management requirements of tape-based systems.

## Get Started

Don't let your production or post-production projects get bogged down by the costs, complexities and delays of legacy storage approaches. With the combined Matrix and ActiveScale solution, your creative teams can focus on content creation instead of fighting the limitations of legacy storage infrastructure. To learn more, visit [www.Weka.IO](http://www.Weka.IO) and [www.westerndigital.com/products/storage-systems/activescale-systems](http://www.westerndigital.com/products/storage-systems/activescale-systems).

**Western Digital.**

**WEKA.IO**

5601 Great Oaks Parkway  
San Jose, CA 95119, USA  
**US (Toll-Free):** 800.801.4618  
**International:** 408.717.6000

[www.westerndigital.com](http://www.westerndigital.com)

© 2019 Western Digital Corporation or its affiliates. 5601 Great Oaks Parkway, San Jose, CA 95119. All rights reserved. Western Digital, the Western Digital logo and ActiveScale are registered trademarks or trademarks of Western Digital Corporation or its affiliates in the US and/or other countries. WekaIO, Matrix and the WekaIO logo are trademarks of WekaIO corporation. All other marks are the property of their respective owners.