# Powering Avid Workflows: The Proven Infrastructure Alternative

## A premiere editing system

For years, Avid Media Composer has been one of the best-in-class editing systems for film and television. This software was the first of its kind, introducing the world to non-linear editing through the use of digital imaging – and today, the go-to system for many professional editorial teams working on Hollywood blockbusters.

Over the years, Avid has remained a key player in the highly competitive digital editing market. As each new competitor has appeared, Avid has introduced a new piece of software to compete with it. Many of Avid's competitors have even given away their software as free downloads, to try to compete with Avid's systems.

In the past, Avid has held its own against systems like Adobe Premiere, Final Cut Pro X, Resolve and Neucoda.  Some of these systems function add-on software; others as complete turnkey systems – but none of them, including Avid, offers a storage solution that measures up to the demands of today's 4K and 8K workflows

Meanwhile, Avid Media Composer itself promises its own turnkey solution, complete with video monitors, outboard equipment and storage. But in the end, Avid's storage solutions fall short and cannot keep up.

## Storage and bandwidth

Until now, though, storage has always been the weak link in every editing system provided by Avid. While Avid Media Composer offers powerful tools for viewing and cutting video, the quality of that video is limited by the size and codecs of its files. The higher the quality of a video, the larger the size of its files – and the more storage, speed and bandwidth are required to process it in real time.

Codecs and resolution drive the quantity required for storage of any video file, as well as the speed and bandwidth needed to process video data. This is because each codec defines the specific mechanisms by which the full-resolution frames of raw video cam be reduced in size – for example, simple bit compression or motion summarization – as well as the ways in which the output is stored as a bit stream.

Some files are compressed with older codecs and require very limited space, but are very lossy – while uncompressed 4K and 8K video files are highly demanding in terms of both storage and bandwidth. In all, the editing industry now deals with more than 70 lossless codecs, 59 lossy ones, and 10 intra-frame-only codecs – and many more are developed each year.

Avid simply cannot keep up with this growth in file size, or with the demands placed on storage media and networks. Archion storage media provide the solution.

For example, 4K video is typically edited with a lossless H.264 compression. For finishing, most editors use the DPX format, in which each video is composed of a series of individual 48MB files; one for each frame. Those numbers add up quickly – two hours of 4K DPX video require no less than 34 terabytes of storage; far beyond the storage capacity of a typical Avid system

Meanwhile, a video file's frame size and rate drive the bandwidth necessary for real-time reads and writes to and from the storage medium. Running a 4K DPX video file at 24 fps requires 1,300 MB per second of bandwidth. What's more, 8K video and 120-frame rates are just around the corner – promising far higher storage and bandwidth requirements within the next few years. On its own, Avid lacks the bandwidth to support these requirements.

## Archion and Avid storage

Archion has been recognized as a front-runner in the media business for more than 20 years – all the way back to the beginning of non-linear video editing. Since the company's founding, Archion's storage technologies have been critical to the success of thousands of TV, film, commercial, documentary, and other content creation projects, and have supported thousands of clients' media workflows with high performance, reliable, functional shared storage solutions.

Archion's EditStor products provide the world's simplest and most affordable networked attached storage solutions for professional editorial teams. These


products empower digital video professionals to meet the demands of today's post-production and finishing workflows, with a flexible, scalable, full-featured and fast shared storage infrastructure.

Until recently, Avid's own storage systems – particularly the ISIS and the new NEXIS– served the storage demands of their editing software – but these systems are highly expensive, and come with limited bandwidth. Costs skyrocket as these systems are scaled up – and which has become increasingly necessary as ever-larger storage and bandwidth requirements  exceed the specs of these systems.

For example, both ISIS and NEXIS offer a limited 300 to 400 MB per chassis – while today's workflows in 4K, 8K and beyond require vastly more bandwidth than this. But building out ISIS at scale would be an expensive proposition.

That's why Archion provides its Editstor line of storage solutions. These systems come with the necessary storage capacity and bandwidth up front.

The **EditStor Velo** system supports industry standard IT file transfer protocols simultaneously – enabling maximum connectivity to servers and workstations, and seamless integration among online and offline workflows. The system offers 2500 MB per seccond, with the option to expand to 5000 MB per second – all while delivering a powerful range of media management features, such as the ability to create shared volumes of any size, while simultaneously expanding volumes on the fly without any downtime or performance degradation; as well as a comprehensive set of tools for user and group management and overall security.

**EditStor's Omni** provides a single media storage system for high-performance collaboration on all types of files, including raw 4K files and streams. This system offers 4000 MB per second, with the option to expand to 8000 MB per second. Omni replaces the complexity and expense of SAN network storage with a single high-density server storage system that imposes no limitations on high-definition digital video workflows. This 4K storage system supports all popular post-production and finishing tools, without requiring any drivers or client licenses – making it an ideal plug-and-play solution.

rendering, the **EditStor Omni** storage system offers 4000/8000 MB per second, with 600000 IOPS, empowering teams to unify all video storage on a single centralized platform. The Omni's patented optimizing intelligence detects the difference between high throughput streams and small IOPS requests, and adjusts its processing on the fly for maximum performance – delivering the speed and processing power necessary for the most demanding 4K workflows.

All EditStor systems use dedicated high speed SSDs for caching IOP data, eliminating the need to move or copy rendered media.

> What's more, EditStor devices offer all the automation tools of an enterprise storage server, including storage pools, volume replication and snapshot, data replication, volume manager, virtual tape volumes (created in the system), as well as direct and fast tape backup (LTO/LTFS) for long term archive.

All of Archion's RAID controllers use fully upgradeable flash firmware. Updates can be performed remotely, without restriping the drives, and can be reactivated with a simple restart of the controller.

## What does this mean for your Media Composer workflows?

If you're using an Archion Omni or Omni Hybrid, one chassis can support 10 Media Composer workstations at the full bandwidth of a 10 chassis Nexus system. Archion's large storage and bandwidth capacity also enables 4K and DPX workflows on Media Composer. A single Archion Velo system, meanwhile has the bandwidth of the a 5 chassis Nexus system.

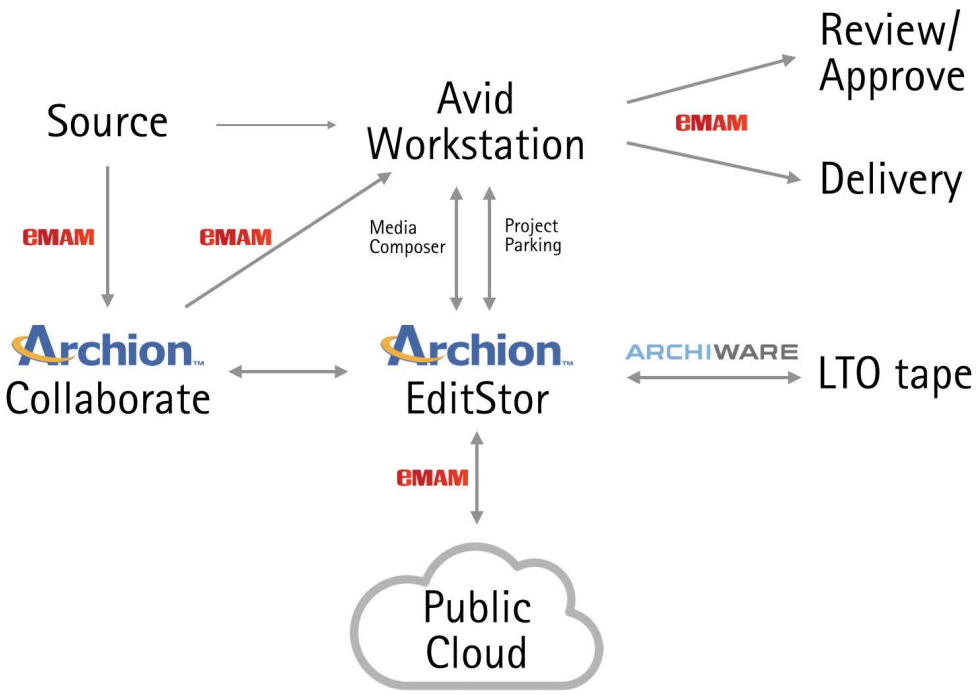

| EDITSTOR OMNI | EMIF-9TB | EMIF-19TB | EMIF-38TB | EMIF-92TB |
|---|---|---|---|---|
| Total Storage | 9.6TB | 19TB | 38TB | 92TB |
| Usable Storage* | 8TB | 16TB | 32TB | 78TB |
| Drive Size | 400GB | 800GB | 1.6TB | 3.8TB |

*Usable Storage is the amount of RAID 5 protected storage less the failover hot spare. The usable capacity can vary based on type of configuration.

With any Archion solution, Avid Project Sharing still remains fully operational – while immediately increasing the number of systems and high resolution codecs supported. You'll continue to use the Avid workflow you know and love, while seamlessly working with 4K, 8K and beyond.

Plus, all these systems support Avid Project sharing, transparently. This makes it easy for teams to create, access and share Avid media files, project data, bins and settings in a single seamless, optimized workflow environment. Each Avid project drive can be mounted on multiple computers simultaneously – for editing or just for previewing. Each folder contains only the media files used by its own project drive, protecting against file corruption and volume swelling.

If AvidFS emulation is enabled, multiple editors can access the same Avid project at the same time, working with real-time read/writes to and from an Archion storage




medium. All the cut/paste and search functionalities of Avid work easily across projects, making Archion's EditStor systems the simplest plug-and-play solution on the market.

What's more, all Archion systems can be easily expanded in bandwidth and scale, without linear increases in cost. This means more productivity, more creativity and an increase in your bottom line.

***Archion's media storage solutions give your Avid suite the power to handle even the most demanding video formats.***