

# Managing Digital Media



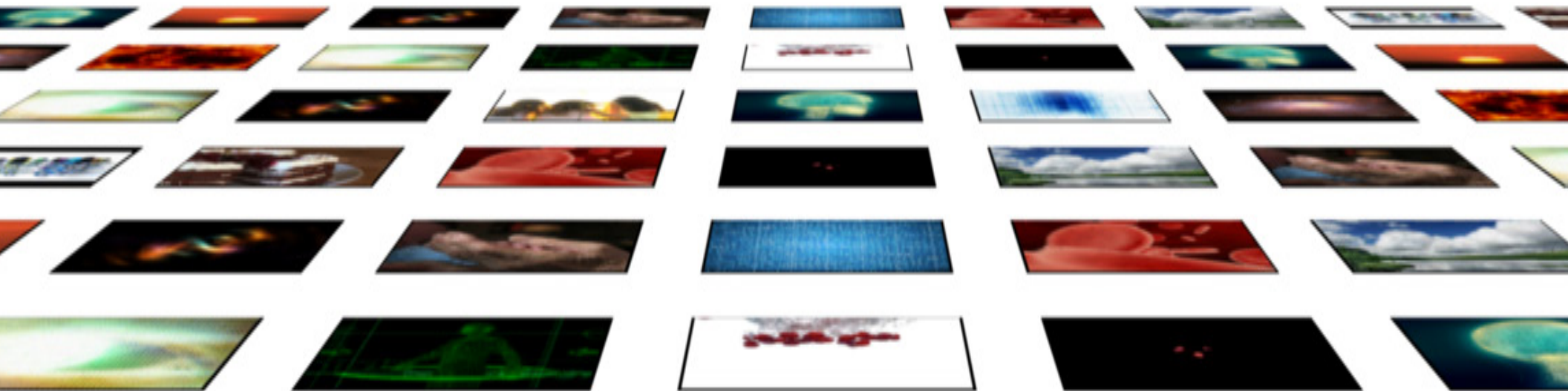
Choice is good, but when it comes to video content storage management it's more like information overload. Is video just another large data file, and content storage management just another term for data storage? No! That is a purely technical description at the highest level, and ignores the context of how video is created, how it flows in the enterprise, and the subsequent relative value of this content to its owners. This document highlights these differences and helps explain the need for a fully featured CSM system that leverages the latest technology, but does not become a slave to it.



# INTRODUCTION

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The goal in managing digital media storage is the same as in storage of any kind: to make assets safe and accessible, and to do so cost-effectively. Managing large stores of digital media, however, can be problematic. Digitized media files are both large in size and immensely valuable, as they often are the result of collaboration among hundreds of people over extended time periods. Forcing tradeoffs between content quality will only harm downstream monetization and reuse opportunities. Content Storage Management (CSM) systems were developed to help content owners to cope with what would otherwise be an overwhelming volume of content, to address the video-specific complexity of that content, and to prevent content loss. CSM helps avoid these short term moves by providing low cost, and infinitely expandable storage which can easily grow and scale over time. All of these capabilities are critical for media companies, as content is the very lifeblood of their business.



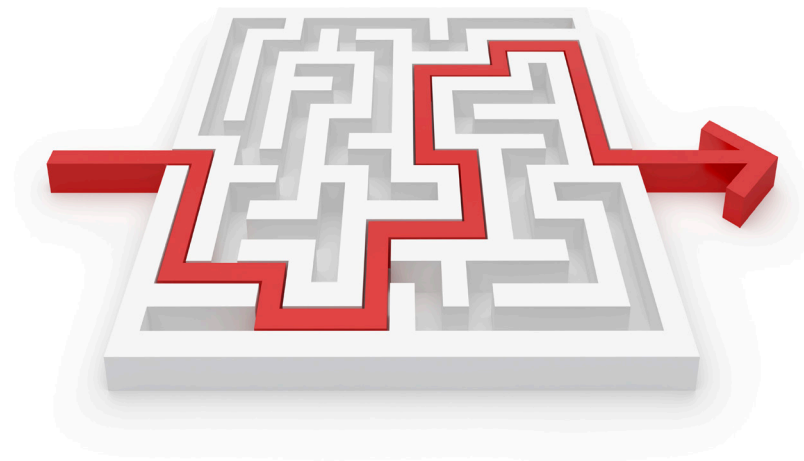


## THE PROBLEMS

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To achieve cost-effectiveness, typical media storage infrastructure divides assets into four tiers: online, the most expensive, made up of video servers and editing systems; nearline, comprising networks and disk storage arrays; archive, composed of data or optical tape libraries; and offline, usually tapes located on physical shelves.

An intrinsic problem for digital video is that it originates in dedicated editing and production systems and typically must move among other dedicated systems as it is manipulated and eventually transmitted. These dedicated systems can create data silos that act as so many roadblocks to accessibility. Add tight budgets and changing technologies to the mix, and the result is confusion, not to mention the potential derailment of promising business ventures.



## THE SOLUTION

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Fortunately, there is a solution. Combine appropriate storage tiers with content retrieval and accessibility functions, and the result is a CSM hardware-software system that overcomes key obstacles to provide reliable and scalable video media storage management. CSM distributes digital media files throughout a media facility, performing both the requisite transcoding and quality assurance in the process. By enabling content to be transferred among devices and systems, CSM is the enabling layer for advanced file-based workflows which provides the foundation for agility, growth and evolution of the media organization as the business and market evolves.

# TECHNOLOGY CHOICES

Some companies still think that digital media doesn't require any special consideration, that data is just data, and that storing video safely and effectively is as simple as choosing a data storage technology alone. For those companies that think this way, Hierarchical Storage Management (HSM) is a common choice. HSM systems grew up in the IT world and were designed to move files between nearline spinning disk and data tapes. In contrast, CSM systems are digital media-centric systems designed to cope with the special properties and requirements of digital media files as they are moved about in the workflow of a media organization. CSM thus fulfills a broad set

of specialized requirements beyond what HSM can do for professional, reliable, and scalable video media storage management

A simple table comparing CSM and HSM highlights the capabilities and benefits of each technology to clarify which is an appropriate solution for specific content management applications. As the leading CSM system globally, DIVArchive from Front Porch Digital is compared here against HSM.

FUNCTIONALITY	DIVArchive CSM	HSM
<b>Movement of files</b> Moves files between nearline spinning disks and data tape systems.	✓	✓
<b>Open to multivendor, best-of-breed technologies</b> Storage technology marches at pace, and it's important to be able to use the right manufacturer and right technology for the job in hand, rather than being tied to a single company and its implementation of any given new technology.	✓	✗
<b>Interface to widely used media systems</b> Interfaces seamlessly with the most widely used production, editing, and playout systems from companies such as Apple and Avid. Simplifies file transfers and streamlines workflow as a whole, supporting speed and efficiency.	✓	✗
<b>Timecode-based partial file restore</b> Retrieves only the desired segment of a media clip, rather than a whole program. Speeds retrieval for the given clip and conserves overall system bandwidth. Especially useful in a fast-paced production setting and supports a wide range of restore formats.	✓	✗
<b>In-path transcoding</b> Minimal steps are required for transcoding files moving between systems. Most media enterprises rely on multiple systems for editing, broadcast, and other purposes. Improves transfer times and efficiency.	✓	✗
<b>Minimal transfers to support workflow</b> Performs file transfers and other tasks on its own, rather than relying on MAM systems. By eliminating the need to move files in and out of MAM, it reduces the number of transfer steps required and streamlines the workflow.	✓	✗
<b>Proxy-based browsing</b> Ingests content in industry-standard high-resolution formats and automatically creates lower-resolution proxies for desktop browsing of stored content or Web-based consumption.	✓	✗
<b>Multisite capable</b> Enables mirroring of content between sites for editorial sharing and disaster recovery.	✓	✗

FUNCTIONALITY	DIVArchive CSM	HSM
<b>Mission critical capable</b> Unique architecture and comprehensive professional 24x7 support, coupled with video-centric expertise company wide.	✓	✗
<b>Scalable to major media company requirements</b> Unique architecture means video files are stored separately from the devices requesting and moving them, reducing bottlenecks and giving almost limitless scaling potential.	✓	✗
<b>Media aware</b> Recognizes the distinctive properties of media. For example, it "knows" that the multiple files in an editing sequence are one entity that should be kept together and transferred together. Speeds and streamlines transfers, as well as reduces the potential for retrieval and storage errors.	✓	✗
<b>Fast file retrieval</b> Doesn't require stubs for locating files to be retrieved. Stub files clutter the storage system and also add an extra step into the retrieval process, slowing it down.	✓	✗
<b>Resilient independent of data files</b> Operates on a server independent of the data files it manages, thus making them more resilient while safeguarding against the risk of catastrophic failure.	✓	✗
<b>In-path subjective video quality analysis</b> Performs automatic video quality check of managed assets, flagging issues for further analysis.	✓	✗
<b>Automatic File Collation</b> HSM systems treat each separate file as just that. However, many media objects are comprised of a collection of files (video, audio, metadata, header, etc), each one critical to the asset itself. HSM systems scatter these seemingly unrelated files throughout the data tape library with no context or connection between them. CSM systems manage these files as a singular collection or object and manage all operations on the collection.	✓	✗
<b>Incremental scalability</b> CSM grows incrementally over time while HSM systems are often monolithic and require "fork lift" upgrades and expansion.	✓	✗

# TECHNOLOGY CHOICES CONT.

For any media organization, CSM has the potential to improve overall workflow efficiency dramatically, speed access to files no matter where they are stored, support long-term preservation and protection of media files, and facilitate their repurposing. From the building of digital media archives to the cost-effective leveraging of stored content to establish new revenue streams, a good CSM system is integral to success [or efficiency] across every aspect of the media enterprise's operations.

What is the best CSM system? Front Porch Digital is a trusted advisor to the largest global media brands, and has been consistently ranked the No. 1 global provider for more than six consecutive years. Their products, collectively known as DIVASolutions comprehensively cover the "Migrate, Manage, and Market" aspects of modern digital file-based workflow. Front Porch Digital are seen as an industry innovator and technological trend setter, with many HSM companies attempting to mirror marketing messages but who cannot match our solutions' capability.



# FRONT PORCH DIGITAL'S DIVArchive

In 1998 Front Porch Digital introduced the DIVArchive CSM solution, and since then hundreds of media enterprises around the world have entrusted their irreplaceable media content to it. Over the years, DIVArchive has continued to develop, proving to be flexible, scalable, reliable, and media-centric, the only system of its kind proven over and over again to move digital files reliably, seamlessly, and transparently wherever they're needed.

Relying on a combination of disk storage and data tape libraries, DIVArchive effectuates a central content repository that supports multiple essence formats and resolutions, as well as interoperability among systems. And because it's a modular system, DIVArchive can be scaled and upgraded easily to meet future needs. To further maximize real-world usefulness, DIVArchive offers tight integration with other applications, including all leading broadcast automation and MAM systems. In addition, DIVArchive is integrated with Avid Interplay® and, through Front Porch Digital's DIVAsymphony™ service oriented architecture (SOA) framework, with Apple Final Cut Pro and Final Cut Server.

- For managing precious media content, Front Porch Digital DIVArchive has been and remains both a technology trendsetter and the global market leader. DIVArchive was the first to offer Distributed architecture with incrementally scalable bandwidth
- Inherent N+1 redundancy
- Timecode-based partial file restore
- In-path transcoding
- In-Path Quality Analysis
- Assured preservation via automated background migration
- Avid Unity interface (both DHM and DET)
- Apple Final Cut Pro and Final Cut Server Integration
- Application layer SNMP support with remote monitoring and management
- True 24x7x365 support
- Integrated online video publishing

With the largest global installed base of any CSM system in more than 70 countries, Front Porch Digital's proven DIVArchive platform now manages more than 100 petabytes of invaluable media content (to put that number in perspective, if all of the content was in HD it would take over 1,300 years to watch it all back to back). With a long history of working closely with broadcasters and other leading media partners, Front Porch Digital has a unique understanding of the industry and a vision for its future. The team at Front Porch Digital believes that the company's valued customers own the world's most precious media content, and so the company acts as more than a technology partner; it is a trusted adviser in mission-critical broadcast operations.

DIVArchive, Front Porch Digital's first and flagship product, remains the pre-eminent example of the company's global leadership and innovation. Today's media storage marketplace is rife with competitors and wannabes, but none comes close to matching DIVArchive for utility, flexibility, or reliability.



To learn more about Front Porch Digital and the DIVASolutions range of products and services please visit [fpdigital.com](http://fpdigital.com)



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**FRONT PORCH DIGITAL**

Solutions for the past, present, and future of media

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