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DIVA

Managing Digital Media

Solutions for the Past, Present, and Future of Media

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Introduction

Choice is good, but when it comes to managing video content, too much choice quickly becomes information overload. Is video just another large data file? Is content storage management (CSM) just another term for data storage? The answer is no, to both. Treating video like any other data file ignores the context of how video is created and flows in the enterprise, and the subsequent relative value of this content to its owners.

Finding an effective way to store, manage, and access digital video assets is critical for media companies, because content is the very lifeblood of their businesses. This white paper highlights the differences that make video assets a unique type of data and helps to explain the need for a full-featured CSM system that leverages the latest technology, without becoming a slave to it.

The Challenges of Storing Digital Media Assets

The goal in managing digital media storage is the same as in managing storage of any kind: to make assets safe and accessible and to do so economically. To achieve cost-effectiveness, typical media storage infrastructure divides assets into four tiers:

» Online, the most expensive, comprises video servers and editing systems.
» Near-line comprises networks and disk storage arrays.
» Archive comprises data or optical tape libraries.
» Offline is usually tapes located on physical shelves.

Managing large stores of digital media, however, presents unique challenges and 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 trade-offs between content quality and storage costs will only harm downstream monetization and reuse opportunities.

Another 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 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.

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The Solution for Storing Digital Media Assets

Fortunately, there is a solution. Combine appropriate storage tiers with content retrieval and accessibility functions, and the result is a CSM hardware and software system that overcomes key obstacles to provide reliable and scalable video media storage management.

CSM systems were developed to help content owners cope with what would otherwise be an overwhelming volume of content and address the video-specific complexity of that content and to help owners prevent content loss. CSM helps avoid these short-term moves by providing low-cost and infinitely expandable storage. CSM also distributes digital media files throughout a media facility, performing 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; it 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 does not 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 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 near-line spinning disks and archive 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.

The simple table below compares CSM and HSM and highlights the capabilities and benefits of each technology. The purpose is to clarify which is an appropriate solution for specific content management applications. As the leading CSM system globally, the Oracle DIVA solution is compared with HSM.

COMPARING TECHNOLOGY SOLUTIONS: CSM AND HSM

Functionality	Oracle DIVA Solution	HSM
Movement of files The solution moves files between near-line spinning disks and data tape systems.	YES	YES
Open to multivendor, best-of-breed technologies Storage technology marches at pace, and it is 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.	YES	NO
Interface to widely used media systems The solution interfaces seamlessly with the most widely used production, editing, and playout systems from companies such as Apple and Avid. It simplifies file transfers and streamlines workflow as a whole, supporting speed and efficiency.	YES	NO
Time-code-based partial file restore The solution retrieves only the desired segment of a media clip, rather than a whole program. It speeds retrieval for the given clip and conserves overall system bandwidth. It is especially useful in a fast-paced production setting and supports a wide range of restore formats.	YES	NO

(CONTINUED) COMPARING TECHNOLOGY SOLUTIONS: CSM AND HSM

Functionality	Oracle DIVA Solution	HSM
In-path transcoding Most media enterprises rely on multiple systems for editing, broadcast, and other purposes. The solution improves transfer times and efficiency as minimal steps are required for transcoding files moving between systems.	YES	NO
Minimal transfers to support workflow The solution 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.	YES	NO
Proxy-based browsing The solution ingests content in industry-standard high-resolution formats and automatically creates lower-resolution proxies for desktop browsing of stored content or Web-based consumption.	YES	NO
Multisite capable The solution enables mirroring of content between sites for editorial sharing and disaster recovery.	YES	NO
Mission-critical capable The solution provides a unique architecture and comprehensive professional 24/7 support, coupled with video-centric expertise companywide.	YES	NO
Scalable to major media company requirements Unique architecture means video files are stored separately from the devices requesting and moving them, reducing bottlenecks and giving almost limitless scaling potential.	YES	NO
Media aware The solution recognizes the distinctive properties of media. For example, it recognizes when multiple files in an editing sequence are one entity that should be grouped and transferred together. The solution speeds and streamlines transfers, as well as reduces the potential for retrieval and storage errors.	YES	NO
Fast file retrieval Stub files clutter the storage system and also add an extra step into the retrieval process, slowing it down. The solution does not require stubs for locating files to be retrieved.	YES	NO
Resilient independent of data files The solution operates on a server independent of the data files it manages, thus making them more resilient while safeguarding against the risk of catastrophic failure.	YES	NO
In-path subjective video quality analysis The solution performs automatic video quality check of managed assets, flagging issues for further analysis.	YES	NO
Automatic file collation The solution manages separate files as a singular collection or object and manages all operations on the collection.	YES	NO
Incremental scalability The solution grows incrementally over time, and is not monolithic. It does not demand major upgrades in order to accommodate expansion.	YES	NO

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

The Oracle DIVA Solution

The Oracle DIVA solution comprehensively covers the *migrate, manage, and market* aspects of modern digital, file-based workflows. Used by the largest global media brands, these solutions are innovative and lead the industry in content storage and management.

Relying on a combination of disk storage and data tape libraries, the Oracle DIVArchive system effectuates a central content repository that supports multiple essence formats and resolutions, as well as interoperability among systems. And because it is modular, the Oracle DIVArchive system can be easily scaled and upgraded. To further maximize real-world usefulness, Oracle DIVArchive systems offer tight integration with other applications, including all leading broadcast automation and media asset management (MAM) systems. The Oracle DIVArchive system is also integrated with Avid Interplay and, through its service oriented architecture (SOA) framework, with Apple Final Cut Pro and Final Cut Server.

For managing precious media content, the Oracle DIVA solution has been and remains both a technologically trendsetting product and the global market leader. The Oracle DIVA solution was the first to offer distributed architecture with incrementally scalable bandwidth and these other key features:

» Inherent N+1 redundancy
» Time-code-based partial file restore
» In-path transcoding
» In-path quality analysis
» Ensured preservation via automated background migration
» Interface with Avid Unity for both dynamically extensible transfer (DET) and data handling module (DHM) workflows
» Integrations with Apple Final Cut Pro and Final Cut Server
» Application layer SNMP support with remote monitoring and management
» True 24/7/365 support
» Integrated online video publishing

Conclusion

The Oracle DIVA CSM solution is used by hundreds of media enterprises around the world that have entrusted their irreplaceable media content to it. With the largest globally installed base of any CSM system, in more than 70 countries, the Oracle DIVA platform now manages more than 100 petabytes of invaluable media content. (To put that number in perspective, if all the content was in HD, it would take more than 1,300 years to watch it all back to back.) The Oracle DIVArchive system has proven to be flexible, scalable, reliable, and media-centric—the only system of its kind capable of moving digital files reliably, seamlessly, and transparently wherever they are needed. If you are looking for a CSM system to handle all your media—past, present, and future—look no further than the Oracle DIVA solution.

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Hardware and Software, Engineered to Work Together

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