Boundless storage capacity and performance for media applications

As the media and entertainment industry recognizes the extraordinary profit potential of digitized media content, content developers are running up against significant impediments to achieving that profitability. There’s a relentless drive to shorten the time required for rich media content to be created or ingested, edited and otherwise modified, and then distributed to paying customers. That’s because being first to market with new content and innovatively repurposing existing content provides a competitive advantage and enhances consumer loyalty. In a marketplace where speed is the requirement, gaining seamless access to content data files is the key to achieving that goal.

The most significant obstacle to developing and delivering media content is the time and effort required to process, manipulate, and retain media files. It is a particular challenge, because these data files are already very large, and they’re only growing larger. High-definition television and video are coming on strong, and the increase in the number of delivery formats and other bandwidth-intensive technologies already have legacy storage systems straining under the demands.

The primary challenges for developing and delivering new content have been the speed and effort required to manage and move large media files. When generating content, developers lose time waiting for large media files to be located, retrieved, or transferred among the various stages in the content workflow via the local area network (LAN). Many content creation and aggregation companies have difficulty designing a solution that allows them to store and protect digital assets at a low cost while still providing easy and reliable access to files for future reuse. In streaming environments, high-performance access has typically only been possible by creating duplicate files on multiple servers, requiring extensive human and financial resources to maintain the redundant data across the network.

Many of these inefficiencies are attributable to legacy storage technology, which was originally developed for the transactional environments that most information technology applications populate. These traditional storage technologies were never designed to meet the special demands of media applications that require the ability to manipulate large files and large groups of files in a single shared storage pool with a consistent bandwidth, and scale primary and archival storage as media operations grow. An ideal solution would combine high-performance data access in workflow processes with the ability to transparently move data to cheaper tiers of storage as the assets age and need to be archived.
An integrated, automated storage solution

The HP Media Storage solution combines HP servers and storage infrastructure with StorNext data management software from Advanced Digital Information Corporation (ADIC), and is delivered by HP’s consulting services. The result is a storage solution that reduces storage duplication costs and speeds project completion among media content creation, post-production companies, content broadband service providers and telecommunications companies.

HP Media Storage is founded on the concept that the value of a media asset changes over time during the complete media content data lifecycle. Through flexible, customizable automated policies, HP Media Storage places data on the type of storage most compatible and cost-effective for the defined performance requirements. Newly ingested content can be stored on the fastest disks, while reference data can be stored in near-line storage, and archived content is transferred to tape libraries and vaulted offsite.

The solution’s emphasis on comprehensive data lifecycle planning ensures that short-term and long-term data performance needs are balanced against storage capacity requirements. HP Media Storage delivers high-performance data access in highly collaborative environments and provides the ability to scale primary storage, backup storage and archival storage as media operations grow.

Innovative storage technology

The underlying technology of HP Media Storage is ADIC’s StorNext software—which includes a storage area network (SAN) file system that provides high performance, shared access to centralized storage. StorNext enables the consolidation of data on multiple types of storage (high-speed disk, high-capacity disk and tape) and represents these as a single virtual storage pool. That consolidated data can be shared by multiple computers running different operating systems—Linux, Windows®, UNIX® and even Apple—eliminating the need to manage multiple file copies and move large files over the LAN. Plus, through consolidating heterogeneous data, StorNext software eliminates the need for storage provisioning. Two key components comprise the heart of the StorNext:

- **StorNext File System**

  The StorNext File System (StorNext FS) provides high speed, shared access to files across heterogeneous IT environments and disparate server platforms and operating systems. Data files are consolidated on disk storage, eliminating the need for separate storage partitions on a per-server basis. The result is greater storage efficiency, rapid and uninterrupted data access, and optimized productivity all along the workflow, along with the elimination of slow data transfers which delay asset creation and revenue generation.

- **StorNext Storage Manager**

  Automated, user-definable policies within the StorNext Storage Manager (StorNext SM) allows content managers to use the business value of various data assets to determine appropriate levels of access, protection and retention. By automating these decisions, including the need for such extra business protection measures as protective replication or offsite vaulting, companies save time, control operating expenses, and maximize the value of their media assets throughout the complete data lifecycle.

Deployed on HP servers and storage

The HP Media Storage solution features the StorNext software deployed on HP’s industry-leading ProLiant and Integrity servers, and within Linux, Windows and HP-UX operating environments. The solution is tuned for use with high-performance, award-winning HP StorageWorks SAN arrays (Enterprise Virtual Array, Modular Smart Array, and XP Disk Array systems) and tape libraries (MSL and ESL), and also integrates seamlessly with other standards-based industry storage options.

HP servers are scalable and manageable systems that meet the needs of the most demanding rich media environment. As the industry leader in storage technology and sales, HP offers a comprehensive suite of solutions that offer the right combination of price, performance and data security for the media and entertainment industry’s storage needs.

Delivered by HP Consulting & Integration experts

The solution is implemented by HP Consulting & Integration (HP C&I) personnel, who are on the ground in more than 100 countries worldwide. These seasoned experts support the complete deployment process from evaluation to solution design and delivery, to ongoing service and support. HP has a matchless record for innovation, and proven experience with multi-vendor systems, including building, integrating, and managing complex global environments for media companies, content creators and distributors, and network and service providers worldwide.

Key features

- **High-performance data access**
  - Provides direct connection to shared Storage Area Network (SAN) devices to eliminate data movement over the LAN.
  - Supports greater than 100MBs, even GB/s of throughput, scales throughput to over 15 GB/sec as customer needs grow.
  - Supports heterogeneous clients and allows access to SAN files and devices simultaneously.
  - Enables deep control over media, drive and library functions, improving data movement by choosing the optimal resource across shared libraries/drives.
### Solution benefits

Whether for enhanced workflow for the near-line editing or post-production process, or long-term storage of precious digital assets, HP Media Storage solution provides excellent benefits for managing the diverse media assets of media, entertainment, and telecommunications companies.

- **Dramatically optimizes data use**
  Traditional partitioned storage technologies prevent full usage of available storage. If one server needs additional storage, it simply cannot access the underutilized partition of another server. HP Media Storage eliminates this inefficiency by creating a shared pool of storage, making provisioning unnecessary. It also allows content distributors to deliver standard and HD aggregated media content without creating redundant copies on multiple servers.

- **Shortens timeframes for content editing and reviewing workflows**
  Video editors and reviewers need not wait in queue for a copy of a file to be delivered to their computers. Media Storage enables concurrent file sharing at SAN speed across heterogeneous systems. In addition, Media Storage is a key component of HP’s Digital Media Solution, which provides a content workflow framework that enables automation of the entire digital content supply chain.

### Table: Content, Media storage virtual disk, Products

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- Allows bandwidth reservation for top priority applications
- Capably handles hundreds of millions of unique files
- Long-term management and protection
  - Provides user-definable automated data management policies to send files to appropriate storage depending on age and value of data
  - Consolidates data by combining disk and tape resources into an efficient storage pool, eliminating the need for storage provisioning based on workgroup or operating system
  - Offers the capability to make four replicate copies for each file written to tape libraries
  - Allows media-to-media direct copy for data duplication without disk staging.
  - Enables seamless data transition to new tape drive formats
- Data storage time and cost reduction
  - Provides automated policies for moving data to the most cost-effective and secure location
  - Based on standard HP IT SAN, not proprietary, black-box SAN
  - Integrates with legacy high-capacity tape devices and platforms, enabling simplified data management within a SAN and automated data protection policies

Network and Service Provider Solutions
• Provides scalable storage for content management applications
Content management applications can grow larger without outgrowing their primary or backup storage configuration. Backup windows remain manageable since data can be backed up and archived when it arrives in the system.

• Reduces resource demands
Content distributors reduce the IT resources needed to maintain consistent, redundant data, while IT receives a system that is dramatically easier to operate and less resource-intensive than either legacy or competitive systems.

• Simplifies storage management with intelligent archive features
The StorNext software provides automated data management and protection policies. Combined with data consolidation, these policies decrease the storage management burden by making replication and data retention an integrated capability of the storage environment.

Solution partner
ADIC is a leading provider of Intelligent Storage™ solutions to the open systems marketplace. The company’s data management software, StorNext, enables companies to finish projects faster and confidently store more data at a lower cost. Broadcast, entertainment and ISP industry leaders use StorNext in high speed, shared workflow operations and multi-tier archives to speed products to market and generate revenue faster while controlling capital and operational expenditures. StorNext data management software preserves choice and provides the industry’s highest level of platform independence, allowing users to choose and mix server platforms, disk, tape, and network appliances to meet their specific business requirements.

The HP advantage
Communications solutions are highly complex, and service providers must deliver even more innovative services to the market while keeping customers loyal and insulated from the complexities behind the services. In order to achieve this, service providers need strategic partners who can do more. HP offers a range of targeted, seamless solutions, integrated with partners, delivered quickly and efficiently. HP systems and solutions are open and flexible, empowering customers to customize or create value-added services. Our service capabilities provide the expertise to develop, integrate, test, install and support the most complex service launches. This one-stop shopping approach lets service providers focus on their customers—not their suppliers.

HP focuses more than 25 years of expertise into a powerful integrated team, the Network Service Provider (NSP) organization. The HP NSP organization, along with 500 valued solutions partners, assists the world’s top 200 service and equipment providers, and meets the voice and data needs of hundreds of millions of end-users.

With solutions, technologies and services including: HP OpenCall and HP OpenView capabilities arrayed across network infrastructure, network services, operations and business support, mobile and rich-media solutions, and end-user access, the HP NSP organization is a major player that is leading change in the industry.