

Digital Media Storage Solution



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Solution Overview

Streaming video, online social media groups, web broadcasting and new information technologies are driving growth in the already content-rich Media and Entertainment (M&E) industry, which is expected to exceed \$84 billion* in revenue. Video professionals and content developers have long purchased proprietary storage solutions from niche vendors because they were the only products that were custom tailored to work with the applications of this marketplace.

In recent years, the M&E industry transformation to all digital content and accelerated workflow requirements of the video professional are driving the need for more sophisticated, high-end configurations, which require multiple users to share access to large amounts of data while maintaining the high-throughput performance required for the rich media and content applications they serve.

To cost effectively realize this industry transformation, SAN-based Storage Systems are needed which support Mac OS X, along with sharing of massive volumes of media content in a resilient (fail-over and fail-back) manner. Recently, numerous customers have asked IBM to provide a mid-range SAN-based Storage System option. The IBM System Storage DS3500 and DCS3700 systems, with their industry-leading performance, configurability, modularity, price, and scalability are ideally suited to provide a high availability solution for applications such as Apple's Final Cut Pro. Additional operating system support will be added during 2012, to draw upon and deploy the full capabilities of IBM Storage Systems, ATTO HBAs, and Quantum StorNext file system. Please go to the "IBM Sell-With" portal, ibmdseries.com, for more information and important updates.

The IBM Digital Media Solution combines high-performance IBM System Storage DS series used in conjunction with ATTO's Celerity line of quad/dual/single port 8Gb FC HBAs and Quantum's StorNext File System software to provide the infrastructure needed for content developers and video professionals to easily access, transfer, archive data, with the flexibility to scale performance and capacity to the various workflows improve productivity through data consolidation, availability, performance, and scalability.



IBM System Storage DS3000

The IBM System Storage DS3000 series storage system is designed to meet the demanding open-systems requirements of modern media and entertainment applications while establishing a new standard for life-cycle longevity. Building on many decades of design expertise, the DS3000 series' seventh-generation architecture delivers industry-leading performance, real reliability, and multi-dimensional scalability. With its "pay-as-you-grow" scalability, up to sixteen ports of 8 Gbps FC, and 448 drives, the DS3000 provides unprecedented investment protection to adapt the changing demands and needs of the environment.

The DS3000 series is equally adept at supporting transactional applications, such as databases and OLTP, throughput-intensive applications, such as HPC and rich media, and concurrent workloads for consolidation and virtualization. With its relentless performance and superior reliability and availability, the DS3000 series storage system can support the most demanding service level agreements (SLAs). And when requirements change, the DS3000 series can add or replace host interfaces, grow capacity, add cache and be reconfigured on the fly—ensuring that it will keep pace with your growing company.

With the addition of the new IBM System Storage EXP5060 high-density disk drive enclosure, this provides an ideal offering to reduce operational costs for media archive applications. The 60-drive EXP5060 enclosure provides up to 3 times greater density compared to traditional drive enclosures, enabling a 480 drive system to reside within a standard 19-inch rack. The increased density reduces power consumption by more than 30 percent and floor space by more than 65 percent.

The IBM System Storage DS3500 leads the way for these organizations to take advantage of consolidating and sharing this data within a direct-attach or a FC SAN solution. The DS3500 adds advanced front-end 4 Gbps FC technology to IBM time-proven designs for enterprise-class RAID storage. With FC host connectivity and SAS back-end technology, the DS3500 is designed to improve productivity through data consolidation, availability, performance, and scalability.



Supported Components

IBM System Storage Hardware

IBM System Storage DCS3700*

IBM System Storage DS3500

** IBM RPQ required*

Quantum StorNext Data Management Software

StorNext File System Version 3.5.x or 4.0

StorNext Storage Manager

ATTO Celerity Fibre Channel HBAs

ATTO FC-84EN: 8 Gbps FC, quad port PCIe 2.0

ATTO FC-81EN: 8 Gbps FC, single port PCIe 2.0

ATTO FC-82EN: 8 Gbps FC, dual port PCIe 2.0

Operating Systems Metadata Controller

Linux: Red Hat (RHEL 5.3 x64)

Linux: SUSE (SLEX 10.2 x64)

Apple Hardware and Software

Apple Xserve, Mac Pro

Mac OS 10.5.8 or later

Xsan 2.2

ATTO Technology Multipathing Driver

ATTO has developed a multipathing driver (failover and load balancing) for the Mac OS to provide high availability and high performance connectivity to the IBM System Storage DS3500/DCS3700 series using ATTO's Celerity line of single, dual and quad port 8 Gbps Fibre Channel host adapters. Users can now connect Apple servers and workstations to the IBM System Storage DS3500/DCS3700 series. This solution is also heterogeneous allowing Macs to connect to storage in the same SAN with Windows and Linux servers using the Quantum StorNext Data Management Software.

ATTO Technology has been developing storage connectivity solutions for the Mac market for 20 years and has well-established brand recognition in this market. The ability to connect Mac servers and workstations to IBM storage systems unveils sales opportunities in new and existing installations. The customized ATTO multipathing driver is not generally available to all storage vendors, which provides IBM with a competitive market advantage.

The Mac OS does not recognize most dual-active RAID controller storage systems. To capitalize on this open market, ATTO has developed a set of drivers specifically for IBM that enables LUNs to be recognized from both controllers in the IBM System Storage DS3500/DCS3700 series. Combined with enhanced management features in the IBM storage system, IBM can offer a unique advantage for Mac customers requiring a high-end storage solution with dynamic functionality and flexibility.

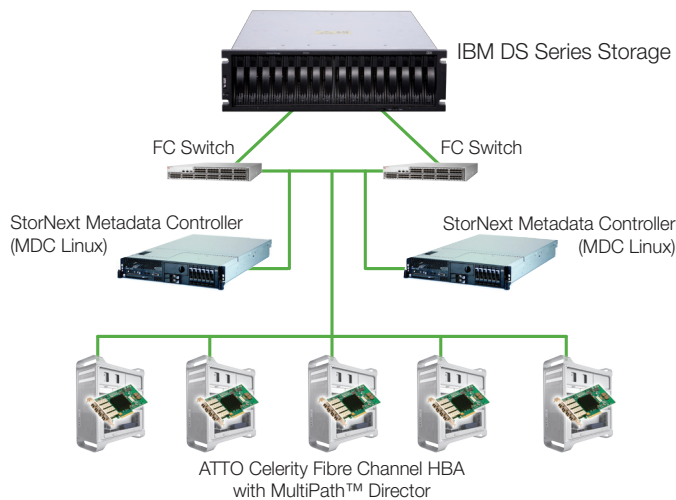


Quantum StorNext SAN File System

The StorNext data management software streamlines digital work flows and reduces data retention costs by creating a consolidated storage pool that multiple systems can access in parallel. StorNext software also includes an integrated data movement engine that transparently migrates files between tiers of storage to reduce data retention costs and provide data protection.

The StorNext File System is a high-performance, heterogeneous shared file system, which enables multiple servers to access a common disk repository regardless of OS-type servers which can be Windows, SUSE Linux, Red Hat Linux, Mac OS X (via Apple's Xsan), AIX, HP-UX, and Solaris.

Apple's Xsan 2 shared SAN software enables multiple Mac computers to concurrently access terabytes, even petabytes, of storage over high-speed Fibre Channel so that Final Cut Pro video editing artists can share data faster and consolidate storage. Quantum supplements this solution with StorNext data management software that enables Apple Xsan customers to attach applications running on Windows, Linux, and UNIX to their non-Apple RAID storage and share content across multiple servers.



Key characteristics:

- Servers acting as metadata controllers and workstations are running these operating systems: Red Hat Enterprise Linux or SUSE Linux
- Workstations and servers acting as StorNext/Xsan clients running Mac OS X operating system (additional operating system support will be added during 2012, including Windows 7, Windows Vista, Windows XP, Red Hat Enterprise Linux, SUSE Linux).
- All SAN clients, Linux, Windows, and Mac OS X, will be in the same host group so that they can all share access to the LUNs for concurrent file and file system access
- Quantum StorNext is used as the file management application. The Quantum StorNext metadata controller runs on two Linux servers (for redundancy)
- Clients on the DS3500/DCS3700 Mac OS X systems will be using Apple Xsan clients to access files on the DS3500/DCS3700
- All clients are able to read a file while it is being written
- All clients have multiple paths to the storage
- Servers and Workstations can house multiple HBAs to provide greater fault tolerance

IBM DS3500/DCS3700 storage system minimum configuration

- 4 or 8 Gbps Fibre Channel SAN connectivity
- At least 4 TB capacity with 15-20 GB LUNs
- RAID 10/1 for metadata LUN and journal LUN
- At least four 1 TB RAID 5 LUNs for data
- Scales up to 960 TB disk capacity

StorNext Metadata Controller

- IBM System X server running Linux, functions as the StorNext Metadata Controller (MDC)
- Minimum configuration:
 - Xeon dual core processor
 - Red Hat Enterprise 5 Linux or SUSE Linux
 - Minimum 4 GB of memory
 - 72 GB of local disk (running OS image and local swap)
- FC HBA and 2 NICs, one running private GigE LAN or VPN for metadata

Switches

- Cisco or Brocade Fibre Channel switch for data paths
- Ethernet switch for metadata control paths

Features and Benefits

Features	Benefits
<ul style="list-style-type: none"> Flexible, high-performance data access 	<ul style="list-style-type: none"> Enhance video and rich media applications with fast, reliable, flexible storage
<ul style="list-style-type: none"> Grow your storage dynamically as required 	<ul style="list-style-type: none"> Digital media content management — Automate, create, and edit media files that can be easily transferred
<ul style="list-style-type: none"> Mix storage options (FC/SATA/SAS) to match performance and archival needs 	<ul style="list-style-type: none"> Grow your storage dynamically as required
<ul style="list-style-type: none"> Heterogeneous support for most operating systems allows client access to media files 	<ul style="list-style-type: none"> Enables concurrent file sharing, manage all types of video and media content, including metadata
<ul style="list-style-type: none"> Redundant controllers “pay-as-you-grow” scalability, for the most demanding capacity and availability requirements 	<ul style="list-style-type: none"> Data management and protection automatically store, backup, and recover data
<ul style="list-style-type: none"> Unique host interface cards designed to provide investment protection and life cycle longevity 	<ul style="list-style-type: none"> Allows a high-availability connection from Macs to storage so that users are assured to have constant access to their data

Competition

Name	What You Are Competing Against
Promise Technology, Inc.	<ul style="list-style-type: none"> VTrak Storage Dual 4 Gbps Fibre Channel ports per controller Storage expansion up to 80 SATA/SAS drives
HP EVA Storage Systems	<ul style="list-style-type: none"> Enterprise Virtual Array (EVA) Redundant controllers with four or eight host ports Models scale from 0.2 TB to 128 TB
EMC	<ul style="list-style-type: none"> High-end tiered consolidation — Meet a wide range of service level requirements with tiered storage options such as EMC Symmetrix DMX networked storage systems

Sales Engagement Process

The IBM System Storage DS3500/DCS3700 series products are available from the IBM direct sales organization and IBM Business Partners. Direct sales and channel partners that uncover opportunities for selling can engage the following Strategic Business Initiative owners for customer qualification and selling support.

Opportunities

- Current customers previously unable to connect their Mac servers
- Mac environments that require many workstations to share a pool of high-end managed storage
- Mac environments that require high-availability and high-performance Fibre Channel connectivity

Target Industries

- Digital Media
 - Environments in which Mac, mixed operating systems (Mac/Windows/ Linux) share a pool of data
 - Content Creation (video production, graphic arts, 3D imaging & rendering)
- Healthcare Life Sciences (HCLS)
 - Medical Imaging
- Education
 - Content creation, modeling, imaging
- HPC
 - Government & Scientific

Potential Customer Qualifications

- Do you have Mac workstations (local or remote) that could benefit from shared storage?
- Would a pooled storage environment improve your Mac workflow efficiency?
- Would you like to improve availability and performance to your Mac storage?
- Do you require continued access to your Mac storage?
- How do you currently share data with heterogeneous environments (if at all)?

For More Information

DS Partner Portal: www.ibmidsseries.com

ATTO: www.attotech.com/solutions/IBM

Quantum StorNext: www.stornext.com



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Route 100
Somers, NY 10589

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