Storage infrastructures are being pushed to their limits with performance and capacity requirements for high definition and digital film workflows. Moving to a shared storage solution featuring an ATTO FastStream Storage Controller 8550 allows customers to complete projects on time and under budget while providing RAID protection, keeping storage running longer and providing the lowest cost per video stream.

Current Workflow

Many editors utilize desktop storage, that is, storage which is included with their server or external Firewire or eSATA drives. These solutions do work and have worked for many years however their shortcomings are becoming more   apparent as video editing storage needs expand.

Studio managers are starting to realize that in order to meet the deadlines and needs of today's editing workflow changes need to occur in storage, specifically on how editors collaborate on projects and how to increase performance for uncompressed video and digital film. One solution that will help a studio expand their workflow capacity is the addition of a Storage Area Network (SAN). This solution is often perceived as very expensive and complicated. Studios may feel it is beyond their expertise and budget, however this does not have to be the case.

Current Solution - Consists of direct attached storage that is not shared among multiple workstations. Files can be shared over the LAN, but transferring even a small HD file can take hours.

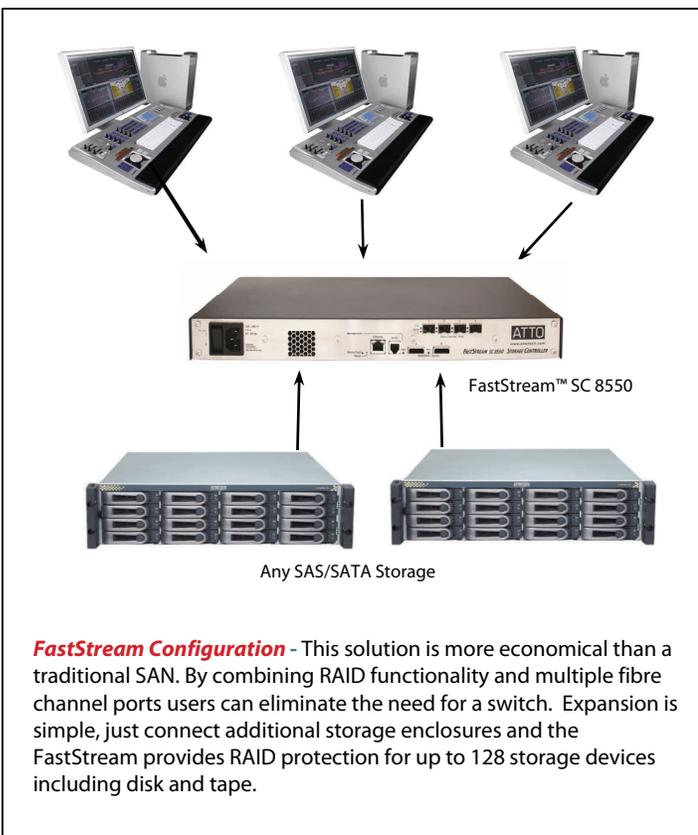
Direct Attached Storage

FastStream Small Workgroup SAN Solution

The ATTO FastStream SC 8550 was engineered for real-time environments to provide high-performance, low latency shared disk storage access. This allows editors to create high speed RAID protected SANs that enable a collaborative workflow among several editors without the complexity or high cost associated with SAN products.

The solution consists of the FastStream SC 8550, basic disk storage, Fibre Channel host adapters and SAN management software.

FastStream™ SC 8550
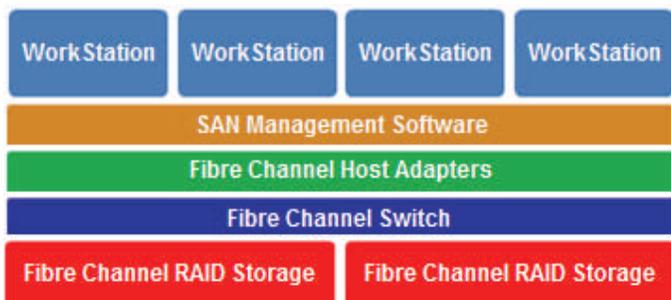
Any SAS/SATA Storage

Benefits

- High-speed 8Gb performance via four independent   Fibre Channel ports provide up to 1500 MB/s
- ADS™ Latency management allows up to 30 DVCPro® HD streams simultaneously with 48 audio streams
- Engineered for real time applications achieves up to 6 streams of 10-bit uncompressed HD Video
- Full performance during RAID Group rebuilds
- Protects all data with parity RAID protection
- Compatible with all leading editing solutions
- No storage server needed
- No Fibre Channel switch needed
- Expand existing RAID groups or create new ones with the addition of storage as your needs grow
- Simple management and diagnostics

FastStream Configuration - This solution is more economical than a traditional SAN. By combining RAID functionality and multiple fibre channel ports users can eliminate the need for a switch. Expansion is simple, just connect additional storage enclosures and the FastStream provides RAID protection for up to 128 storage devices including disk and tape.
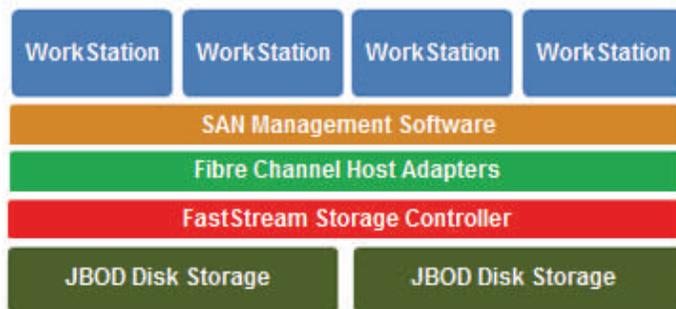
Cost Comparison - Several solutions exist today which enable a shared environment, most of these solutions are geared toward Enterprise infrastructures and as such feature a hefty price tag. Since the FastStream has the ability to scale up to meet customer needs; a solution may be created for over half the price of the competition.

Typical Shared SAN Solution

Most expense in this solution is contributed by the Fibre Channel Switch and RAID Array's. Whenever storage expansion is needed RAID needs to be repurchased along with the enclosure and disk drives. A typical solution including SAN Management software, Switch and RAID Storage may cost well over $50,000.

FastStream Storage Controller Solution

The FastStream SC Solution replaces the Fibre Channel Switch and allows the use of lower cost JBOD Enclosures which do not have built in RAID - The FastStream provides the SAN connectivity and RAID protection. A typical solution including SAN management software, FastStream and storage costs less than $25,000.

FastStream Interoperability

Tested Compatible with
Apple Final Cut Pro / Final Cut Studio
Apple Shake 2D/3D Compositing
Adobe Premiere / PhotoShop
AJA
Avid Media Composer / Nitris
Blackmagic
Cinema 4D
Digidesign ProTools HD
Logic Pro
Matrox AXIO

Performance Optimization

Performance is a key component of an editing solution and the FastStream provides best in class performance to editing applications with the lowest cost per stream:

RAID 5	SAS Drives	SATA Drives
Reads	1566 MB/sec	1526 MB/sec
Writes	736 MB/sec	689 MB/sec
Reads / Rebuild	1562 MB/sec	1524 MB/sec
Writes / Rebuild	732 MB/sec	624 MB/sec
Rebuild – with I/O	38 Minutes	60 Minutes
Rebuild – no I/O	7 Minutes	16 Minutes

16 drives, IOmeter, 2MB Transfer size, 128 KB Interleave, 8 QDepth
Using Split-bus, dual expander JBOD storage enclosure
2.66G Quad Core Nehalem server with 3GB of RAM and OS X 10.6.4

Rebuild Technology

One of the most important functions of a RAID solution for digital content creation is degraded performance which is performance during a drive rebuild. The above chart shows an example of normal RAID performance and performance during rebuilds. As you can see, streaming applications have full access to disk bandwidth in the event of a drive failure which allows editors to complete projects on time.

Ease of Use

ATTO FastStream features installation wizards for audio and video applications to allow you to spend less time managing your storage and more time editing. The FastStream was engineered from the ground up to not only be easy to use, but easy to setup, maintain and manage storage from one central location.

Storage and OS Agnostic

FastStream Storage Controllers were engineered to be interoperable with a number of storage products. This allows you to purchase one brand of storage to begin your infrastructure and purchase other brands of storage as your needs mature.

There are no operating system requirements for the FastStream. So there are no worries if your system runs in OS X, Windows, Linux or proprietary operating systems.

Full Interoperability information can be found on the ATTO website at www.attotech.com.

Tested with
AIC
Dell
Engenio
Enhance
Fibernetix
Infortrend
JMR
NEC
Promise
Proware
Xyratex

ATTO
ATTO Technology, Inc.