



Quantum SDLT 600A with DLTxchange™



The Enhanced Data Tape System for Professional Video

Quantum's new enhanced data tape system for professional video — the SDLT 600A with DLTxchange™ — builds upon Quantum's industry leading DLT® system of drives and media to provide the ideal solution for video professionals facing the challenge of storing increased High-Definition (HD) and Standard Definition (SD) television programming.

An enhanced version of Quantum's proven DLT® technology, the SDLT 600A system is a network-attached, file-accessible data tape storage drive designed for professional video. With its built-in gigabit Ethernet interface and FTP server, the SDLT 600A can be installed with cross-platform ease throughout any digital facility — from individual video workstations to long-term, centralized storage archives.

Quantum's SDLT 600A with DLTxchange technology adds integral media and metadata access via the MXF file format — to make the SDLT 600A highly interoperable and enable the seamless exchange of HD and SD video assets among most professional video applications and systems.

The SDLT 600A with DLTxchange offers the best of both worlds — the benefits of file-based data tape storage and the accessibility of video tape.

The Shift to File-based Operations

To handle the explosion of HD programming and digital content, video professionals today are looking for new ways to improve their workflow and safely store this data.

However, while today's facilities are dramatically different from a decade ago, they are still largely video tape-based environments with proprietary formats for acquisition, operations, delivery and storage. This inefficient workflow eliminates any opportunity to utilize existing internal computer networks and continues to make video tape time and labor intensive.

Historically, content ("essence") arrives at facilities in either a film or video format. Video tape is the de facto standard, with all content ingested, transferred, distributed, played and archived on video tape. When content is slated for digital broadcast or release, it must be digitized. Often the workflow is linear, with the tape moving logically from one department to the next. But often it is not, with the tape moving between departments based on staff availability. Finally, when the project is finished, it is stored back on video tape and kept in tape storage rooms where it is manually re-dubbed to avoid data loss and other problems inherent with video tape formats.

In addition, video tape does not preserve metadata — "the data about

data" — that describes content and other information on the tape, such as media type, actors, scene descriptions and recording details. Metadata greatly simplifies the process of finding material by virtually eliminating the time-consuming process of searching for content on each tape. Without metadata, this information must be manually logged or written on the tape label or it is lost until the tape is viewed again.

For these reasons, facilities desire a file-based data workflow where the video essence stays in a data rather than a video format. In this model, essence is transferred to a common data file that is available anywhere on the network at any time. Metadata is captured and tracked across all applications, and video archives are maintained on data tape with centralized data storage.

This IT file-based model offers:

- More efficient workflow
- Faster than real-time transfers
- Ease of migration
- Improved content security
- Reduced storage requirements

MXF as an Enabler

The Material Exchange Format (MXF), a Society of Motion Picture and Television Engineers (SMPTE) standard for professional digital video and audio media, is helping to accelerate the move to data-centric facilities. An open file format for the interchange of audio-visual material with associated data and metadata, MXF is designed

and implemented to improve file-based interoperability between servers, workstations and other content creation devices. These improvements should result in improved workflow and more efficient working than is possible with today's mixed and proprietary file formats.

With MXF, facilities can transport and share production content and jobs seamlessly as "working storage." In this new scenario, application independence is taken for granted. Editors open projects in the editing tool of their choice — which may be different than the tool originally used — and make changes to create new projects directly from the original source material. The high quality of the original essence is maintained, duplicate edits and generation loss are eliminated, while metadata is preserved across applications. However, applications still need to work with or transcode different essence types.

MXF helps enable the use of data tape for storage and interoperable storage products, resulting in dramatic cost savings. The cost of data tape storage is significantly less than the cost of video tape storage, even in the HD format, which contains five times as much data as traditional broadcast content.

Current Systems: Issues with Video and Data Tape

As now used, there are many issues with video and data tape, including aging video tape assets and an unclear migration path to a new format — with solutions that are too expensive and short-sighted, such as transcoding to a new format that would result in generation loss. Also, video storage on data tape has traditionally used proprietary file formats. When the compression and file formats are incompatible, applications can't read the archived media and can't share metadata.

A New Opportunity for Data Tape

The cross-platform acceptance of MXF presents a new opportunity for data

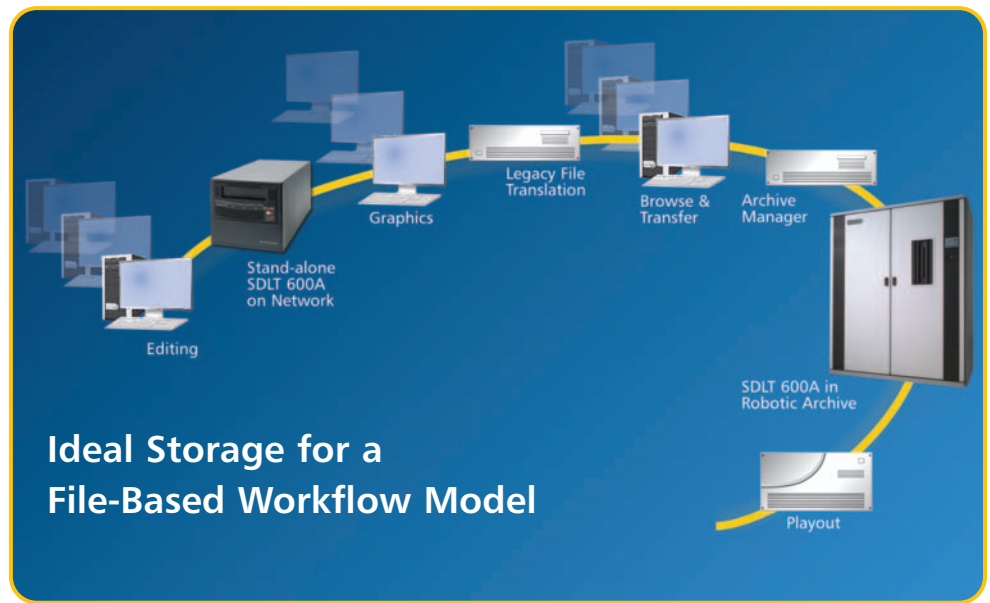
tape as facilities benefit from a more robust IT environment. With a tape-based network-attached storage solution, facilities can easily access the content of any of their tapes.

In this new model, the production department's established best practices for tape usage and storage are combined with the many benefits of centralized storage on data tape as

Quantum's Solution: SDLT 600A With DLTxchange

Based on its recognized leadership position in data storage, Quantum believes it is the best company to lead the industry's transition to file-based storage.

Quantum understands how today's trends are causing a disruptive shift in



practiced by IT professionals:

- Conversions become unnecessary because the essence is always available
- Concurrent production work is possible through file sharing
- Metadata is preserved across applications and uses
- Transfers becomes reliable
- Labor costs are reduced through automated, networked processes
- Remote servers, such as sports trucks, can be loaded with content

At the same time, libraries benefit greatly through application independence:

- Archival storage becomes the standard rather than a luxury
- Storage becomes highly reliable and error-free
- Archived assets are easy to preserve, locate, reuse and resell
- Disaster recovery best practices can be instituted
- Data tape storage is less expensive than video tape storage

facilities' workflow and archive storage needs and that facilities today desire:

- An MXF data-drive for workstation backup and the means to store, transport and share production content and jobs — "working storage"
- An easy and reliable method to transfer content to and from playout servers in mobile environments, such as mobile trucks at sporting events
- The ability to get content from archive to on air in a down tape library scenario
- Independence from any one application to access valuable tape assets

Network Attached and MXF Aware

A video-friendly data tape drive with easy plug-and-play network integration, the SDLT 600A with DLTxchange offers the best of both worlds — the benefits of data tape and the flexibility of video tape.

The benefits of data tape:

- Proven, secure 30-year archival life
- Reliable, faster than real-time transfers
- HD, SD and data assets can be restored to any computer from any networked SDLT 600A drive
- IT industry economies of scale deliver excellent value drives and media

The flexibility of video tape:

- Partial restores of subclips by timecode index from any MXF video application
- Direct Ethernet FTP access to the drive provides SDI video-like interoperability
- MXF support for industry standard media exchange across platforms and applications

Creating a new, more powerful solution:

- CD/DVD-like exchange media for large files
- Disaster recovery — tape readable by all applications
- Supports file-based operations with full metadata retention

Both the drive and the media form factors are smaller than others to enhance portability while providing denser archival storage. Every feature is supported by all major editing and video server platforms, with network-based content sharing enabled by MXF.

A Unique Solution

A unique storage solution for the professional video industry, the SDLT 600A with DLTxchange goes far beyond being just an archival solution — it also serves as both working storage and as a digital media content transfer tool.

The system will both directly and indirectly improve the efficiency of existing business methods by offering many characteristics that are valued by facilities in their new data-centric environment for acquisition, operations and delivery.

Easy to Deploy

With its included gigabit Ethernet interface and built-in FTP, the SDLT 600A can be easily attached to any network where it becomes accessible to every workstation and server through Windows Explorer and standard browsers.

The system can be used in stand-alone, rack-mount and table-top configurations as well as integrated into the full range of robotic tape libraries.

Flexible

Quantum's SDLT 600A with DLTxchange utilizes Super DLTtape® II media, which provides 300 GB/native capacity on a single cartridge.

The SDLT 600A further ensures the long-time reliability of content and makes it easy to handle very large file sizes. At a native capacity of 300 GB per tape, a single tape can accommodate more than six hours of 100 Mb/s HD content.

The data tape format of the SDLT 600A system includes a file system on the tape, making any cartridge readable anywhere, anytime. Traditional video archiving uses proprietary management software which dictates that tapes must remain locked in a library system in order to restore any data. Quantum's Super DLTtape II cartridges are free from this constraint — they can be easily moved between libraries, stand-alone drives and even video facilities.

With this flexibility, the SDLT 600A with DLTxchange is ideal for serving the full range of video applications — from hand-carrying video content out to a truck for live production to a facility-wide, long-term, secure archive.

Unmatched Performance and Capacity

The system also offers fast load to ready, a fast transfer rate and fast seek times, especially for news. The SDLT 600A with DLTxchange provides a

native 36 MB/second transfer rate (72 MB/compressed) that makes data transfers many times faster than real time, even in HD.

On a daily basis, this enables media and content to be located, accessed and delivered faster so projects can be worked on more quickly than with traditional video tape. Also, it now becomes unnecessary to view an entire tape to see what's on it.

Cost Savings

In addition to its file-based, faster-than-real-time access to HD, SD and data assets, the new SDLT 600A with DLTxchange is a much more cost-effective storage solution than video tape.

Because it is built on Quantum's popular, industry-leading DLT platform, the SDLT 600A system benefits from significant economies of scale. High-volume manufacturing makes this data tape system cost much less than VTRs. Also, Super DLTtape II cartridges offer lower costs than video tape when based upon hours of content capacity. By leveraging the cost-efficiencies of high-volume data drive manufacturing, the SDLT 600A with DLTxchange will drive costs lower for facilities.

In addition to savings in staff time and overhead, the SDLT 600A with DLTxchange allows for lower cost-per-minute storage of video on data tape and remains a cost-effective medium for storing backup copies of data.

Further, data tape will build on facilities' best practices of tape preservation and storage. It will consolidate and greatly reduce the amount of facility floor space dedicated to tape storage.

In addition to these savings, the centralized storage and management of content on data tape will also result in even better asset management — ensuring that all tapes are accounted for and can be located easily, backup schedules are maintained and redundant offsite storage is considered.



Secure Yet Accessible

With all businesses at risk today, whether from natural disasters, man-made events, equipment failure or computer viruses, risk reduction has become increasingly important. In simplest terms, risk reduction is the protection of data assets through backup and disaster recovery planning to eliminate the potential earning and asset losses from any business disruption.

Facilities know that best practices dictate avoiding disasters or data loss in the first place and are well-versed in the best methods to store and preserve their video tape archives. While the primary element of a disaster-recovery process is backing up and protecting data, with video tape can result in generation loss.

With the SDLT 600A system and the digital nature of Super DLTape II media, exact clones of the original can be created while generation loss is eliminated. Further, Quantum's Super DLTape II data cartridges have a robust 30-year archival life that ensures the longevity of precious video content. In addition, Super DLTape II data cartridge shells are more robust than video cartridges so they can withstand the daily wear and tear better.

At the same time, the SDLT 600A system is the perfect place to archive content because files are easily accessible and all metadata, like tape reliability statistics and directory



information, is always preserved. The SDLT 600A makes partial restores of subclip files by timecode or even metadata with an ease unlike any other data tape solution — a new level of accessibility in data tape that defines “working storage.”

Quantum's Proven Platform

The new SDLT 600A with DLTxchange is part of Quantum's DLT family of proven, highly reliable and cost-

effective tape backup, recovery and archive solutions.

The most successful tape drive platform ever built, more than 100 million DLTape cartridges have been shipped, outpacing the nearest competition in the mid-range tape market. This underscores Quantum's global leadership in the storage market and DLT's status as the most trusted solution to meet the growing data storage and protection needs of business.

Seeing the Future

Quantum recognizes that facilities are moving toward a data-centric workflow model and understands the current process flow and issues, the planned process flows and opportunities for improvement as well as video professionals' concerns and requirements. However, facilities lack a data tape that has been designed specifically to meet their needs — until the SDLT 600A with DLTxchange.

Quantum has seen — and understands — the future of professional video and is taking a leadership role in this new data-centric world.

Quantum



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