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Ewan Johnson
Quantum Storage UK

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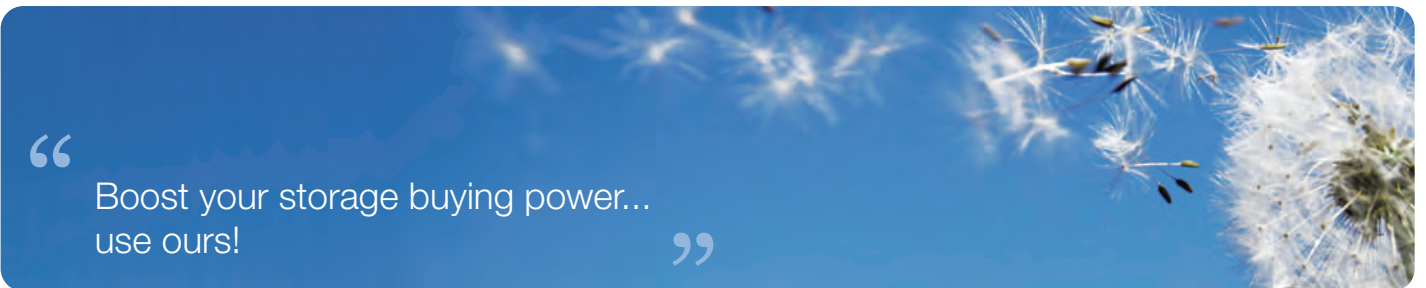
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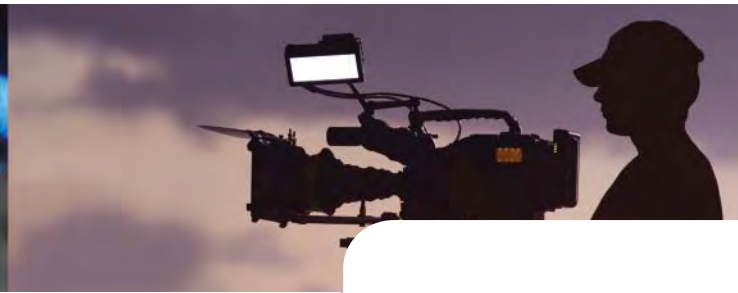
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StorNext® and Scalar® i500 Help RLTV Manage and Protect \$32 Million of Broadcast Content

As a nimble startup company that is dedicated to serving the needs of adults 50 and over with information and entertainment that inspires and enhances the perception of aging, Retirement Living TV (RLTV) faced a significant challenge. How do you break into the cable TV industry with a brand new channel and make it succeed? Charting a unique course, the company is following a two-pronged strategy: develop original content that uniquely addresses the 50 and over audience and create an infrastructure that can accommodate rapid expansion in a cost-effective manner.

Accordingly, the company has built its broadcasting capabilities upon a solid foundation encompassing Quantum's StorNext data management software, Apple Final Cut Pro (FCP) and Apple Xserve RAID. Apple's FCP provides an enterprise-class non-linear editing system, and it works in conjunction with an Apple Xserve RAID-based Storage Area Network (SAN) managed by the StorNext shared file system.

"With our Apple and Quantum StorNext platform, we're accomplishing five times as much at half the cost compared to a typical video tape-based channel," said Jamie Peebles, vice president of engineering at RLTV.

Furthermore, StorNext enables files to be replicated to tape within minutes of being saved. StorNext Storage Manager is also utilized to establish a tiered storage architecture. Policies set through StorNext Storage Manager determine on what storage tier the data should reside: Apple disk for rapid access, a Quantum Scalar i500 tape library as a second tier of near-line storage, as well as a third tier of archived tape.

"Managing backup in the traditional way can be a nightmare in terms of personnel resources, time and troubleshooting," said Peebles. "StorNext takes care of all that confusion automatically using our hierarchical storage management (HSM) system. It's very much set it and forget it."

FAST GROWTH REQUIRES HIGHLY SCALABLE STORAGE MANAGEMENT SYSTEM

RLTV was founded and financed by John Erickson of the Erickson Foundation and Erickson Retirement Communities. It is charged with creating new and valuable content for baby boomers and seniors, which is then played to subscribers nationwide.

Launched in September 2006, and with the aging population providing an ever-growing audience, the company has expanded at a rapid pace.

However, to create new content, it takes a lot more than a television studio and staff. It also requires the capability to quickly edit raw content and prepare it for air. RLTV identified Apple's FCP as its ideal non-linear editing system, along with over 34 TB of Xserve RAID. This SAN provided the platform the editors needed to ingest content and create shows.



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Jamie Peebles
Vice President of Engineering

SOLUTION OVERVIEW

- 🔗 Quantum StorNext File System
- 🔗 Quantum StorNext Storage Manager
- 🔗 Quantum Scalar i500 tape library (14U) with LTO-3 tape drives
- 🔗 Apple Final Cut Pro
- 🔗 Apple Xserve RAID-based SAN
- 🔗 Dell Metadata Controllers
- 🔗 QLogic FC Switch infrastructure

KEY BENEFITS

- 🔗 Takes minutes to restore content from digital tape compared to hours using a video tape library
- 🔗 Able to do five times more and at half the cost compared to a traditional video tape-based TV studio
- 🔗 Doesn't require waiting until off-peak hours to back up systems
- 🔗 Provides a 9x cost advantage compared to using video tape

To ensure data integrity, the Xserve RAID system was fully mirrored. Thus only 17 TB was available for content. Initial projections, however, showed that 17 TB wasn't going to last very long. Therefore, RLTV looked into how to substantially expand its storage platform while providing additional layers of data protection.

"We realized we were going to have to grow very fast and we had to be able to scale quickly," said Peebles. "That was going to take a massive storage system with the ability to manage that data in a way that was efficient and cost effective."

RLTV initially looked at buying a backup system as well as a separate archiving system. However, it discovered that the StorNext shared file system could fulfill both requirements. This required a reconfiguration of the RAID environment into a 24 TB editing file system, a 6 TB archive file system, and a 4 TB scratch/render file system.

"We've expanded from \$0 to \$32 million in broadcast content in two years," said Peebles. "I chose Quantum's StorNext as a product to grow our company because it had all the necessary elements that deploy quickly and effectively for Retirement Living, right out of the box."

The StorNext File System provided RLTV's 10 edit rooms, two graphics suites and multiple ingest points with simultaneous access to SAN data. Once past the ingest point, the entire environment was digital, removing the need for video tape.

STORNEXT STORAGE MANAGER ENABLES TIERED STORAGE STRATEGY

As Peebles saw it, with storage demands exploding, a disk-only strategy was never going to be enough because it results in a giant, unwieldy storage repository – once it fills up, one can't easily move the content anywhere.

That led RLTV to establish an HSM system using StorNext and a Quantum Scalar i500 tape library. Quantum's Storage Manager allows the SAN to be continuously protected using policies which replicate each file to tape within minutes of storage. As programs and content ages, it is moved off disk (tier one) and onto a secondary storage tier (tier two) of near-line tape. Therefore disk space is continuously freed up in tier one for high priority storage.

RLTV now has approximately 45 terabytes (TB) of spinning disk, a tape content repository via the Scalar i500 storing 48 TBs of near-line content, and a third tier managed by the Storage Manager vaulting feature and capable of archiving petabytes of LTO tapes.

"Without StorNext as the file management system, we didn't really have a practical way of building up a large SAN," said Peebles. "We needed StorNext Storage Manager to keep our storage environment manageable."

SCALAR i500 PROVIDES NEAR-LINE REPOSITORY

Each storage tier accomplishes different goals. Tier one spinning disk provides editors with immediate access to current and recent content. RLTV expects this tier to grow as large as 60-75 TB. But according to company projections, if it attempted to maintain only spinning disk, it would soon require upwards of 250 TB. Thus the Quantum Scalar i500 is used for near-line tape storage in tier two.

"The Quantum Scalar i500 provides really fast recovery – within a couple of minutes," said Peebles. "That's really important to us because when we put stuff on tape, we may have to recall it again for editing or re-use."

RLTV has over 120 licensed slots and more than 600 LTO-3 tapes in its library currently. As future near-line storage needs grow, RLTV has plans to purchase a larger Quantum Scalar i2000 tape library and migrate from LTO-3 to the new generation LTO-4 tape technology.

"The combination of the Scalar library technology and LTO tape has provided us a solid and reliable platform to build a high ROI content archive," said Peebles. "When the time is right, we have a seamless migration route to manage a larger pool of near-line files and literally petabytes of archived video content."

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Importantly, when editors attempt to access files, they don’t actually know where that data resides, whether it is on disk or tape. StorNext locates the files and loads them. If it’s on the tape system, it is automatically returned to disk for ease of editing.

“StorNext makes everything flexible so our editors can go into any room in the building and be able to access, read and edit our content,” said Peebles. “We’ve got enough headroom so that even when we have all our editors working simultaneously, we’ve never had a report of a dropped frame.”

“From the editors’ point of view, it’s easy to use; it doesn’t have a lot of complexity,” continued Peebles. “From our point of view, it’s dynamic and it’s multi-layered.”

He noted further advantages. Tape enables RLTV to migrate content with ease. It provides almost infinite capacity while keeping tier one free for priority content. And it offers the lowest cost storage on the market.

In addition, not only is digital tape much cheaper than disk; it is also far less expensive than video tape. RLTV calculated that the use of digital tape instead of video tape for storage reduces costs by approximately 9x. Therefore, the company no longer uses video tape at all in its systems. Beyond minimizing expenses, this greatly reduces the time it takes to retrieve older programming.

Take the case of what is known as the “sizzle reel.” This is a five-minute compilation of some of the hottest RLTV programming from the past six months used for promoting the station and achieving broader distribution. That might mean five seconds out of one 24-minute show. Every piece of content in tier one and tier two is up for grabs for the sizzle reel.

“Retrieving content from the Scalar i500 is much faster than rummaging through a video tape library,” said Peebles. “We can compile a sizzle reel in a tiny fraction of the time it would take using a traditional video approach.”

QUANTUM HELPS AVERT DISASTER

While tier one is spinning disk and tier two is near-line tape, tier three is archived tape. The combination of StorNext and the Quantum Scalar i500 simplifies the tiering process. RLTV has structured its tape library in multiple volumes for ease of management. All administrators have to worry about, however, are standard files and folders.

Data can be placed anywhere in this multi-layered system. Content can be hidden if editors shouldn’t be accessing it or it can be placed right there so that they can bring it back for creating the next sizzle reel. Once policies are set based on how useful the data is, the system takes care of the rest.

“The whole point was to architect something that required as little maintenance as possible,” said Peebles. “We don’t want to be thinking about all of these files moving constantly. The intelligence built into StorNext takes care of that for us automatically.”

Aging files or content that hasn’t been touched in six months is cleansed from the active tape library. StorNext Storage Manager makes a copy, tracked through its vaulting feature, which is sent offsite into a secured location as archived storage. This secured vault contains archived content as well as a backup copy of everything stored on disk for disaster recovery purposes.

“I’ve worked with most of the major storage companies for about 10 years and I knew who to go to,” said Peebles. “With Quantum, I know that if I pick up the phone, there’s somebody on the other end who is going to do something about it, and they’re going to do it now.”

And RLTV had a real-life disaster to deal with recently. One Sunday, the building air conditioning system failed, and the server room temperature rose rapidly to 128 degrees Fahrenheit. Systems began to shut off and that caused a domino effect throughout the SAN. The company had to recover all its files due to this failure. The company's local VAR, Keeper Technology, arrived on site immediately to help deal with the crash and notified Quantum.

"Quantum responded immediately and they were literally logging into our systems and checking the health of things, and they helped us get through to a full recovery," said Peebles. "With the assistance of Keeper Tech and Quantum, we were up and running again with about 30 terabytes of spinning disk and 3000 hours of video."

He now regards that experience as his dress rehearsal for a big disaster recovery. He says that if disaster strikes, he knows that IT can recreate every piece of content owned by RLTV from the archive.

That event also re-affirmed Peebles' past experience with Quantum. One of the primary reasons he initially picked Quantum was the high level of enterprise support he received in the past while working at other organizations. As RLTV is a 24x7 business, support is absolutely critical to ensure nothing ever goes down. That necessitated only doing business with a vendor that understood his needs and could address them in a proactive manner.

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ABOUT RLTV

Retirement Living TV (RLTV) is the only cable network dedicated to serving the needs of adults 50+ with information and entertainment that inspires and enhances the perception of aging. The network has Emmy award-winning programming that addresses a variety of subjects and genres including health, finance, travel, reality, comedy and drama.

RLTV was launched on September 5, 2006, and is now seen in U.S. homes nationwide—and is still growing. Cable distributors and other media outlets are quickly realizing that the 50+ demographic is a vital segment of their audience. As the only network targeted solely at 50+ viewers, RLTV is perfectly positioned to serve this market.

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About Quantum

Quantum Corp. (NYSE:QTM) is the leading global storage company specializing in backup, recovery and archive. Combining focused expertise, customer-driven innovation, and platform independence, Quantum provides a comprehensive range of disk, tape, media and software solutions supported by a world-class sales and service organization. This includes the DXi™-Series, the first disk backup solutions to extend the power of data de-duplication and replication across the distributed enterprise. As a long-standing and trusted partner, the company works closely with a broad network of resellers, OEMs and other suppliers to meet customers' evolving data protection needs.