



China's CCTV-5 Optimizes Digital Broadcasting Workflow with StorNext®

With televised sports increasingly a global phenomenon, it makes sense that one of the world's largest and most sophisticated providers is China's CCTV-5. CCTV-5 is the primary outlet for broadcast athletics in the world's most populous country. It makes more than a thousand live sporting events available each year to more than 300 million viewers, as well as offering a full line-up of programming that reuses the channel's pre-recorded sports footage. The event coverage is comprehensive and worldwide, running the gamut from World Cup soccer and international figure skating championships to NBA games and the Olympics - an event which CCTV-5 will cover in 2008 from its hometown of Beijing.

CCTV-5's production and broadcasting environment is characterized by state-of-the-art, digital technology, including HDTV capability. "The combination of advanced technology and a team-oriented work approach is key to the success of our production environment at CCTV-5," explained Wanming Liu, Section Chief of CCTV-5. "In addition to offering live coverage of events, we have over 100 editors and producers who view available broadcast content, process it, edit it, and re-use it in different programs and formats."

A key to making a production system of this scale and complexity run smoothly and keeping its projects on schedule is selection of the right storage and IT infrastructure. In the case of CCTV-5, the core digital work environment is built on Fibre Channel SAN technology, 20TB of high performance RAID storage, and Quantum's® StorNext® data management software.

The two critical elements in the preparation of video content in the schedule-driven broadcast environment are performance and shared workflow - so when CCTV-5 planned its newest generation video editing system, they looked for the infrastructure that could optimize both. After evaluating the full range of commercial options, they selected Quantum's StorNext software as the system foundation.

"StorNext provides the best combination of features we found," said Liu. "It gives us high performance Fibre Channel speed, and it gives multiple editors using different applications and operating systems direct, shared access to a common set of video files. The gain in efficiency saves us time and lets us get our content ready for broadcast significantly faster than competitive approaches."

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SOLUTION OVERVIEW

- Application: Video editing and content creation for CCTV-5, China's largest sports programming channel
- Workflow Support: StorNext Data Management Software version 2.6
- Server and Storage Environment: HP xw6200 Workstation and Dell PowerEdge 2850 servers; Windows 2003, Windows XP, and RedHat Linux AS 3.0 operating systems; and DDN S2A 8500 disk arrays
- Key Applications: SobeyNet (contains modules including non-linear editing, media asset management, etc. and is made by Sobey Digital Technology Co., Ltd.)
- Integrator: Sobey Digital Technology Co., Ltd.

At CCTV-5, they use three separate StorNext-enabled storage pools to manage their digital workflow operations. The first two pools are used to store ingested content feeds from the field. A high-res pool maintains the full video quality version of the incoming footage, while a low-res pool stores proxy versions of the content that editors and producers will use for browsing and building a rough-cut of the desired footage. This rough cut will be used as a guide for modifying the high-res version of the content and crafting the final edit. This full video quality cut will be stored on the third StorNext enabled storage pool, a render pool, where visual effects, captions, sports statistics, and narration can be merged to create the on-air version which will be supplied to broadcast servers for creating programming play lists and play-out. Older files are archived to tape storage for long term retention. Common, high performance access to all the files for the editors and producers is the key to keeping productivity high and providing the fastest possible access to content.

“Not only does StorNext provide high speed access to shared files, but it presents the storage pools as a standard file system interface so all of our applications and compute platforms can share the same storage at Fibre Channel speed,” said Liu. “StorNext’s ability to let servers with direct access to the SAN provide secondary access to other workstations over our LAN using a Samba network file share service interface was also extremely important to us. It expanded the sharing of data to many more editors and increased our overall efficiency.”

The current installation is the second generation of SAN technology for CCTV, so the engineering staff knew what they needed in order to create a system that could give the right kind of support for a fast-paced production environment. Liu adds, “We knew that performance was key, that efficient file sharing over multiple platforms and user-tiers was vital, and that a robust implementation with effective controller redundancy was a requirement. StorNext gives us all of those capabilities.”

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ABOUT CCTV

CCTV-5 is China's sports channel. Originated in January 1, 1995, CCTV was the country's first sports channel and is still the country's largest. It covers all of China by satellite, and broadcasts 24 hours a day. CCTV-5 has the exclusive rights to bring top sports events to the Chinese audience. It features live broadcasts of domestic and foreign sports events, follow-up reports on hot events in sports, and contributes to the increasing popularity of everyday health and fitness activities, entertainment, sports know-how and education. As a highly specialized sports channel, CCTV-5 delivers more than 1000 live programs each year, and boasts more than 300 million viewers in China alone.

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