SUCCESS STORY

Twin Cities Public Television

The Challenge

TPT, which operates KTCA and KTCI as a duopoly, produces a weekly legislative affairs show, "Almanac: At the Capitol," as well as a variety of local productions including documentaries and concerts telecasts. One production requirement associated with "Almanac" is to record each 10 hour daily session of the Minnesota state legislature, material which producers then comb through for significant sound bites. This task was previously handled by tape. TPT also used tape to record the 90 minutes of promos distributed weekly by PBS. TPT wanted to overhaul these processes and "do more with less," says TPT Chief Technologist Bruce Jacobs.

The Solution Implemented

TPT had been recording legislative sessions for "Almanac" with Sony Digital Betacam® VTRs loaded with one-hour tapes, a process described by Jacobs as "very labor intensive."

"We had someone there every hour to change the tape, and finding a usable sound bite was tedious," he says.

While TPT was still using tape to record incoming feeds, by 2002 the broadcaster had already replaced most of its tape-to-tape editors with Apple Final Cut Pro® systems; it currently has 18 seats of the nonlinear editor. That meant taped material from the legislative sessions first had to be loaded onto Final Cut's local disk storage before it could be edited.

Jacobs knew replacing tape with a server would greatly streamline TPT's production workflow, and after evaluating several manufacturers, he selected an Omneon Spectrum system. Installation began in November 2002, and the system went fully "live" in January 2003.

"Now we have one big Omneon server that connects to all of the seats, with two terabytes of storage," says Jacobs. With TPT storing material at DV (25 Mbps) rates, the Omneon Spectrum system hold 180 hours of video. TPT also purchased Telestream's FlipFactory™ format conversion tool to connect to the Omneon Spectrum; FlipFactory converts the DV content to MPEG-2 for loading on TPT's broadcast server.

The Result

The Omneon Spectrum has greatly simplified the jobs of both producers and editors, allowing them to create high-quality local and national programs with much greater efficiency. The biggest initial benefit has been to the producers of "Almanac: At the Capitol."

"Omneon provided an application, the RecordTool, that handles the automatic recording of 15 minute clips that then are loaded into a timeline," says Jacobs. "Now when a legislator says something of interest, a producer just notes that a guy said something important at 3:12 PM, and they send an e-mail to the editor. They just load up the 3 o'clock clip and maybe the 3:15 too, load it into Final Cut Pro, then scrub it and edit that the material directly. That's also how we produce 'Capitol Update' [short daily reports on legislative news]."

While the Omneon Spectrum installation was a bit rushed due to TPT's production schedule, Jacobs said the integration went pretty smoothly. The biggest task in fact, was teaching TPT producers and editors to use the video server's flexibility in moderation, so they didn't clog the system with multiple versions of the same file.

"It gives you a lot more options," says Jacobs.

SOLUTION AT A GLANCE

Twin Cities Public Television (TPT), is a St. Paul, Minn. non-commercial broadcaster that operates two PBS stations in the Minneapolis/St. Paul market. They recently installed a two-terabyte Omneon Spectrum™ system that functions as a central production server by recording incoming local and network feeds and networking to multiple nonlinear editors. The facility is under the control of Sundance Digital's various automation, archive, and list management systems.

With this installation TPT moved to a tapeless all-digital environment and now benefits from on-line non-linear editing, desktop browse and proxy review capabilities, as well as automated ingest and playout.

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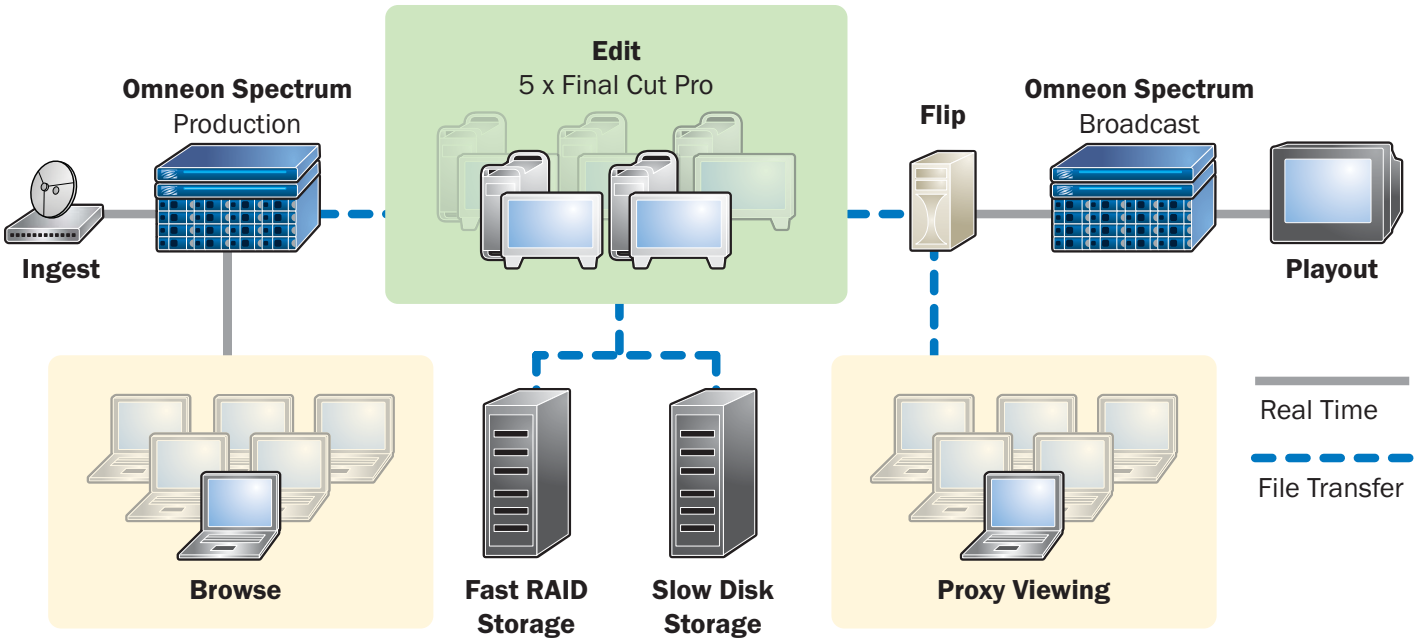


The workflow at Twin Cities Public Television now eliminates all tape transfers. This allows for functionality that wasn't possible before the switch to an all digital environment. For example, browsing of source content and the approval of final content via low-res proxies, can take place over the network and from virtually any computer on the network. The Final Cut Pro edit suites operate in a file transfer model, and allows content to be edited directly on the Omneon Spectrum server if necessary.

TPT set up business rules regarding storage on the Omneon Spectrum, and technical staffers enforce them. "A lot of times producers don't have time to check the size of a folder, or to see how much space we have on the server," Jacobs explains. "So we give them a call that it's time to clean up your shop."

TPT also employed the Omneon Spectrum to overhaul its recording and editing of network promos. PBS sends thirty minutes of promos via satellite three times a week, a process previously handled by Betacam SP tape.

"Like every PBS station, we have to locally tag PBS program promos, put in things like 'Tonight at 8 pm'," says Jacobs. "We used to record the promos from PBS three days a week. We would record them onto a tape, the producer would look at the tape, find a promo, then hand the tape to an editor in a linear suite, who would search the tape, find it again, and edit it onto another tape. Then we would take the new tape, carry it down to the broadcast server and load it into the broadcast server."

Now TPT simply schedules a promo recording into its Omneon Spectrum server. As soon as the recording is done, TPT has thirty minutes of promos on disk storage, easily accessible by each Final Cut Pro editing seat.

"Now our producers can take the computer and just double click a file to get the promo they want," says Jacobs. "When we showed them that, their mouth dropped, literally. Life is so much simpler."

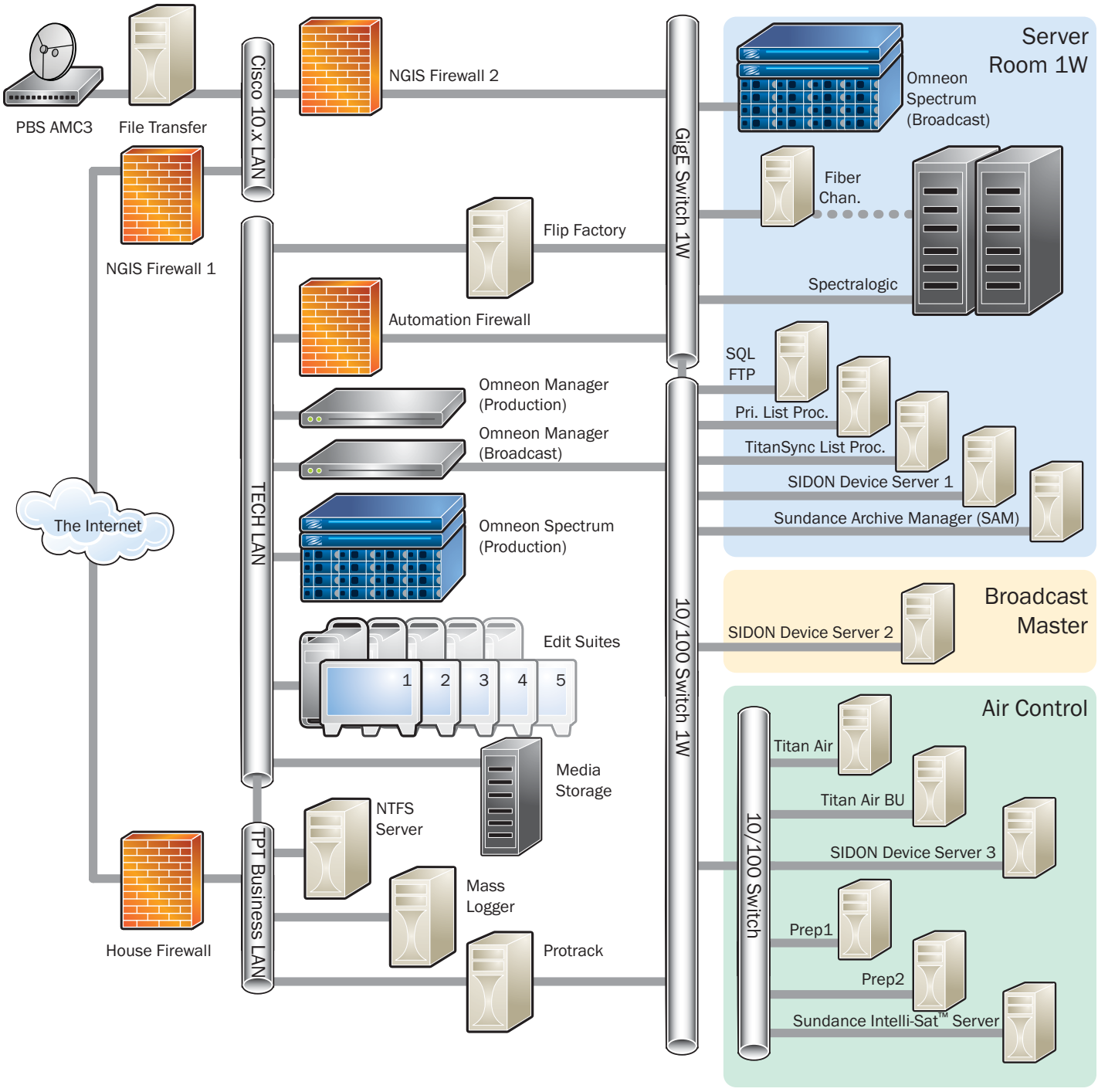
Jacobs says he initially chose the Omneon Spectrum for one major reason: file compatibility.

"The key feature that only Omneon could provide was the ability to interface to both the traditional broadcast environment for recording and the studio environment for playback, and have files that could be edited by Final Cut Pro with no translation necessary," says Jacobs. "I hadn't seen a server that could do that, and, other than Omneon, I still haven't."

Omneon's combination of price and performance also compelled TPT to buy another Omneon Spectrum to replace its current broadcast server, a SeaChange unit. The new playout system will have three terabytes of storage. At a recording rate of 10 Mbps, that equates to three hundred hours of MPEG-2 video.

TPT's move to file-based storage dovetails nicely with PBS' plan for distributing programs in the future via IP delivery over satellite, Jacobs adds.

"What PBS is heading toward is the file-based delivery of all program content, so it arrives into the server as a file, instead of being recorded as a feed."



TPT's network topology changed dramatically to support the new all digital environment. This new topology included considerations to meet security and bandwidth requirements.

Sundance Automation at TPT

The Omneon Spectrum media server system at TPT is tightly integrated and controlled by a four-channel Sundance Digital Titan™ automation system. It was selected based on TPT's requirements for a distributed and upgradable architecture.

Sundance TitanSync™ provides system redundancy by mirroring the Primary List Processor. Running in-parallel with the Primary, it automatically takes control if a user-defined number of "heart beat" interrogations are missed. TitanSync operates independently, so it will continue on-air playout from secondary decoders, regardless of a primary automation or server port failure.

Sundance Archive Manager (SAM) handles media migration between the on-air servers and Masstech controlled near-line storage. In addition, Sundance Auto Transfer and Deletion Tool (ATDT) applies user-defined rules to automatically shift content to/from the archive sub-system.

Sundance ProgramView™ uses Flip Factory by TeleStream to convert new server content into browseable low resolution proxies. These may be frame-accurately trimmed or sub-clipped at authorized user desktops. A separate Server Mapping tool senses new content "flipped" into the Omneon server from an NLE and automatically adds it to Titan's media database.

Sundance Intelli-Sat™ records long-form material to server and/or tape from schedules created electronically at the traffic or program manager's desktop. As new media is QC'd and segmented, precise timing data is instantly returned to traffic.

Sundance Digital's interface with Meyers Information Systems' Protrack allows all data to flow smoothly between the traffic and automation systems.

For additional information, please visit www.SundanceDigital.com

Smart Scalability™: Redefining Flexibility

Many server systems claim to be flexible, but when the time comes to add storage or new channels, getting what you need more than likely means exchanging hardware rather than adding to it - an expensive and disruptive process. Omneon Spectrum media servers are designed with Smart Scalability ensuring that your investment is always protected. Virtually every function of the system is independently scalable so you're never locked into a system that doesn't fit your needs. Because of Smart Scalability, your initial system configuration precisely matches your requirements, your system grows in smart manageable increments as your needs change, and you can easily add to or modify your original system as new data, audio and video formats become available. In many cases, these upgrades and additions can be performed on your system without taking it off the air.

An Open Platform for Today and Tomorrow

The Omneon Spectrum media server system leverages industry-standard formats and protocols to enable the broadest range of applications, giving broadcasters the freedom to choose best-of-breed applications for an end-to-end solution. With support for leading, well-known tools, operations staff can quickly begin to take advantage of a shared storage infrastructure.

Departments can share files at the same time and deliver content directly from storage to the target applications without having to convert formats. For some applications, media is manipulated directly on the server, eliminating the need to move large content files over the network. The Omneon Spectrum media server's open platform approach protects your investment even further by enabling broadcasters to easily add new services to an existing operation. With support for both SD and HD broadcast formats, Omneon systems allow broadcasters to deploy a media server for SD channels and add HD operations at any point in the future. HD channels can utilize an existing Omneon server and storage investment, eliminating duplicate storage costs and minimizing disruption to on-air operations. You want the most out of your investment with the least barriers and headaches - no other solution comes close.

Rock Solid Reliability

Media servers are complex and incorporate a huge number of both moving and non-moving parts-all of which are susceptible to failure. The measure of reliability for a media server is not how rarely a component fails, but rather what happens to the overall system when a component does fail. Omneon Spectrum media server systems are designed specifically to eliminate all single points of potential failure. Omneon's built-in resiliency ensures that if a component fails for any reason, the overall system continues to function.

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