

PUBLIC ACCESS ALIVE AND WELL IN ANDOVER, MA

FORWARD-THINKING PEG STATION TURNS TO IP- BASED VIDEO SYSTEM

In a year when many Public / Education / Government stations face budget cuts, the PEG station in Andover, Massachusetts has been able to expand and modernize its facilities.

Reorganized as a not for profit corporation in January, 2008, AndoverTV is upgrading its studio facilities and recently completed a switch to an IP-based production network. The system, which the station uses to transport programming from remote locations across the town, uses Andover's new fiber-optic network cable and MPEG encoders and decoders from Carpinteria, CA-based Visionary Solutions, Inc.

"From what I'm hearing," reports AndoverTV's executive director, Wess Murphy, "nobody has done this before, at least not in our region. Nobody has migrated from an analog system to an all-fiber MPEG streaming system." That migration, according to Murphy, has greatly streamlined the station's operation while eliminating the noise and interference typical of long-distance analog transmission.

REORGANIZING THE STATION

"Local access in the Northeast is a little different than in most areas of the country," says Murphy. "In the Midwest or South, people kind of accept what the cable company will give them, whereas here the towns seem to be more aggressive in negotiating favorable contracts."

In Andover, residents have also been very supportive and involved in producing programming. One local access highlight is a show called "There's Something About Andover," which offers interviews and feature stories about local issues,



AndoverTV's production studio set up for a talk show on the local access channel

produced by the town's senior center. "They have their own Mac G5 editor that we bought for them," Murphy explains. Also of note are videos produced by Andover High School's TV production class, which uses the station's studio and production gear. "Some of their videos are quite good," Murphy says.

Andover's contract with Comcast came up for renewal at the end of 2007, and both parties felt it would be better if the town took over the PEG station's operations. As Murphy and program director Sara Antonakos became AndoverTV employees, they took on a great deal more decision making authority. "I do report to a board of directors," Murphy explains, "but we're a lot more flexible. For example, it would often take weeks to get approval to replace a broken DVD recorder, but now I can just call up my guy and have one shipped." About a year ago Murphy and Andover Public Schools technology director Ray Tode began planning how to use the town's new fiber-optic backbone for video. The system, now operational, has provided

significant help in keeping AndoverTV's unusual programming within its local-station budget.



The Nexus video server and VSI encoder in AndoverTV's studio rack

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MOVING TO MPEG

Like many PEG stations, AndoverTV produces programming at meeting sites all over town, including the local high school, town hall, the library and the safety center.

"A lot of cable companies have a copper intranet, or I-Net, running through town," Murphy explains, "which they use for switching town meetings and other routine broadcasts. They'll set it up so one channel overrides another. You simply turn on your modulator when the meeting begins, and when you shut it off, it defaults back to the first channel."

The Andover PEG station ran this type of system for many years, but with the reorganization they decided they needed something better. Chris O'Brien, engineer at systems integrator Shanahan Sound & Electronics of Lowell, MA, explains. "If you're running a system like this and you have just one event overriding something static like a message board, it works fine. But it becomes a problem when you have an event in one part of town followed immediately afterward by something in another part of town." At that point the station would need to set up two independent feeds and someone in the control room would switch from one to the other manually. "Not only was it cumbersome," O'Brien notes, "but as the system aged and with these locations as much as 10 miles apart, there was a noticeable breakdown of the signal."

"Our idea with AndoverTV," Murphy explains, "was to leverage the new fiber-optic IP network to transport all of our programming instead of using the old copper system."

Murphy says they actually have enough bandwidth to transmit full-frame video without compression, but they went to MPEG encoding to preserve capacity for the town's many other network needs. The station purchased five AVN210 encoders and five AmiNET110H decoders from Visionary Solutions, permanently installing four encoders at meeting locations from which they regularly broadcast and one at the town clerk's office for a government-access bulletin board.

The station and its video feeds are organized in a hub and spoke configuration. Incoming

signals from the five encoders are decoded at the hub, then routed as analog video and audio to Comcast and Verizon over copper cable. A Leightonix NET164 video router automatically handles all of the switching, making sure remote feeds are received as needed and that the correct programming goes out on each channel for broadcast.

Murphy uses a sixth encoder, an AVN220, to transport programming for the public channel from his studio to the hub. A Leightonix Nexus video server handles all prerecorded materials.

"We ingest DVDs, VHS, DV tape and whatever else up into the server, and it records those as MPEG-2 files," Murphy explains. "We no longer run tape or DVD for playback: it's all on a hard drive now."

An added benefit of the Visionary Solutions encoders is that they were cost-efficient enough to be installed permanently at each location—along with Panasonic robotic cameras, microphones, and an equipment rack with the necessary switchers and mixers. Using installed systems has allowed the station to hire and train students from Andover High School's broadcast video program to serve as camera operators and technicians. A student technician can simply walk in, power up the system and begin the broadcast.

HIGH PERFORMANCE

Murphy reports that the transition to the MPEG system was surprisingly smooth. "I had one vendor who didn't want to touch it, because they knew how involved it could get, but it went well." He says that Shanahan Sound had not worked with this type of system before, but they got it up and running quickly. Steve Valenti, president of Peabody, MA-based F.M. Valenti, Inc., a manufacturer's representative for broadcast video equipment,



Technician Brian Josselyn at the controls in the Selectmen's chamber at town hall

suggests that for best results, station managers need to match the bandwidth of the video encoders to the type of programming they'll be carrying.

Valenti explains that for his meeting room feeds, Murphy chose Visionary's AVN210, running at 7.5 megabits per second. But for the pipe carrying the studio feeds, he went with an AVN220, because he could operate it at 15 megabits. "7.5 is great for a meeting or a talking head," says Valenti, "but if you will be encoding images with a lot of motion, say a sports event or an action movie, a 15 megabit system is worth considering."

"I love the product," Murphy reports. "It's been very reliable and very simple to set up. The image quality is definitely there."

With the remote sites and transport system taken care of, Murphy is looking to upgrade his studio setup next. "We're going to go to a glassless control room with all of our programs and previews on large flat-panel displays," he says. It's a great position to be in. While many PEG stations are dealing with budget cuts, AndoverTV is looking at a bright future indeed.



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May 2011, revision 1.0.2