



## **Hartford Public Access, a case study in transitioning to 100% digital file-based playback.**

How does a PEG access facility that serves Connecticut's 3<sup>rd</sup> largest city with Public, Educational and Government access programming convert to 100% digital file based playback in just 30 days? In short, by deciding that is what it wants to do.

Hartford Public Access Television (HPATV) delivers all of the access programming for Hartford, CT, the state's third largest city. The station delivers three channels of programming 24 hours a day, seven days a week, and only 8 hours a day is message-board, and that programming is mainly delivered overnight. On just the Public Access side, they receive at least 70 new programs each week from a variety of access producers. And yet they do this with a staff of just 3 full time employees, and 1 part time employee.

Stan McCauley, Executive Director at Hartford Public Access Television, and the architect of their digital transition, had a goal of moving to 100% file-based playout for the efficiency it would provide and for the professionalism it would afford. He chose a Princeton Server Group B1400 video server as the backbone of their digital transition for the feature set it offered, and for its reliability and storage capacity. He shared Princeton Server Groups vision of using digital technology to achieve a level of automation and professionalism that only a few years ago would cost several hundred thousands of dollars, and he was able to achieve this vision for an investment of around \$20,000. He also had a vision and plan for reorganizing his station's operations to enable it to complete this total transition in just 30 days.



**Figure 1: HPATV Executive Director, Stan McCauley**

“We basically just told everyone that within 30 days they needed to start bringing us MPEG2 digital video files”, says Stan. “We did this by announcing it in our newsletter, and by holding a meeting explaining the new process. There was naturally a lot of grumbling, but within 2 weeks, most of the producers were bringing us digital files. A large number of the producers were thankful that we eliminated tape from the process as it actually saved them an extra step. Some were thankful that they had finally been pushed into the digital age. For those that could not bring us digital files, we set up an encode station that allows them to encode from SVHS, ¾” and DV, and we taught them how to encode. In essence, we made it the last step of the editing process.”

The encode station is a Princeton Server Group C500W encoding workstation with a hardware encoder as well as several software transcoding tools. The system is set up to save newly encoded content directly to the Windows desktop, and once the video encoding is finished, the programming coordinator can drag it across the network and right into the content folder of the PSG B1400 video server.



**Figure 2: HPATV Ingest Stations, Tape on Left, Digital Media on Right**

Right next to the video encoding station is the digital file-based transfer station. It is here where access producers that produce and edit digitally bring their finished projects to transfer them into the system by saving them to the Windows desktop of a laptop computer. The laptop is equipped with both USB2 and Firewire connections, and there is a portable DVD drive that is also available for file transfer. The producers can bring in their content on a Flash Drive, a jump drive, a portable hard drive, a DVD data disk, or on a DVD. For all but the DVD's, content is literally just dragged onto the desktop. For DVD's, the station makes use of Princeton Server Group's DVD ingest utility which automatically analyzes the DVD, combines VOB files, fixes time-stamp errors, and places the content onto the desktop or server. As it is put on the server, much of the metadata is automatically entered by the application. Running time, Bit rate, file type and size and other physical characteristics automatically become part of the content record. At this point, HPATV staff simply adds the program title, episode, category, and keywords (the application will also search by keyword), and the program is ready to schedule.



**Figure 3: HPATV Ingest Station 2, Primarily Digital Files and DVD's**

“At first, most of the producers were bringing their content in on DVD’s or Data DVD’s”, said Stan,” but they eventually realized that it takes about 5 minutes to transfer their content over from a DVD, but only a minute or two if they used a flash drive or portable hard drive.”

During this 2-minute period, the producers fill out a “Program Drop-Off Form” which identifies the program by filename, producer, program title, and drop off “location” which is either Computer 1 or Computer 2. They also fill out other programming information such as program length and countdown information, and then they leave the form on the desk of the programming coordinator who later matches the file with the form as they add the content into the servers programming database. The process is completely analogous to dropping off a tape, except that the producer leaves with their media after they have transferred the file and filled out the form. According to Stan, with a portable hard drive or flash drive, they are literally done with the transfer in the minute or two it takes to fill out the form. And for the access producer, there is a significant cost savings by not using videotape. Operationally, if a show is scheduled to air on Tuesday, it needs to be in the office by Monday at 3PM. If it airs on Monday, it needs to be in by

Friday at 3PM since they don’t man the playout facility over the weekends, the server takes care of that. According to Stan, “In an entire year we only needed to play back from tape once, it was something we really wanted to play that came in on tape at the last minute. Other than that, for 365 days we have been entirely tape free. ”



**Figure 4: Government Access Coordinator Helder Gomes Mira is scheduling PSG B1400 Server from his desktop computer**

HPATV has of course adopted digital workflow for content produced within the facility. Their primary editing room is outfitted with six laptops all running Ulead Media Studio Pro 7 editing software. Ulead does a great job editing both DV content as well as MPEG-2 files and was a good choice. It also renders a file edited in DV quickly, efficiently and accurately to MPEG-2, so anything edited in house can be quickly transferred to the server. Currently, HPATV has ten portable hard drives that they issue to access producers for editing sessions. The hard drives plug into the USB port on the laptops, so no content needs to be stored on the computer, although managing content on the hard drives takes some effort. In order to simplify the process further, they have recently purchased an S3000F Archive server from Princeton Server Group and are going to put it on the network so that all content can be stored on the Archive server, and the portable hard drives will no longer be needed.

HPATV also produces three live programs each day, which they repeat either later in the day, or on the following day. They have recently decided to purchase an integrated encoder for their B1400 video server, which will enable them to schedule the encoding of the program, and add all of the content information prior to the program capture. The B1400 automation software also controls their AV routing switcher so the program can be sent to air as well as to the encoder. As everything operates from the same user interface, and is accessed from a web browser, they can also operate their server, encoder and switcher from any location with an Internet connection.



**Figure 5: Believe it or not, this is HPATV's complete 4-channel playback facility after converting to full digital playout**

For their last component of digital workflow, HPATV also uses their laptops equipped with Ulead software to capture field productions directly in the MPEG-2 format. All of their cameras as well as their field switching equipment output Digital Video (DV). In order to save time and improve efficiency, HPATV brings their laptops into the field and ingests the DV through the firewire connection from the camera or switcher directly into the laptop. The Ulead software converts the DV on the fly in real time directly to MPEG-2. When they get back to the studio, the program is ready to play immediately, or if they wish, they can use the same software to trim or add titles before they go to air.



**Figure 6: Senior Programming Coordinator Nyesha Smith**

Going completely digital has improved the operations at HPATV in many ways, but according to Senior Program Coordinator Nyesha Smith, the increase in overall quality has been the most profound improvement. “We look just like a broadcast station now”, she said. “We have seamless transitions from program to program, and we can also now

program promo's and PSA's between all of the shows in a consistent way", she said. "We no longer have to put tapes into the machines, we just drag the file onto the schedule. Now everyone's show airs on time, and we don't have to constantly run across the facility to master control to make sure a tape starts on time; we can stay and help the producers in the edit suite."

Adds Stan; "You turn the server on, put the files in, and it works. That's the best thing about it".



Princeton Server Group, Inc  
501 Forrestal Road  
Princeton, NJ 08540

Tele: (609) 720-1766  
Toll Free: (888) PSG-MPEG

Copyright 2006