

Making the Most of IT

Broadcasters, producers take advantage of advances

by Craig Johnston

SEATTLE

A TV Rip Van Winkle who awoke in the technical space of a recently rebuilt broadcast station today, after 20 years asleep, would be in for a shock.

"Your broadcast infrastructure is rapidly evolving into a robust IT infrastructure," said Steve Hellmuth, senior vice president, technology and operations at NBA Entertainment.

Whether it's a network like Hellmuth's NBA TV or a local affiliate, old Rip would find the modern broadcast facility is an information technology plant that happens to specialize in video. The advantages of IT are just too good to pass up.

KLRT

"We looked at it along the lines of, 'if we could make machines do the majority of the work, that was our approach,'" said Errett Porter, director of engineering at Little Rock's KLRT (Fox). The station built its news operations around Video Technics NewsFlow and AP's ENPS computerized newsroom.

Porter said he and his predecessor have eliminated the need for humans to move video materials from place to place. "We're trying to touch it as few times with a human as possible." One step that makes that possible is establishing an ID to follow the video through the entire news process.

"When [the producer] gets their rundown set for the day, an associate producer will then go in and drop in a clip request," he said. "It assigns an ID for that story so that when an editor or another producer or the news director, whoever, looks at that rundown, it shows that the clip has already been requested."

When the story comes in from the field on



The KLRT satellite truck uses VideoTechnics' NewsFlow

DVCPRO or DV tape, it is ingested at one of the NewsFlow edit stations, using the pre-assigned story ID to index it. If time allows, the reporter can rough-cut, or at least log the material, at his or her desktop in low-resolution video.

If it's a race to get the video on the air, "they will go into the edit suite and look over everything, and then do the cut there," said Porter. KLRT has five NewsFlow edit stations in the building, and a sixth in its MicroSat van. With the van parked at the station, it can be connected to the network-attached storage via CAT 6.

"We've got 6 terabytes of storage spaced across four NAS boxes," said Porter. The edit bays are split among three of the NAS boxes, "to try to keep the traffic broken down to where, if we hit a crunch, and there's a bunch of late-breaking stories, we don't have all the edit suites pushing to the same box."

When editing is finished, the video is

pushed to a VideoTechnics Apella Clip Server, which interfaces with ENPS to put the stories in show order.

Material on the servers is archived onto DVD after a week.

Porter gives the system high marks for learn-ability. "Once you've been taught, you're looking at the system saying 'It's incredible how much this system actually does for me.'"

TWIN CITIES PUBLIC TV

Public stations need to keep track of a lot more video program material than at their commercial brethren because many of the programs come with three-year licenses, said Bruce Jacobs, chief technologist at Twin Cities Public Television.

That goes doubly so for TPT due to its duopoly operation, broadcasting on Channels 2 and 17 in the Twin Cities. Jacobs said the library is typically about 10,000 hours of material. "We get full utilization of that [long

license] investment only if we use the programs, and the only way we can use them is if we keep them.”

TPT installed Sundance Digital's Titan multichannel automation system, putting the operator console in one of the former side-by-side Master Control rooms and turning the other into an ingest room with dual-prep stations.

For reliability, both the Omneon video server and automation system sport a primary and backup; the Masstech nearline storage has redundant power supplies as well as RAID controllers and drives.

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—Steve Hellmuth, NBA

Jacobs said a key to the system is the information sharing between the ProTrack traffic system from Myers Information Systems and the Sundance automation. “One of the things that attracted us to both ProTrack and Sundance is that they talk to each other quite nicely.”

A Sundance Intelli-Sat Broadcast Record Manager system controls satellite feeds scheduled by ProTrack, and the metadata accompanying downlinked material is fed into ProTrack. The video material is transcoded by a Telestream FlipFactory and passed into storage.

Locally produced material has metadata derived from the original work order. ProTrack relays the metadata from both external and local productions to the Titan automation system.

Operators check to see the actual program

timing matches the metadata, and any corrections are relayed by the Titan back to ProTrack, which also keeps track of a program's license expiration date, and tells the Titan when to delete material from storage.

A Web interface allows all material in the archive to be viewed by anyone with appropriate permission.

As for programming that's been sitting on the shelf on videotape, when its next run approaches, ProTrack prompts the Titan to order it ingested into digital form.

The IT-based system has allowed TPT to realize real savings, reducing manpower by three staff positions.

NBA ENTERTAINMENT

“We really look at ourselves as one kind of large unit working together, IT and broadcast engineering,” said NBA Entertainment's Hellmuth. “We also look at ourselves as being very, very data-driven and organized with data.”

The data he referred to begins with statistics entered at each NBA arena as a league game is played. A statistician might record a jump shot by a particular player as a three-pointer and the X, Y and Z location where he took the shot. The same timecode generator coding the feed leaving the arena also times-tamps each statistical entry.

Video feeds of all NBA games being played are received at the NBA Entertainment studios in Secaucus, N.J., along with the statistical data string. The video material is ingested into Grass Valley Profile servers, and the statistics are annotated by loggers on Virage logging stations.

The logger tightens up in- and out-points for plays on the video, adds color information (“Iverson pumps arm”) and rates the play for entertainment value. “Now we have video on servers, indexed with statistics, available for editors in our nonlinear editing environment,” said Keith Horstman, director of NBA Entertainment IT.

NBA Entertainment actually has two editing environments. One is the Grass Valley Vibrant system for quick, news-style editing. While games are under way, the facility provides new, fresh highlight packages

every 15 minutes.

The other editing platform, reserved for higher-end, craft editing is a Pinnacle edit system on an SGI platform. All the indexed video, including nongame material, is available to both systems.

The facility is designing a deep digital archive for past games footage, but currently records all games to digital Betacam tape. Location of the material on those tapes is added to the logging information so historical video can easily be retrieved.



An NBA Entertainment server facility

In addition to video material provided to the NBA TV channel, NBA Entertainment operates its own VOD service, and it pushes video highlights out to cell phones and over the Web.

“It's one of the fun things about working here at the NBA,” said Horstman. “When we do development on our statistical tools, the development we do on our Web site is immediately extensible to the broadcasts, and it shows up in the broadcasts and in our NBA ticker that you see at the bottom of our TV channel.”

So IT is rapidly becoming the name of the game in a broadcast plant—witness KLRT Director of Engineering Errett Porter's career path. Prior to his current position, he said, “I was the IT guy.” ■