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Backhauling News Stories Via IP

New compression technologies offer alternative to microwave

SEATTLE

by Craig Johnston

Getting the news story back to the station or network in the days of newsfilm meant shipping the unprocessed film cans in onion bags by air express. Since those days, TV news operations have unleashed the power of microwave and satellite transmissions to get the story back and on the air instantaneously.

These solutions can require expensive hardware, expensive dedicated vehicles and aircraft, and fees for using satellite transponders or other signal paths.

Going to that expense may be necessary for live insertions in a newscast, but as the Internet, private networks and higher bandwidth cellular phone services abound, there are some "near real-time" ways of getting audio and video material back to base.

IOWA TESTING

Telestream, Inc. will be introducing its MAPone technology at NAB in a few weeks with just that TV news application in mind. Houston ABC affiliate KTRK-TV has done some Beta testing for Telestream, taking the equipment to the recent Iowa Caucuses.

"It worked fairly well for us," said KTRK News Operations Manager Phil Grant. The news team had a Grass Valley Vibrint laptop editor to prepare the packages, and had intended to use WiFi wireless connectivity to send the material back.

"We had a difficult time doing anything via WiFi," said Grant. "So everything we did with by a LAN connection."

While Telestream's MAPone system, feeding through a standard broadband connection, does not transfer audio and video in real time, it does hit the initial target the company set.

"We've set 10 minutes as a benchmark for a minute clip: to transcode, transmit, take that and 'flip' and deliver," said Telestream CEO Dan Castles. "It could go on-air in 10 minutes from the time you are ready to send it."

Sending ENG material can be just a coffeebreak away.

It is possible to edit a package in its native format, save the file to disk, and send it as a massive attachment in an e-mail. But the size of that file will not allow it to come anywhere close to achieving Telestream's speed.

"What MAPone does, is it takes a native file, whether it's DV, MPEG or whatever, and compresses it into a format that can be easily transported across a lossy network, or any IP network that is easily accessible, including wireless," said Bill Harris, Telestream Product Marketing Manager.

Telestream chose Microsoft's Windows Media 9 as the transport format, "because it compresses very, very well," said Harris. "So you can go down to two or three megabits per second and still retain quality across the network."

Users can choose how much to compress the audio/video content before feeding it. If they're in a hurry to get the story on the air, it can be compressed more tightly with some loss of quality. Working with a more comfortable deadline can allow use of less compression with a resultant better video quality.

Those compression/quality settings can be configured by a station's engineering staff, along with the native format of the audio/video package and its ultimate destination on the network, to make it more user-friendly in the field.

"We put some engineering into it so that if a connection fails, you can pick up where you left off, and we've improved the

transmission performance over a lossy network connection with a long round-trip delay" said Harris. That technology is called HyperMAP, which will be introduced at NAB as well.

TRANSCODING

Transcoding the audio/video material to WM9 and feeding it along the Internet are actually two different processes, but only a small amount of the news package needs to be transcoded before feeding can begin. (If the package is sent via FTP, it is necessary for the entire package to be transcoded and saved as a file before it can be fed.)

The material is received at the station by a Telestream FlipFactory News, where it is transcoded from WM9 to whatever format the station uses to play it to air. (The FlipFactory News supports multiple ingest sources commonly found at news facilities, including news subscription servers from Pathfire, BitCentral, etc.)

In the case of KTRK, the station has the FlipFactory News hooked to a computer to store the material on a hard drive, where it can then be dubbed to BetaSP videotape for play-to-air.

The station is ready to do another test with MAPone, this time taking it to Israel. In addition to the convenience and cost savings in not having to go to a satellite uplink to feed material back to Houston, Grant sees another advantage of feeding over the Internet with the system.

"In this case we're going to be halfway around the world, and it will make it a lot easier as far as our time constraints are concerned," he said. If the news crew wants to feed at two in the morning, Texas time, he won't have to keep an employee at the station to take the feed.

The use of WiFi connections to feed news stories via the Internet will likely grow as WiFi hotspots (locations with WiFi connectivity is available) become more available.

However, WiFi is a moveable feast as to the data speed. In a test at a Starbucks in downtown Seattle, Telestream's representatives were able to connect at around 500 kbps. As the faster 802.11g standard replaces the widespread 802.11b, that transfer speed can jump.

And a recently approved new wireless standard, 802.16, also known as WiMax, promises a much wider footprint of service from an antenna location. Be warned: it is likely to be years in its infrastructure rollout. ■

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