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Customer Case Study

International broadcaster gives 22,000 hours of programming a new lease on life

Turner Broadcasting System, Inc. is able to convert obsolete Pinnacle files for use on new Omneon playout servers using AmberFin iCR

Executive Summary

Customer: Turner Broadcasting System, Inc. (TBS, Inc)

Sector: Television Broadcast

Location: Atlanta, Georgia, United States

Size (number of employees): 9,000 worldwide

Business opportunity

- Saving money and time by converting broadcast playout to work on different server brands

Solution

- AmberFin iCR Repurposing Application

Results

- Approximately 22,000 hours of programming saved from obsolescence
- Useful lifespan of valuable media servers extended
- Improved capacity to transfer files between global hubs

Marketplace

Turner Broadcasting System, Inc. (TBS, Inc.), a Time Warner company, creates and programs branded news, entertainment, animation and young adult media environments on television and other platforms for consumers around the world.

Many are familiar with TBS's groundbreaking network, CNN, one of the world's most respected and trusted sources for news and information. TBS is also home to familiar entertainment networks such as TBS, TNT, Cartoon Network, Turner Classic Movies, and truTV (formerly known as Court TV).

Like many players in the broadcast industry, TBS operates in a market where traditional revenues from advertising are declining because of a shift in ad spend from broadcast to online platforms. As a result, the company is keen to maximize the return on its content and broadcast technology assets, whilst at the same time minimizing manpower investment.

Business challenge

TBS controls the playout for all its U.S. channels from its Atlanta, Georgia, headquarters. Starting in 1997, it began investing in Pinnacle MediaStream servers, one of the leading digital media platforms at the time, for all ingest and playout operations.

By 2003, TBS had established a robust, efficient workflow in which all promotional and commercial content for its channels would be ingested by one of six Pinnacle ingest servers, then quality controlled and stored in Pinnacle file format on an EMC AVALONidm-based broadcast inventory manager (BIM). Content on the BIM would then be called up for insertion into programming being played out on TBS's different channels by air servers. There were 16 air servers in total, all Pinnacle MediaStream units, arranged in pods of two

servers (for redundancy) and a Pro-Bel automation system per channel. Content was ingested directly from tapes loaded on a Sony FLEXICART playback system. In addition, once content played out on the air servers, it was cached and sent back to the BIM for storage in Pinnacle file format, a process TBS refers to as 'scavenging'.

All was well until 2005, when Pinnacle was bought by Avid Technology Inc. Avid announced it would be ending MediaStream production in 2008.

This was a cause for concern at TBS. It was apparent the broadcaster would need to switch to an alternative server vendor at some point. As John Morgan, TBS's senior manager of Broadcast IT says: "At that point we were concerned over the longevity of the MediaStream product."

However, parts of the Pinnacle file standard were proprietary and could not be guaranteed to work on a different platform. And by this stage TBS had a significant amount of valuable content on the BIM, so leaving it to go to waste as the Pinnacle servers became obsolete was not really an option.

Solution

As a replacement for Pinnacle MediaStream, Morgan considered servers based on a Windows operating system, "but we didn't want to risk it with our air servers," he says. Instead he settled on the Spectrum media server system from Omneon Video Networks, which had been deployed at the company's Buenos Aires and London playout centers in late 2005.

The first Omneon servers for the Atlanta center were ordered early in 2006. But even before then, Morgan had started speaking to Bruce Devlin, vice president of engineering at AmberFin®, about the possibility of using AmberFin's iCR content repurposing engine

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as a way of allowing the two server models to share files.

Converting the video part of a Pinnacle file for use on Omneon systems is fairly straightforward, it turns out. Audio and metadata, however, was another matter. In fact, no transcoding vendor could claim to be able to carry out a flawless conversion.

"A number of other vendors produce transcoding engines which are multi-format and very successful", says Morgan of Turner Broadcasting. "We wanted to create a fast, high quality re-wrap with more attention to detail, repurposing from Omneon to Pinnacle as well as the other way around. There are a number of intricacies in the files that need to be taken into consideration in order to do this."

In addition, TBS wanted to be able to carry out the repurposing without any extra time or bandwidth, meaning AmberFin iCR would have to convert files on the fly three times faster than real-time.

AmberFin solved the problem by using a constrained application specification of the open-source Material eXchange Format (MXF) file wrapper, called MXF AS02. This specification is acceptable to the Omneon platform and allows a flawless conversion of Pinnacle video, audio and metadata into Omneon-compatible files, and vice-versa.



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AmberFin iCR's advanced automation features, such as its ability to run specified repurposing profiles on demand, meant it was easy to build the transcoding process into an automated workflow.

Results

Morgan estimates that TBS has approximately 145,000 files of long-format (program) material and about 62,000 commercials and promos, totaling more than 200,000 files in the Pinnacle format, with a combined running time of around 22,000 hours. "If we had not been able to convert the content then we would have had to have started re-ingesting it all from scratch," he says.

Just for the short-format (commercial and promo) files, Morgan calculates that full re-ingestion would have required 7,000 hours, because of the time taken to get tapes, quality control ingests and so on. The long-format material is proportionately less labor-intensive "but would still have been a significant amount of work," he says.

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As well as saving time and money, the iCR repurposing process results in a server-agnostic file format which can not only be used indiscriminately across Pinnacle and Omneon platforms, but will also overcome incompatibilities between different Pinnacle releases, which had previously prevented the Atlanta hub from sharing content with other TBS playout centers.

"I'm very happy with the way things have turned out," says Morgan. "It's a partnership and a work in progress. We're able to have conversations at very high level within AmberFin and one of the things that has been key is a weekly conference call with Bruce Devlin where we look at open issues and assign priorities to them.

"We do have occasional failures, where a file will not re-wrap, and AmberFin has been very responsive. We send it to them and they do further development work to correct the problem. I'm very satisfied."

Technical blueprint

In its original setup, TBS had had the BIM transferring files to Pinnacle air servers via a file transfer protocol (FTP), and the broadcaster wanted to retain this process with AmberFin iCR. As a result, the iCR is integrated with an FTP server and when iCR receives a new file, it notifies the AVALONidm BIM before commencing the transcode, then again once the process is complete. In this way the BIM knows when a file transcode has started and finished, so it can be sure a particular file is really available and not just waiting to be re-wrapped. The whole process is automated using a Pro-Bel Morpheus Automation System.

Bruce Devlin of AmberFin summarizes: "The challenge of converting Pinnacle files to other servers is being faced by a large number of major content owners. By employing the MXF format to "wrap" the content, AmberFin iCR is taking the industry one step closer to being able to playout any content in any format on any server you choose to employ."

AmberFin iCR is currently the only system in the world which can be used for flawless repurposing of Pinnacle MediaStream files for play-out indiscriminately on MediaStream and Omneon Spectrum media servers.