

Scripps Networks - Case Study



Overview

Design Goals

- Replace end-of-life cycle automation and archive system with a new proven system from technology leaders.
- Features desired in new archive system included:
 - Strong media content management component.
 - Seamless integration among the new automation and video servers and existing digital tape storage library.
 - Integration with Avid Unity.
 - Proxy ingest.
 - Open API.
 - A strong workflow component.

The Solution

- MassStore system, an end-to-end advanced nearline, archive and content management solution for professional broadcast environments.
- MassProxy transcode engine for converting MPEG-2 files to MPEG-4 or Windows Media 9 files.
- MassBrowse to view video and audio assets on a networked computer; perform and preview an assemblage of media assets using MPEG4/WM9 proxies as a cuts-based editor; and write and save an Edit Decision List (EDL) in file formats suitable for other programs.
- MassMediaBox, an end-to-end satellite delivery processing solution to automatically deliver to the air server; content received by digital service satellite distribution networks.

About Scripps Networks

The E. W. Scripps Company is a diverse media concern with interests in national lifestyle television networks, newspaper publishing, broadcast television, interactive media, and licensing and syndication. Scripps Networks consists of the company's growing portfolio of popular lifestyle television networks which brands include HGTV, Food Network, DIY Network, FINE LIVING and GAC (Great American Country).

Launched in 1994, HGTV reaches about 89 million U.S. television households. Food Network can be seen in about 88 million households and Scripps Networks programming can also be seen in more than 115 countries. In addition, Scripps Networks operates web sites that include HGTV.com, FoodNetwork.com, DIYNetwork.com, FINELIVING.com and GACTV.com.

Scripps Networks is no stranger to the digital workflow, having embraced video servers, automation and archiving systems almost since its inception. The parent E. W. Scripps Company itself has also been an innovator in applying content management within the organization.

From its Knoxville, TN network operations center, Scripps Networks originates seven SD feeds (HGTV east and west coast, Food Network east and west coast, DIY Network, FINE LIVING, and GAC). On March 31, 2006, it launched its first HDTV network-HGTV-HD. The subsequent launch of the Food Network-HD launch on June 30, 2006 brought the total number of channels up to nine.



The Benefits

- Seamless integration of MassStore with OmniBus Systems automation and Omneon video servers and existing StorageTek Powderhorn archive digital tape library.
- Users need only one user interface (OmniBus) for all of their normal day-to-day operations whether automation, video server, or content management related, an aid to a more efficient workflow.
- Users can easily search and find needed files more quickly and accurately.
- When needed for engineering or administration functions, the MassStore user interface allows easy monitoring of all aspects of the archive system, down to the details of what's on each data tape, a feature that Scripps Networks didn't have before.
- The location of content in the Omneon servers and cache can also be easily tracked.
- With the new system, Scripps Networks was able to advance to industry standard MPEG-2 digital file format, ultimately replacing a more outdated file structure.

An Opportunity to Upgrade Media Lifecycle Management, Automation, and Video Servers

The impending launch of the HDTV channels, along with the original systems about to reach the end of their life cycles, afforded Scripps Networks the opportunity to investigate new technologies as well as the new players in this arena. The company was searching for a proven system, one that was already successfully implemented and functioning in other facilities.

Scripps Networks was impressed with the good pairing of OmniBus Systems automation and Omneon video file servers, and for content management, how well the Masstech Group MassStore System seamlessly integrated with the other two. In addition, Masstech Group, as a gold-certified level partner with StorageTek would have no trouble interfacing with Scripps Networks' existing StorageTek PowderHorn 9310 digital tape library, which the company retained as the archive for the new system.

John Ajamie, Senior Vice President Broadcast Operations and Maintenance Engineering, Scripps Networks, noted that the MassStore system offered more than hierarchical storage management, another factor in its favor. Other MassStore key features that appealed to Ajamie were integration with Avid Unity, proxy generation at ingest, and the open API. According to Ajamie, "MassStore has a strong workflow component. We felt it was really compelling."

The MassStore system as delivered to Scripps Networks includes these features:

- Practical content management application complete with web based client software for database interaction and proxy viewing.
- Interface to Omneon Broadcast video servers, connected by a multiple Gigabit Ethernet connections.
- Interface to the OmniBus Systems series Broadcast Automation System which directs asset movement between the video servers and MassStore, based on air-time requirements.
- Interface and management for the StorageTek PowderHorn 9310 tape library (archive) using StorageTek 9940B digital tape drives, connected with Fibre Channel.
- Interface to an IBM DS4100 disk storage array, Raid 5 with 3.5 TBytes (cache).
- MassProxy transcode engine for converting MPEG-2 files to MPEG-4 or Windows Media 9 files.
- Proxy browsing with MassBrowse.
- MassMediaBox, an end-to-end satellite delivery processing solution to automatically deliver to the air server, content received by satellite distribution networks.

Ascent Media was the prime consultant on the project.



"We're able to search and pinpoint files that we are looking for more accurately."

John Ajamie, Senior Vice President
Broadcast Operations and Maintenance
Engineering, Scripps Networks

Workflow-MassStore Seamlessly Interfaces with OmniBus, Omneon, and Storage Tek

Scripps Networks obtains programs on digital Betacam for SD or HDCAM for HD. The tapes are delivered to the duplication department which is responsible for ingesting the content from tape into the Omneon video file server dedicated to ingest. Content is ingested as MPEG-2 with separate AIFF audio.

The content also receives a quality control (QC) check to ensure that it meets Scripps Networks' high technical standards. If approved, the content gets archived, and if not it is sent back to the producer.

Operators perform all ingesting, archiving and restoring of content to the air servers via the OmniBus user interface. The MassStore content management system and the OmniBus automation system maintain a communication dialogue through the MassStore XML interface. MassStore effortlessly performs its tasks in the background, due to the tight integration between OmniBus, Omneon, StorageTek, and the other components in the system.

This is a major step forward in operational efficiency for the Scripps Networks since its older archive system did not provide this kind of seamless integration with the former automation system, forcing the operator to access two different user interfaces to perform their tasks. And even then, they did not have the high level of detail now provided by the MassStore system.

MassStore monitors all content ingested to and deleted from the Omneon ingest server as well as the two play-to-air servers, cache storage and the data tape library, and maintains an accurate inventory of all such content and its physical location. This information provides an accurate picture of the location of all assets in the network environment.

When archiving material, the MassStore system waits for XML commands from OmniBus to indicate which items to copy into nearline/archive storage. Upon direction from the Omnibus TransMMP command to archive content, MassStore copies content from the source server to the MassStore system. The StorageTek PowderHorn 9310 digital tape library is the repository for long-term storage of digital assets. Transfers in and out of the data tape library are buffered in the IBM DS4100 internal cache.

Once material is stored in the archive, it remains there until needed for air. Scripps Networks employs two Omneon video servers for the on-air playout for all of the networks' channels. Server A is the main, Server B is the backup, and the ingest server provides a third level of backup should the first two fail.

The Omnibus master control system maintains a relationship with the networks' traffic system and produces necessary playlists, reports and logs. When a program is required for the on-air servers, the OmniBus automation system makes a request to access content to MassStore. MassStore then automatically locates and moves content from the data tape library or cache storage to the on-air video servers.

While the intuitive web-based MassStore user interface isn't needed on a day-to-day basis, it is available when Scripps Networks wants to go deeper into the system, like for system administration and for troubleshooting. Engineers can easily see what files are on each data tape, how much storage is available, which tapes are full, manage media within the archive, and move media around more elegantly than they ever could before with their old system.

MassProxy and MassBrowse Allows Desktop Access of Stored Content

Everything that is ingested is transcoded to a proxy file through MassProxy. The MassProxy transcode engine produces frame-accurate, low bitrate, MPEG-4 or Windows Media9 (WM9), audio/video files from original high resolution Omneon MPEG-2 files in the cache and makes them accessible across a network with no special client software required. Transcoding of content to be archived is performed automatically by MassStore as soon as content is copied to the cache.

Currently the proxy is used solely within broadcast operations, but soon producers will also have desktop access to proxy material to review programs after they passed the technical QC tests.

MassBrowse is the application that allows users to access and view video and audio assets on a networked computer. The MassBrowse client provides a user-friendly interface with full metadata support and an advanced hardware jog/shuttle panel for editor control. It can also perform and preview cuts-only edits, and write and save edit decision lists (EDLs) in file formats suitable for other programs, like full-featured editors.

Metadata includes house ID number, description, duration, start of message, end of message, closed captioning, what Ajamie considers the basics for now. The ultimate goal is to incorporate the proxies into a larger enterprise-wide digital content management system, and Ajamie expects the metadata to be expanded and enhanced when that occurs.

The MassMediaBox provides the end-to-end processing for commercial content arriving from various satellite and terrestrial file delivery systems. The MMB monitors the licensed commercial delivery systems for the delivery of new commercial content. Once received, the MMB compares the content ISCI code against the list of ISCI codes in the Dub list provided by traffic, as a file, to determine the disposition of that content. Users can change the segment records in the MMB database visually using the frame accurate proxy created by the MMB and MassBrowse.



"The Masstech interface is pretty intuitive. It manages media within the archive device and moves media around more elegantly than we could do before."

John Ajamie, Senior Vice President
Broadcast Operations and Maintenance
Engineering, Scripps Networks

Migrating from the Old System to the New

Re-ingesting over 40,000 program masters for all of the networks right from the start was just not practical nor prudent, so Scripps Networks is placing the new system on line one network at a time, beginning with the new HGTV-HD channel. This is a good service to start with, since there is only new material to be ingested.

When each of the SD channels cuts over, Scripps Networks will operate the channel with both the new and old systems running in parallel for a short period of time to make sure that the new system is operating correctly. Once that's established, then the use of the old system will be discontinued for that channel.

The new and the old systems use the same StorageTek archive, but different sections. When the SD channels come on-line with the new system, material will need to be re-ingested, since the new system uses modern MPEG-2 files while a more outdated file format is employed by the old system. As Ajamie noted, it will take a considerable amount of time to re-ingest and re-archive everything to the new system, hence the phased approach.

Masstech Certified by StorageTek

Masstech is a gold certified level partner with StorageTek. To attain such a high endorsement from this maker of reliable digital data tape storage and robotic products, Masstech clearly demonstrated its ability to copy into and control the archive through appropriate protocols. In fact Masstech received its certification fairly quickly, due to the proficiency and skill of its software engineers.

As a strategic partner with StorageTek, Masstech can provide all the necessary components for a complete end-to-end advanced nearline, archive and content management solution for professional broadcast environments.

The Importance of Open API

Groups like Scripps Networks realize that sooner or later they will need to develop their own routines that are specific to their operations. In evaluating content management systems, Scripps Networks looked for a company that provided an open API that was robust and well documented. The Masstech system fit the bill.

Masstech supplies a set of XML application program interfaces (APIs), a set of calls into the system that allows it to control or be controlled by different devices or systems. The Masstech API provides an easy way for customers to develop custom applications, functions, and interfaces.

Partners



Benefits

The Masstech system provides seamless integration with OmniBus Systems automation, Omneon video servers, and the existing StorageTek Powderhorn archive digital tape library.

For day-to-day operations, operators need use only the OmniBus interface, rather than multiple interfaces for each sub-system. Masstech operates in the background performing its caching, archive and content restoring tasks as well as database and content management.

The new system allows Scripps Networks to move to industry standard MPEG-2 for video/audio files, ultimately replacing the more outdated file structure of the old system.

Scripps Networks can easily monitor all aspects of its archive system, down to the details of what's on each data tape, a feature that they didn't have before.

They can also easily monitor the content of all the Omneon servers and the cache, all from one user interface.

In addition, they have gained the ability to search and find files more accurately.

As Ajamie stated, "our operations staff have overwhelmingly embraced this new system. Responses from staff are that it is user friendly and easy to understand".



Contact Information

Corporate Headquarters

Masstech Group Inc.
2 East Beaver Creek, Building 3
Richmond Hill, Ontario
Canada L4B 2N3
Phone: +1.905.886.1833
Fax: +1.905.886.2155
Email: info@masstechgroup.com

www.masstechgroup.com