



REPORT FROM THE

# STANDARDS VICE PRESIDENT



By Alan Lamshead

## Standards for Media Archiving

As I write this, I am on my way home from the 2015 SMPTE Annual Technical Conference in Hollywood. This year's conference had more than 70 excellent technical papers presented on a variety of topics, including a session devoted exclusively to Media Archiving.

The digital nature of modern media, along with ever-increasing data requirements due to higher image quality, higher spatial resolution, higher temporal resolution, and with higher numbers of audio channels, have dramatically increased demand on media archive systems. Also, increased ratios for raw footage to completed work product, due to factors such as reality programming and a lower cost to capture on a digital medium (allowing greater latitude to keep a camera rolling) dictates a need to increase active/available storage capacity in a cost-effective manner. In addition to these trends, the storage technologies used to retain archives are changing radically. They are growing larger, becoming remotely accessible (i.e., in remote "clouds"), and are now spread across diverse locations.

The Conference papers looked at the various developments in technology affecting the structures and operations of archives while also examining a pair of use cases that will be affected by the technological and infrastructure changes that are coming to archives.

In 2014 SMPTE published ST 2034-1 Archive eXchange Format (AXF)—Part 1: Structure & Semantics. Part 1 deals with AXF Struc-

ture and Semantics and includes an XML schema. Work is now progressing on Part 2, which will cover External Uses of XML Schema.

AXF is an open format that supports interoperability among disparate data storage systems and ensures long-term availability of data, no matter how storage or file system technologies evolve. AXF inherently supports interoperability between existing, discrete storage systems, irrespective of the operating and file systems used, and also future-proofs digital storage by abstracting the underlying technology so that content remains available across generations of technology development.

At the most basic level, AXF is a file container that can encapsulate any number, size, and type of files in a fully self-contained and self-describing package. The package contains its own lightweight file system, which establishes independence from underlying operating systems, storage technologies, and file systems, and can store any type of data on any type of storage media. Inside its packaging, AXF can contain metadata of any format, applicable to either AXF Objects or to individual files contained within AXF Objects; AXF also carries key preservation information, such as provenance, fixity, and the like—all key to ensuring long-term robustness and recoverability. AXF is key in modern archive formats, allowing easy migration of the archive from one technology to another, as required.

### Upcoming Standards Meetings

**7-11 December 2015** Hosted by Turner Entertainment • Atlanta, Georgia, USA

**March 2016** • TBD, USA

**6-10 June 2016** Hosted by Xilinx • Singapore

*The meeting outcome report from each of these meetings will be posted on the SMPTE website in order to report publicly on SMPTE standards activities. You can download the most recent meeting outcome report here at <https://www.smpte.org/standards/engineering-committees>.*