NAB TV TechCheck

The Weekly NAB Newsletter for Television Broadcast Engineers

November 17, 2008

# SMPTE Forms New Committee on Broadband Applications

The Society of Motion Picture and Television Engineers (SMPTE) has recently established a new technology committee on Broadband Applications (TC 23B) under the chairmanship of Birney Dayton of NVISION. The inaugural meeting was held on October 27 in Hollywood, CA attended by about 85 representatives from content producers, manufacturers of broadcast, IT, and consumer equipment, cable networks, broadcasters, and others. The need and basis for this activity was set out in the SMPTE meeting notice as follows.

"A growing volume of content is flowing to consumers in methods other than the traditional television and cinema channels. This new Committee addresses the need for interoperable content mastering and packaging standards that can enhance the rapid adoption of these new business models. The scope of this new TC 23B includes the application of mastered essence to electronic Broadband distribution; including compression, encryption, wrapping, marking, packaging, tracking/control, presentation, reproduction, and related topics. For the purpose of their initial work, such distribution is generally considered to be interactively requested and may include both download and streaming distribution models. Such distribution may occur over wired or wireless transports and may include large, medium, and small packages dependent upon receiving device."

These topics will become increasingly relevant to broadcast networks and stations as they look to maximize the opportunities and revenue potentials from distributing content on multiple platforms. In addition to Internet-based video streaming, already used by some broadcasters, it is expected that local stations will in the future have the capability for distributing content in non-real-time (NRT) over broadcast DTV channels, both to mobile/handheld (M/H) devices and to fixed receivers. Standards for these services are now in development in the Advanced Television Systems Committee (ATSC), and the ATSC M/H standard is now at Candidate Standard ballot stage. The desirability of interoperability and harmonization between content prepared for broadcast distribution and distribution over broadband networks has been acknowledged in setting up the SMPTE committee.

23B will concentrate initially on a "container" for essence and metadata files, and on captioning interoperability. Two ad hoc groups have been established for these topics with scope of work as described below, extracted, with permission, from the SMPTE Engineering Work Statements.

## Container for Consumer Media Distribution

Chair: Michael Dolan (TBT, sponsored by Dolby)

### Problem to be Solved

"Planned large-scale file-based distribution of audio/video content via internet, broadband and broadcast mechanisms to consumers has created the need for a standard container format. This container will be for essence and metadata files that will enable interoperability among participants in an electronic distribution ecosystem. This ecosystem includes content creators, publishers, retailers, consumers, and manufacturers of the various computer, consumer electronics, and mobile devices and software that consumers use to play audio/video content.

Existing commercial systems are not fully based on open standards."

### Project Scope
"Specify an open, interoperable container format to: 1) support multiple essence formats and interactive formats; 2) ensure the content can be delivered, identified, protected, played, copied, and recorded to physical formats such as DVD; 3) identify needed metadata sets; and 4) specify any needed or obvious operational profiles.

Special consideration should be given to existing standards and technology, and to existing commercial systems."

## Broadband Captioning Interoperability

Chair: Craig Cuttner (HBO)

### Problem to be Solved
"Captioning and subtitling standards for video content distributed over broadband distribution networks which are interoperable with broadcast networks."

### Project Scope
"Determine the interoperability requirements for distributing digital content captioning information and subtitles via the Internet for contribution and consumer consumption. This minimally includes identifying the functional requirements for internet content which will work on a global basis and in multiple languages. Cooperate with interested organizations and companies in associated industries/markets/geographies to harmonize captioning approaches for minimum authoring/reauthoring and maximum interoperability.

Recognizing that the end-to-end flow of content from creation to destination is a complex one, the technical group will survey the existing technologies and workflows, and propose workable engineering solutions to balance the various tradeoffs – hopefully providing an optimal distribution method to benefit the hearing-impaired community with access to captioned content with the least technical impact. Internet distribution has a different set of capabilities, and a different set of incumbent (and evolving) technical standards than existing broadcast solutions.

Toward that end, technical work should focus on harmonizing and interoperating with existing standards and processes as much as possible – most importantly, identify optimal workflows (minimize costs, including author-once principles, and maximize time to market) separately in each of the functional areas of caption/subtitle creation, distribution, and display to accommodate the existing libraries of content and user needs for a consistent experience and phased-functionality growth. Growth in functionality should not unduly burden existing workflows – just as 708 captioning contains 608 for backward compatibility in the broadcast world. The resulting solutions should provide new features in a hierarchical manner, yielding an improved method to provide additional features to caption streams and decoding software in the future.

The ideal goal is to be able to author captioning information once and have it work for broadband as well as broadcast and other media applications to simplify the process and spur greater adoption and availability of captioning content."

While most of the major broadcast networks and NAB are represented on the TC 23B committee, participation by other broadcasters is encouraged, both for this committee and in other SMPTE standards work. Information on SPTE standards work is available at: http://www.smpte.org/standards. For more information on participation please contact SMPTE Director of Engineering and Standards Peter Symes, psymes@smpte.org.