SMPTE ROADMAP

SMPTE-TT and Format Translation – Roadmap for the 2052 Document Suite

1 Document Roadmap

SMPTE ST 2052-1, Timed Text Format (SMPTE-TT), specifies a 'core standard' and defines the Timed Text format. SMPTE-TT can be used in an end-to-end broadband infrastructure as a native format – including authoring and rendering.

However, existing (legacy) captioning formats exist worldwide that have a large body of captions authored in and/or distributed in their individual syntax. To properly 'translate' those existing caption syntax formats, individual "Format Translation" documents are created as SMPTE Recommended Practices. For example, SMPTE RP 2052-10, Conversion of CEA-608 Data to SMPTE-TT, describes how the legacy CEA-608 syntax (including analog video waveform) can be mapped into the SMPTE-TT format.

Additional translation documents are envisioned for inclusion in the 2052 "family" of specifications.

2 Scope

This document provides context to the 2052 "family" of the core standard and the related, optional, format conversion document(s). This document is introductory and does not contain any normative requirements.

2.1 Scope – SMPTE ST 2052-1:2010

This Standard defines the SMPTE profile of W3C Timed Text Markup Language (TTML), designated SMPTE-TT, which may represent Captions or Subtitles. It identifies the features from TTML required for interoperability between display systems for the format. In order to preserve certain semantic features of the input formats, SMPTE-TT also defines some standard metadata terms to be used, and some extension features not found in TTML.

2.2 Scope – SMPTE RP 2052-10:2010

This recommended practice document defines the preferred method of converting from CEA-608 data streams to SMPTE-TT (as defined in SMPTE ST 2052-1). This document details how such a conversion can be made, and defines some constraints on the translation process so that the resulting SMPTE-TT file is interoperable between SMPTE-TT implementations.

Approved
December 3, 2010

3 Contextual Overview of 2052 SMPTE-TT

Figure 1 depicts a simplified pictorial of the overall ecosystem of how captioning flows from authoring to end-device. In general, the introduction of broadband content distribution (more of a "PC-type" distribution means) into the existing "Broadcast / Cable-type" distribution means created a potential "gap" and the investigation that resulted in SMPTE-TT and related translation RP(s).

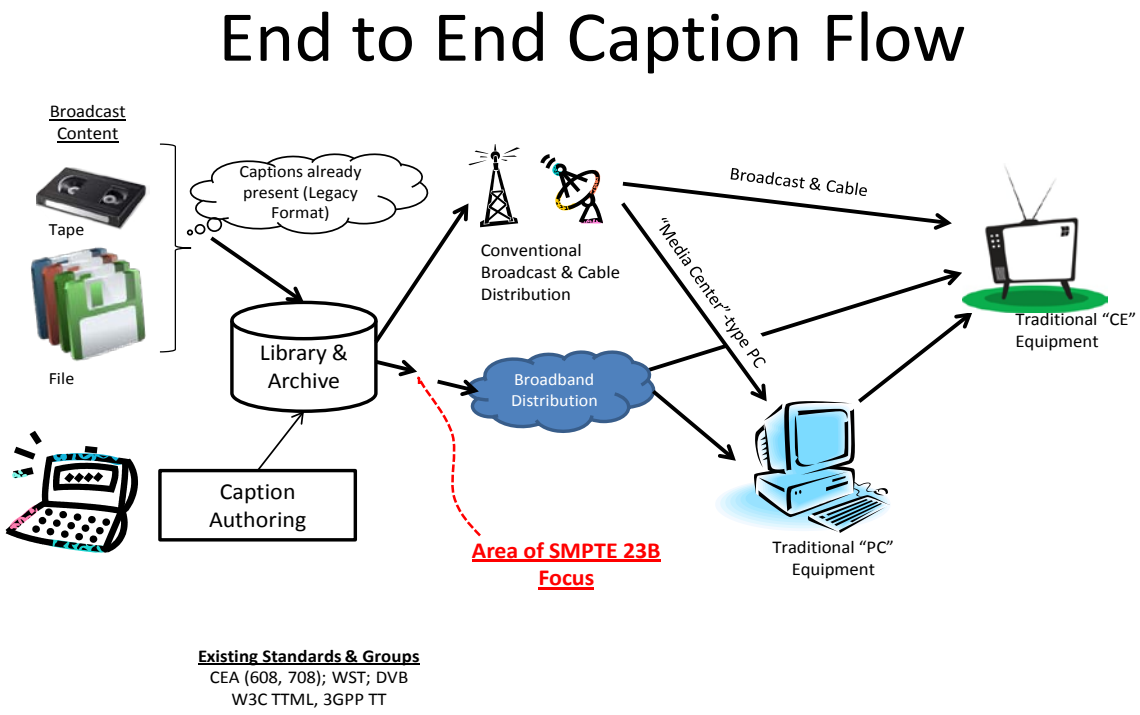

Figure 1

Figure 2 depicts how the SMPTE-TT specification, in a specific example for CEA-608, receives content from the format translator (in this example SMPTE RP 2052-10). Also of note, the "tunnel" feature of SMPTE-TT whereby the "waveform" of CEA-608 is translated into SMPTE-TT, but can be recreated at the analog video output of the end-device.

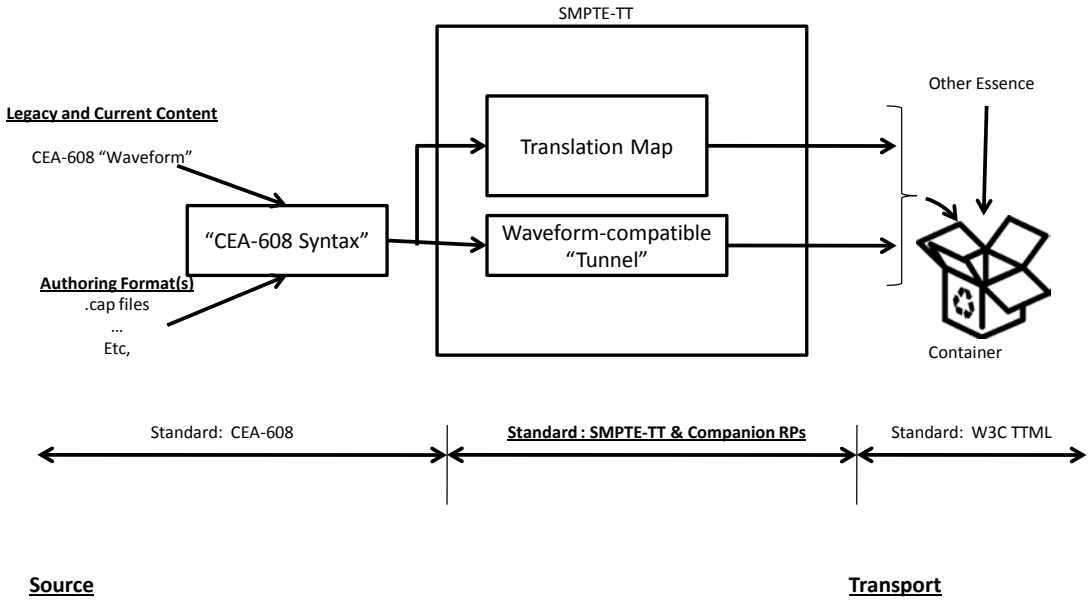

Figure 2

Figure 3 depicts the SMPTE-TT embodiment in a client (end-device) and how TTML is both rendered and how the "tunnel" provides the source for the analog waveform in the CEA-608 example.

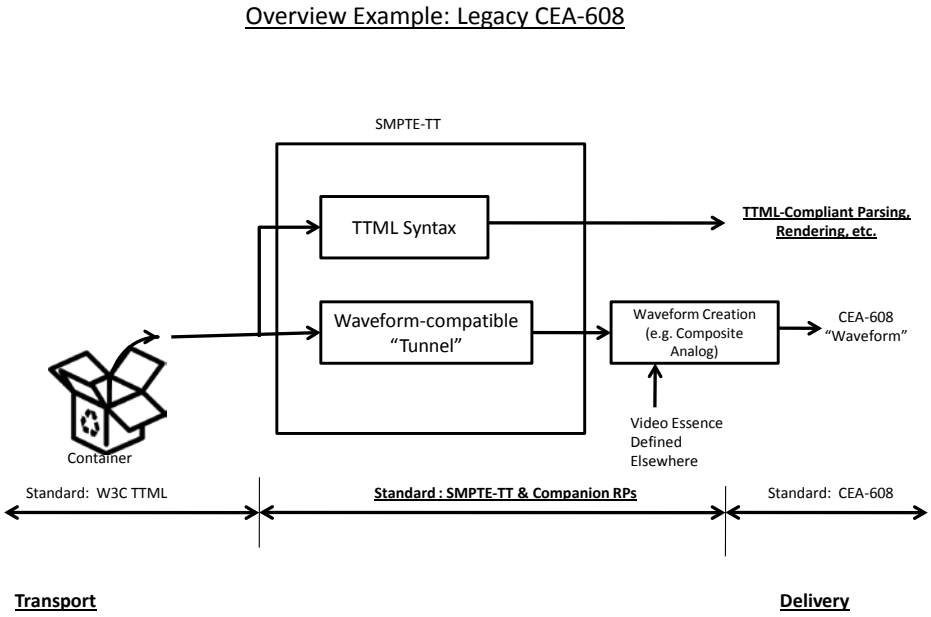

Figure 3