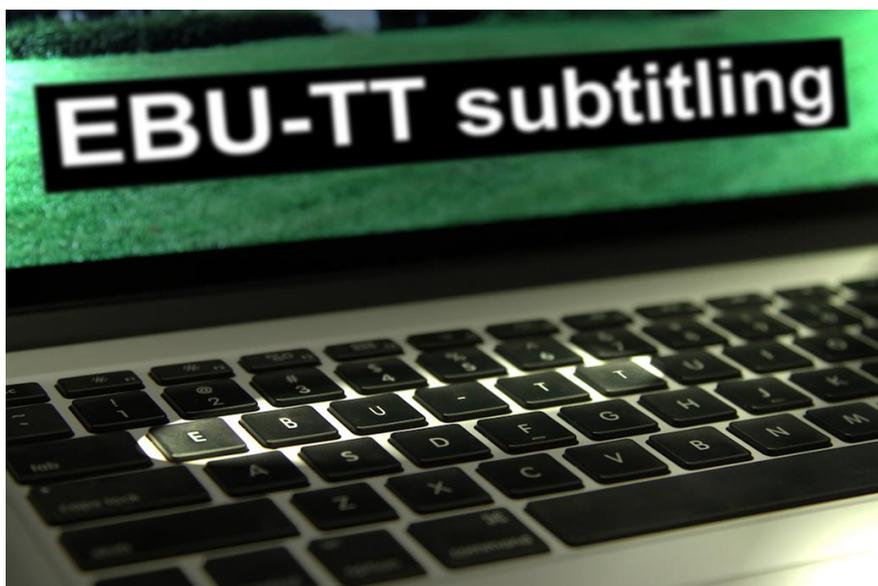


EBU-TT

EBU Timed Text (EBU-TT) is the successor of the EBU STL subtitling format. It supports the production and archiving of subtitles, legacy STL file transcoding and tunnelling, online distribution and live subtitling.

BACKGROUND

The introduction of HDTV, the move to file-based production facilities, the proliferation of new online outlets, including hybrid TV, and increased demands for high-quality live subtitling, challenge the way subtitles are produced and distributed.



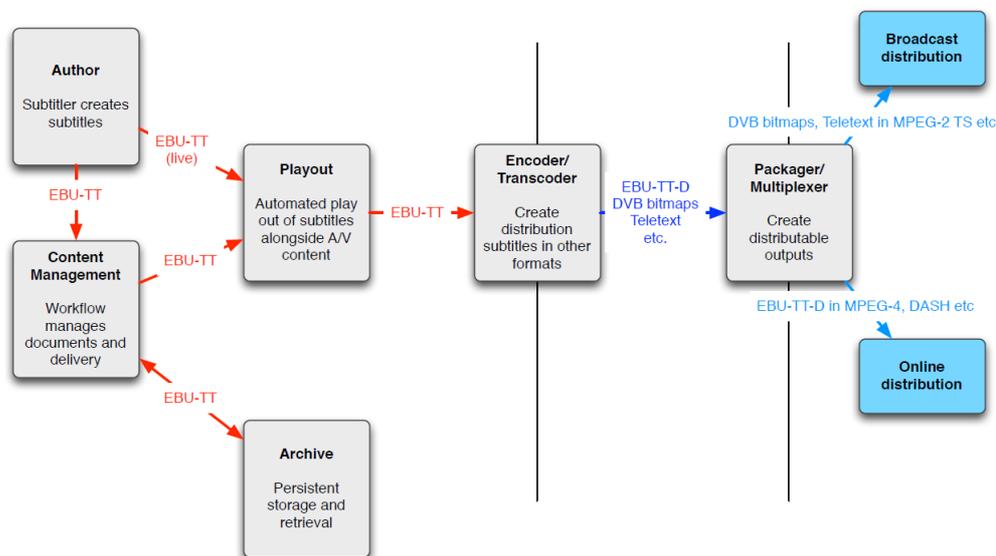
GOING LIVE

The latest EBU contribution to the subtitling domain is EBU-TT Live ([Tech 3370](#)). It specifies how to carry live subtitles from authoring stations to play-out, encoding and distribution facilities. Up to now, this has typically been addressed by using proprietary protocols in undocumented ways or by carrying subtitles as teletext in video data. By publishing EBU-TT Live, the EBU aims to provide a smarter way to handle (live) subtitles in production facilities and to improve interoperability. EBU-TT Live is also applicable for sending prepared subtitles 'over the wire' from playout to the encoder, by the way.

An interesting application of the new format will be the use of modular 'improvers' that can increase the quality of the live subtitles on the fly. Think of speech correctors or timing re-aligners that transform a stream of subtitles at their input into an even better one at their output. The EBU-TT Live format supports such scenarios by allowing detailed timing parameters to be retained from the authoring station.

THE DISTRIBUTION CHALLENGE

The proliferation of online outlets requires broadcasters to create author-once, distribute-many content. Efficient translation from the production formats to those used for distribution needs to be possible. Future media services will make increasing use of timed metadata describing programmes, including subtitles.



The EBU Group dealing with the technical aspects of subtitling has been focusing on minimizing divergence from other formats, by specifying functionality that belongs to a common subset shared with other formats, while still meeting the requirements posed by users for every stage of the subtitling chain. This has resulted in the following 5 specifications, which together cover the broadcasting chain:

EBU Tech 3350: EBU-TT Part 1 – Subtitling Format Definition

The baseline EBU-TT format: a simplified version of W3C TTML for authoring, archiving and future reuse. Version 1.1 supports usage requirements from the Digital Production Partnership (DPP).

EBU Tech 3360: EBU-TT part 2 – Mapping EBU STL (Tech 3264) to EBU-TT Subtitle Files

Guidance for transforming legacy STL files into EBU-TT.

EBU Tech 3370: EBU-TT part 3 – EBU-TT in Live Subtitling applications

A specification for the use of EBU-TT for the production and contribution of live subtitles.

EBU Tech 3380: EBU-TT-D Subtitling Distribution Format

EBU-TT format for online distribution. EBU-TT-D can be streamed with MPEG DASH.

EBU Tech 3381: Carriage of EBU-TT-D in ISOBMFF

A guide that explains how EBU-TT-D can be stored in ISOBMFF containers (as used by MPEG DASH).

IMPLEMENTERS GUIDANCE

EBU-TT-D is supported in the (open source) dash.js reference player. Visit tech.ebu.ch/ebu-tt for links to the code and other support material, such as XML Schema files.

FIND OUT MORE

EBU-TT information overview

tech.ebu.ch/ebu-tt

EBU Subtitles-in-XML group (non-Members are welcome, too!)

tech.ebu.ch/groups/pdfxp

Contact point for specific queries, etc.

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