Press Release

Standardised approach for subtitles in live streams on PC, mobile and SmartTV

- IRT and partners make samples of live MPEG-DASH streams with EBU-TT-D subtitles publicly available
- Tests in cooperation with IRT, Akamai, Keepixo, BR and DasErste
- Sample streams publicly available
- Showcase established as part of the European project HBB4ALL

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TV subtitles have been an established service for decades, but in the Internet, subtitles for live streaming are still limited to proprietary solutions. In combination with MPEG-DASH (Dynamic Adaptive Streaming over HTTP), EBU-TT-D (EBU Timed Text - Distribution) provides a standardised approach for live streamed subtitles. EBU-TT-D is also a common subtitle format to be used for video on demand services like catch-up TV (Mediathek) of the broadcasters. IRT, the research centre of the public broadcasters in Germany, Austria and Switzerland, in close cooperation with the CDN Provider Akamai, the IPTV and OTT solutions provider Keepixo and the German public broadcasters Bayerischer Rundfunk (BR) and DasErste have provided two sample live Internet streams to demonstrate the potential benefit of these technologies. The work was carried out in the scope of HBB4ALL, a European co-funded project on media accessibility in a connected TV environment.

The implementation shows how future multiplatform access to live streams with subtitling can be realised. Any online device can access the same service: primarily in focus are PCs and mobile devices, e.g. tablets and smartphones, but future SmartTVs based on HbbTV 2.0 can also access the subtitled streams, because MPEG-DASH and EBU-TT-D are natively supported by the new HbbTV version.

The demo streams are publicly available for anyone interested, specifically to demonstrate the potential of MPEG-DASH and EBU-TT-D to service providers and to the industry.
They use the DVB DASH profile which is mandated in HbbTV 2.0. The EBU-TT-D subtitles are packaged based on the relevant EBU-TT and ISOBMFF standards. The first sample is a typical broadcast scenario with a live broadcast signal in HD-SDI where the subtitles are embedded as teletext according to the standard SMPTE 2031. The second sample is a semi-live looped stream. The sample streams can be viewed on the following demo website using the open source DASH IF reference player and Bitmovin’s Adaptive Streaming Player:

http://subtitling.irt.de/

For direct access the links are:
http://irtdashreference-i.akamaihd.net/dash/live/901161/bfs/manifestBR.mpd
http://irtdashreference-i.akamaihd.net/dash/live/901161/bfs/manifestARD.mpd

The partners have contributed to the showcase as follows:
Akamai provides the CDN facilities and made necessary changes to support the live MPEG-DASH streaming service with subtitles. Chief Architect Will Law says: “Akamai believes strongly in the standardization of OTT media delivery and to this end we are proud to join our European partners in making available a sample live stream for EBU-TT-D subtitling and MPEG-DASH.”

Keepixo implements subtitle translation into EBU-TT-D, video transcoding into 6 profiles and MPEG DASH packaging using its video encoding solution. Jerome Blanc, Keepixo COO, says: “HbbTV 2.0 introduces a key new feature to enable subtitle support for broadband delivered content as per EBU-TT-D specification. Keepixo has joined force with other leading technology and content providers to make sample streams available with EBU-TT-D subtitles. This coordinated effort represents an implementation of an end-to-end delivery of MPEG-DASH content with EBU-TT-D subtitles which will help the industry with migration towards HbbTV 2.0.”

Bitmovin provides the HTML5 Adaptive Streaming Player with full subtitle support including custom styling of the subtitles for MPEG-DASH. Stefan Lederer, Bitmovin CEO: “EBU-TT-D subtitles can be displayed with Bitmovin’s adaptive streaming player on every device and every platform. With HbbTV 2.0 and our player it’s possible to display EBU-TT-D subtitles with styling information too.”

BR is the content provider of the first live stream, integrated the Keepixo encoder in its operational streaming environment and provides both DASH streams.
DasErste provided the content for the second, “semi-live” looped MPEG-DASH Stream which can be accessed worldwide without geo-blocking.

IRT coordinated the efforts and reviewed the sample streams. In the last couple of years, IRT has been one of the leading contributors to the new standards HbbTV 2.0 and EBU-TT-D, which are merging the broadcast and broadband world. IRT has also been the responsible editor for parts of the EBU-TT specifications that have been published so far. To support the interoperability, IRT has developed several EBU-TT tools which have been made available in the open source domain. Furthermore it provides consulting services and seminars for HbbTV 1.5/2.0 as well as MPEG-DASH.

More information about EBU-TT: https://tech.ebu.ch/ebu-tt

About HBB4ALL

The showcase was established as part of the HBB4ALL project, a European project funded by the Competitiveness and Innovation Framework Program (CIP) of the European Commission. IRT, together with eleven further partners from broadcasters to universities work on the introduction of new technologies to offer accessibility services like subtitles, audio description, clean audio and sign-language interpreter in TV services and their adoption for PC, mobile devices and TV sets.

More information about HBB4ALL: www.hbb4all.eu

About IRT

With its head offices in Munich, the IRT supports broadcasting on a national and international scale with its spectrum of services. Its associates are the broadcasting companies ARD, ZDF, Deutschlandradio, ORF and SRG/SSR. The IRT is also cooperating with numerous clients from the broadcasting, media, communications and information technology industries as well as various research institutions and academies. Since its foundation in 1956, the IRT has been committed to preserving broadcasting and accompanying the adjustment of the broadcasting idea to new market environments and requirements.

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