

# MEIG and APA WG feedback on DVB liaison on accessibility service signalling

Chris Needham, 17 October 2023

Links to minutes:

<https://www.w3.org/2023/07/11-me-minutes.html> MEIG / APA

<https://www.w3.org/2023/09/14-apa-minutes.html#t10> APA / MEIG TPAC meeting

<https://www.w3.org/2023/10/17-me-minutes.html> (Member-only link)

TO DO: Should we add something on the wider privacy concern about sharing of user preference profiles? From the July MEIG / APA WG meeting:

“We've been considering portable profiles in FAST, trying to enumerate functional needs and build useful profiles and analysing edge technologies (a11yEdge CG), we created an initial inventory where there's a similar need for general web content, to avoid users having to reconfigure. Make it privacy preserving, use DIDs to do that. But you'd be able to match a set of desired features against available content. Would be nice to find out those options before starting playback”

TO DO: Extended audio description was mentioned. What do we want to include in our reply?

## MEIG and APA WG draft reply

Dear Paul,

Thank you for inviting W3C review of the DVB-I and TV-Anytime metadata structures for signalling availability of accessibility features for linear TV services.

W3C Media & Entertainment Interest Group (MEIG) and Accessible Platform Architecture Working Group (APA WG) reviewed the liaison.

As Timed Text Working Group has reviewed the subtitle parts of the liaison, MEIG and APA WG focused on other aspects, including: audio description, signing, dialogue enhancement, spoken subtitles, magnification UI, high contrast UI, screen reader, and response to user action.

In 2015, W3C published the Media Accessibility User Requirements (MAUR), at <https://www.w3.org/TR/media-accessibility-reqs/>. The APA WG is currently working towards an updated revision, and we suggest that DVB takes into consideration updates to this document in future versions of its accessibility service signalling.

On audio description, we recommend that the list of purposes be extensible. The updated revision of MAUR may introduce different purposes that would be valuable to signal, for example “extended descriptions”.

On signing, it was unclear to us whether this would be provided by a separate video stream or as part of the main program stream. If an alternate stream, how is this signalled, and is the client expected to present this alongside the main program? Could the client send the stream to a separate device? We are interested to see a standardised solution, so that users may have choice over which app to use to see the content.

On high contrast UI, we expect that some users may want high contrast for text, but not for embedded images. Is the interpretation of the high contrast signal left entirely to the TV receiver or service? There may be a need for more granular signalling.

We would like to draw your attention to the W3C Technical Architecture Group’s Web Platform Design Principles, a document which provides guidance for the development of web platform technologies, but in this case we think has wider applicability. In particular section 2.9, “Don’t reveal that assistive technologies are being used”, <https://www.w3.org/TR/design-principles/#do-not-expose-use-of-assistive-tech>, which says:

“People who make use of assistive technologies are often vulnerable members of society; their use of assistive technologies is sensitive information about them. If an API provides access to this information without the user’s consent, this sensitive information may be revealed to others (including state actors) who may wish them harm.”

We see no privacy concern with the DVB-I or TV-Anytime accessibility service signalling metadata itself, but we recommend that those accessibility services are designed to preserve user privacy, particularly with respect to persistent user preferences which are mentioned in Commercial Requirements for signalling of Accessibility Services in DVB at [https://dvb.org/wp-content/uploads/2022/09/C102\\_Commercial-Requirements\\_Accessibility-signalling-1.pdf](https://dvb.org/wp-content/uploads/2022/09/C102_Commercial-Requirements_Accessibility-signalling-1.pdf).

Beyond the scope of your liaison, APA WG raised the topic of “structural navigation” of linear media content, for which the group is interested in developing a standard solution. This use case is described in more detail in section 2.5 of Media Accessibility User Requirements. Signalling that a TV receiver, application or service supports such a feature would be beneficial to allow users to know whether such structural navigation is available, as a future requirement.

To support users with various cognitive and learning disabilities, another capability that would be useful to signal is support for Augmentative and Alternative Communications symbolic languages. See <https://w3c.github.io/adapt/symbols/> for more details.

Kind regards,

Chris Needham (co-chair, W3C Media & Entertainment Interest Group)  
Janina Sajka (co-chair, W3C Accessible Platform Architectures Working Group)

## TTWG draft reply

(Included here for reference, or in case we want to write a combined reply from all groups)

Dear Paul,

W3C Timed Text Working Group (TTWG) thanks DVB for sharing the draft work on accessibility signalling, including TV Anytime elements and new classification schemes. We are one of the Working Groups in W3C who received this liaison and had the opportunity to review its contents. You may also receive feedback from other groups within W3C.

The scope of the TTWG's review includes those sections of the liaison relating to timed text, i.e., the subtitle attributes and the subtitle purpose and subtitle coding format classification schemes.

Our understanding is that the intended purpose of the subtitle attributes is to support two main objectives. Firstly, to allow a user to be given adequate information about whether a stream they might consume offers the accessibility features that they need; secondly, to support the user agent in selecting which of the available accessibility services should be selected for presentation to the user.

We were unable to resolve whether the purpose signalling would be adequate to meet these objectives because no accompanying player model was included to explain how the signalled data is expected to be used.

Without a player model, it is difficult to understand either how a content provider should label the available content or how a player should process the data to provide a consistent user experience. For illustrative purposes only, an example of a player model is the MovieLabs Media Manifest at [https://www.movelabs.com/md/manifest/v1.11/Manifest\\_v1.11.pdf](https://www.movelabs.com/md/manifest/v1.11/Manifest_v1.11.pdf), Annex A.

One specific concern about the subtitle purpose classification scheme is that the “default audio language” is probably unknown to the content provider since it is typically a user setting. From a structural perspective, the context available around these values in the DVB TTML specification seems to have been lost. It is unclear, for example, how to resolve “same lang” or “other lang” in relation to the audio language, especially if multiple language audio tracks are available.

Regarding the subtitle coding format classification scheme, we would like to draw your attention to the TTML Media Type Definition and Profile Registry at <https://www.w3.org/TR/ttml-profile-registry> particularly §4.1 which lists those TTML profiles of which we are aware, including each variant of IMSC and EBU-TT-D. This registry is part of

the IANA media type registration for TTML, known as application/ttml+xml. Perhaps it would make sense to defer to this registry for those profiles of TTML?

Additionally, we noted that the information about the transport and/or packaging mechanism, for example DVB TS or DVB DASH, should be separated from the information about the payload, for example EBU-TT-D. The terms for DVB TTML combine both aspects in a single value, for example “DVB TTML Subtitles with processor profile IMSC1 Text Profile, version 1.0.1”. Whilst both pieces of information are important for receivers, it would be helpful to carry them in separate entities attached to the same subtitle descriptor.

In the current proposal some values appear to be duplicated, for example IMSC 1.0.1 Text profile is in both terms 3.3.2.2 and 6.2.

TTWG recognises the value of having industry-wide coordination, particularly in regards to the player model, and looks forward to exploring options for further collaboration in this area.

Kind regards,

Nigel Megitt, BBC, co-chair W3C Timed Text Working Group