History...

- Web&TV IG Media APIs Task Force (2013)

  - [Use case: Tuner Control thru Web Application](#)

- Community Group (Apr 2014 to May 2016)

  - [Final Community Group Report](#)

  - Group is inactive, but still open

- Working Group (Apr 2016 to May 2017)

  - [Working Group Note, 18 May 2017](#)

- Next?

Community Group

- Survey and gap analysis of existing APIs (OIPF, Samsung, LG, Webinos)

- Final Community Group Report [1]

  - Based on Mozilla proposal from Firefox OS

  - Presentation using `MediaStream` and `<video>`, Channel scan, EPG data, Stream events, Recording and playback, CI card enumeration

https://www.w3.org/2015/tvapi/Overview.html

Working Group

- Capabilities and Constraints model for matching application requests to device capabilities (from WebRTC)

- Refactored the `TVSource` and `TVTuner` object structure

- TAG review

- ATSC and HbbTV feedback

Functional areas

- Stream selection / playback control
- `HTMLMediaElement` integration
- Service / channel discovery
- Programme metadata
- Stream events
- DRM (CAS)
- Parental control

TAG feedback

- API surface and REST based approach

  https://github.com/w3c/tvcontrol-api/issues/24

- Unify approaches to media streams

  https://github.com/w3c/tvcontrol-api/issues/22

- Parallel with WebRTC model

  https://github.com/w3c/tvcontrol-api/issues/20

Some options

- Integration of broadcast, IPTV, multicast delivered media on the Web, integrated with `HTMLMediaElement`

- Control of broadcast, IPTV, multicast delivered media from Web apps, e.g., an API which may not integrate with `HTMLMediaElement`

- Surface metadata embedded in broadcast streams to Web apps, e.g., EPG data, live stream events

- A remote control API

- TV industry specifications have some of these, do we need a W3C spec?

Referencing broadcast streams

- The TV Control API approach is to obtain a WebRTC `MediaStream` object for a TV channel and connect it to a `<video>` element
- Another approach is to use or define a URI scheme to reference the broadcast stream
  - Example: DVB URIs
  - How to define a "same origin policy", i.e., which Web pages are granted access to broadcast content?

https://lists.w3.org/Archives/Public/public-tvapi/2014Sep/0001.html

Live stream events

- The TV Control API introduced a `TVTriggerCue` interface for notifying Web applications of events in the broadcast stream, e.g., DSM-CC stream events.

- WebRTC `MediaStream` supports only audio and video tracks. There is no support for text or metadata events to be delivered with a `MediaStream`

- `RTCDataChannel` could be used, but how to synchronise events?

https://github.com/w3c/tvcontrol-api/issues/36

Remote Control API

- ATSC Distributed Receiver Components

- HbbTV 2.0 Companion Screens

- TAG feedback on RPC interface

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