



Current Audio and Video Media Topics at W3C

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Media & Entertainment Interest Group

- Scope

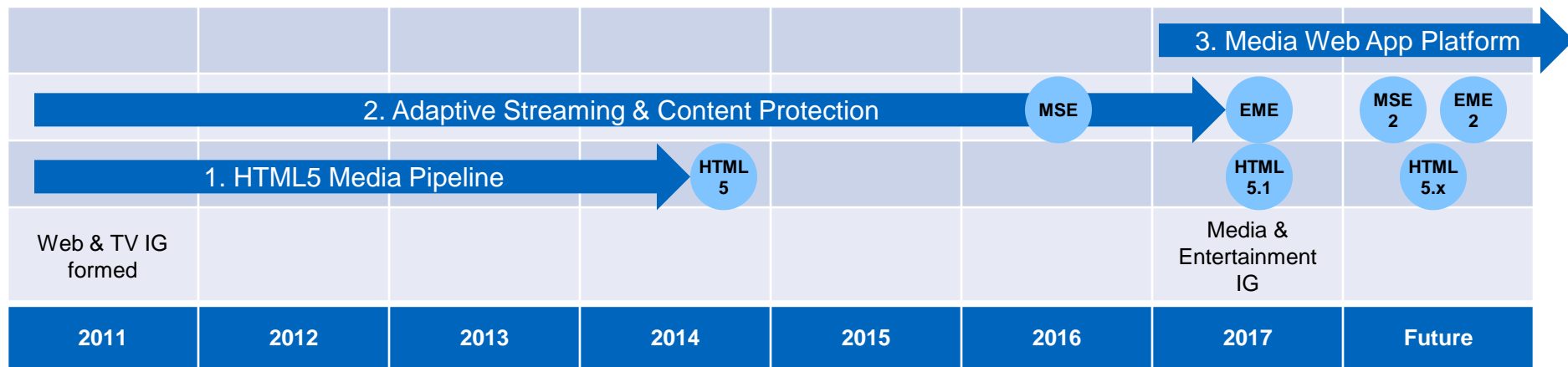
- The Media and Entertainment Interest Group's scope covers Web technologies used in the **end-to-end pipeline** — including capture, production, distribution and consumption — of continuous media, which is here defined as videos, sound recordings, and their associated technologies such as timed text

- Topics

- **clients** (general-purpose browsers, televisions, tablets, phones, game consoles, cloud browsers, professional cameras)
- **providers** (streaming web sites, terrestrial, cable, IPTV, satellite systems)
- **production** (capture, identification, metadata, content enrichment)
- **transport & control** (formats, packaging, storage, synchronization)
- **accessibility**

<https://www.w3.org/2017/03/webtv-charter.html>

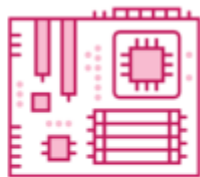
Adaptive Streaming Support



Overview of Media Technologies on the Web



Capture



Processing



Distribution



Control



Rendering



Orchestration

<https://w3c.github.io/web-roadmaps/media/>

Current Audio & Video Media Topics at W3C

- Web Media APIs / CTA WAVE
 - [Web Media API Snapshot 2017](#)
 - Lists stable, supported web specs, for browsers in media devices, annually updated
 - [Web Media Application Developer Guidelines 2018](#)
 - General guidelines, best practices, and examples for building media applications across web browsers and devices
- Live linear content
 - [Media Source Extensions](#)
 - Faster start up, content splicing (ad insertion), stream switching
 - [Encrypted Media Extensions](#)
 - Persistent Usage Record, HDCP detection, Encryption scheme capability detection, Key rotation

Current Audio & Video Media Topics at W3C

- Device capabilities
 - Media Capabilities API
 - Improve media rendering capability reporting over `canPlayType()` and `isTypeSupported()`, returns details such as: smooth, power efficient, do output capabilities match the content?
- Playback quality
 - Media Playback Quality
 - Provides real-time stats on dropped and corrupted video frames. Removed from MSE and returned to incubation

Current Audio & Video Media Topics at W3C

- HDR colour
 - [CSS Color Module](#)
 - [CSS Media Queries](#)
 - [Canvas Color Space](#)
 - Extend to support wide gamut and high dynamic range colour

Current Audio & Video Media Topics at W3C

- Cloud browser
 - Cloud Browser Architecture
 - Content rendered in the cloud, streamed to a lightweight client device

Current Audio & Video Media Topics at W3C

- Second Screen
 - [Presentation API](#)
 - [Remote Playback API](#)
 - Web APIs for cast / AirPlay like functionality to devices on a local network
 - Open Screen Protocol in development at W3C, will probably move to IETF
- HTTPS in the Local Network
 - [Use cases](#), [Background](#)
 - Exploratory work on how to securely communicate with services on a local network (e.g, IoT devices)

Current Audio & Video Media Topics at W3C

- Web Assembly
 - [Core](#), [JavaScript API](#), [Web API](#)
 - Media use cases: codecs, Web Audio processing nodes, image processing

Current Audio & Video Media Topics at W3C

- Audio
 - [Web Audio](#)
 - V1 nearing completion, V2 features: Web Assembly in AudioWorklets, memory buffer improvements, more nodes: noise generator, pulse oscillator
 - [Audio Output Devices API](#)
 - Allows selection of output device for audio playback

- VR, AR, 360° video
 - [WebXR Device API](#)
 - Formerly Web VR API v2, provides enumeration, sensor inputs, output context
 - Media streaming for 360° video, content protection

Current Audio & Video Media Topics at W3C

- WebRTC
 - [Web RTC 1.0](#), [Media Capture and Streams](#), [MediaStream Recording](#), etc.
 - Low latency, real time streaming for video conferencing
 - Potential applications in media and entertainment? Low latency streaming
 - BBC blog post: [Synchronising Media in the Browser](#)

Current Audio & Video Media Topics at W3C

- Timed events
 - MPEG DASH, ISO BMFF emsg
 - Carriage of Web resources in ISO BMFF containers
 - Media & Entertainment Interest Group Task Force starting now
 - Native vs application handling, sync issues, DataCue API
- Timed text
 - [TTML2](#), [IMSC 1.1](#), [WebVTT](#)
 - TTML2 nearing Recommendation status
 - [Proposal](#) to create a document format for audio description authoring (TTML2 profile)

Conclusion

Question:

What do **you** need from browsers that isn't supported today?

Thank you!