DASH-IF Reference Client – dash.js

Open-Source Media Application Reference Tools (OSMART) workshop 2022

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DASH Industry Forum - Overview

http://www.dashif.org

- DASH Industry Forum (DASH-IF) was founded in 2012 to promote and catalyze the adoption of MPEG-DASH and help transition it from a specification into a real business → DASH-IF IOP guidelines
- More than 80 members including
  - service providers
  - content delivery operators
  - network operators
  - broadcasters
  - technology providers in different domains
- DASH-IF also serves as the point of contact for other standards organizations when introducing new DASH-based distribution means.

DASH Industry Forum

3GPP A GLOBAL INITIATIVE 5G

WAVE WEB APPLICATION VIDEO ECOSYSTEM

MPEG

DVB

SCTE Society of Cable Telecommunications Engineers

ATSC 3.0

HbbTV

W3C

CHARTER MEMBERS

Akamai COMCAST DOLBY ERICSSON Google hulu Microsoft QUALCOMM SAMSUNG Tencent 腾讯 XPERI

CONTRIBUTOR MEMBERS

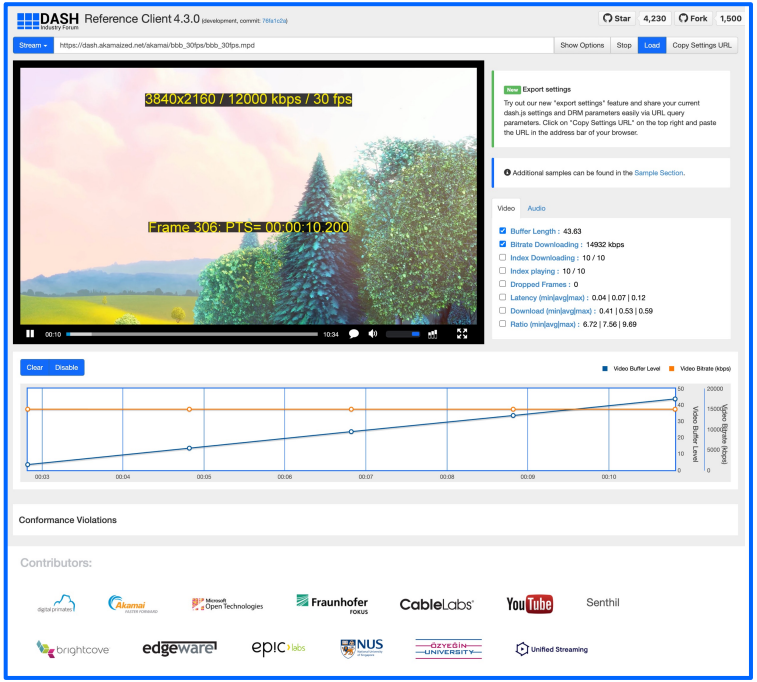
brightcove castLabs COMMSCOPE Connected Home Academy digital primates EBU edgeware aws elemental EZDRM Fraunhofer USA Haivision harmonic imagine intel INTERDIGITAL IIJ Internet Initiative Japan irdeto Kaltura open source video LG M2A Media MAINCONCEPT MEDIATEK NAGRA KUDELSKI NETFLIX NOKIA SONY TNO turner verimatrix verizon media viaccess-orca VUBIQUITY

ASSOCIATE MEMBERS

anevia Cateme Axinom BITMOVIN broadpeak BUYDRM Cliplister epic labs eurofins INISOFT INKA JWPLAYER Lufthansa Systems MEDIAEXCEL mediamelon MUX NEXPLAYER nomor research pearl Qencode realeyes STREAMROOT SYSTEM73 THEOplayer Unified Streaming Platform V-NOVA VisualOn 2ULTO

dash.js – Overview & Status

- Official reference player by the DASH Industry Forum for playback of MPEG-DASH content
- Development sponsored by DASH-IF and community driven
- Open-source project on Github - https://github.com/Dash-Industry-Forum/dash.js/, last released version 4.4.0, BSD license
- Written in JavaScript uses the W3C Media Source Extensions (MSE) and Encrypted Media Extensions (EME)
- Works on all MSE and EME based platforms including Desktop browsers, smartphones, SmartTVs, Set-Top Boxes.
- Various features including flexible ABR logic, multiperiod, DRM support, MPD patching, Gap handling, CMCD, CMAF low latency support, support for various subtitle formats (TTML, IMSC1, WebVTT) and many more.



https://reference.dashif.org/dash.js/nightly/samples/dash-if-reference-player/index.html

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dash.js – Application areas

Reference projects

- Implements latest features from IOP guidelines and ISO specification.
- Used by other organizations in their reference implementations
  - CTA-WAVE
  - DVB-I
  - HbbTV
  - 5G-MAG

Industry

- Used by BBC, Deutsche Telekom, Orange and many more in production
- Can also be used to compare behavior of commercial players against specific content

Research

- Used for research purposes, for instance to test and compare new ABR algorithms (Twitch challenge)
- Evaluate feature implementations such as MPD patching

dash.js – Numbers & Stats & Logistics

GitHub

- 45 releases
- > 4.300 stars
- 258 watchers
- > 1.500 forks
- Used by over 1.300 other projects
- 162 contributors

npm

- 79 dependents
- 29.962 downloads

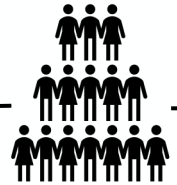
Week 17-2022

- 124.108 downloads

April -2022

- 1.224.570 downloads

2021



- Different DASH-IF calls every week
- Monthly developer calls
- Discussions on
  - Slack (1554 members)
  - Github
  - Google Groups (1243 members)

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dash.js – Roadmap & Next steps

(Low latency) Live streaming

- Improve catchup logic
- PRFT support
- Throughput estimation improvements

Documentation

- Core concept illustration
- EventBus
- Factory Pattern
- Data flow/Conceptual model
- API endpoints for configuration

Performance

- MSE in webworkers
- Improved XML parsing

IOP v.5 compliance

- DASH events
  - Verification of correct handling
  - Alternative MPD event (for support of preroll/midroll)
- DRM
  - AuthURL support via callbacks
- Selection of audio/text tracks

Other items

- New reference UI
- CMCD
  - Whitelist
  - Custom key/values pairs
- CMSD
- Bugfixes, Optimizations based on community/user feedback

Contact

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