

Fraunhofer FOKUS Institute for Open Communication Systems

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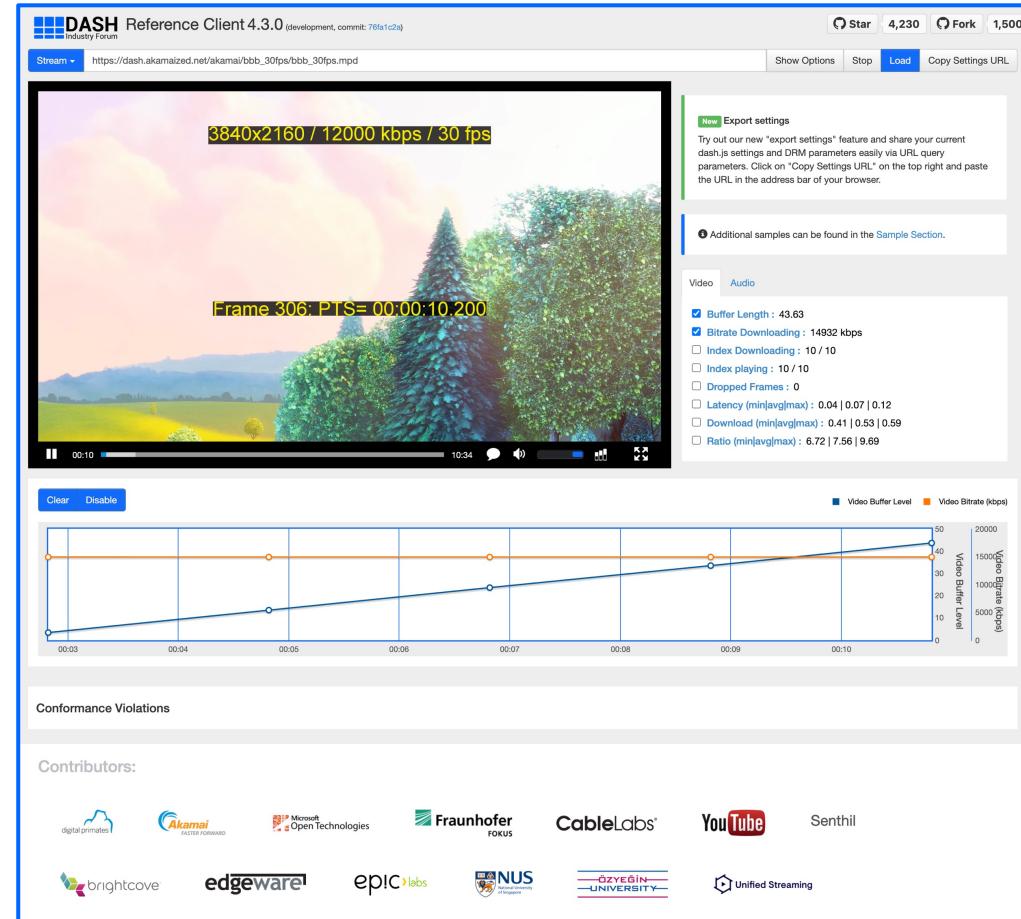
# dash.js - The open-source DASH Reference Player

Daniel Silhavy – OSMART#2

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## Overview

- dash.js is the official reference player by the **DASH Industry Forum** for playback of MPEG-DASH content
- Maintained by **Fraunhofer FOKUS**, community driven development
- Used as a **reference client** for standardization, foundation for **production-grade** video applications and for **research** purposes e.g., implementing new ABR algorithms (see next slide)
- Open-source project on Github - <https://github.com/Dash-Industry-Forum/dash.js/>, last released version 4.7.2
- Written in JavaScript uses the W3C Media Source Extensions (MSE) and Encrypted Media Extensions (EME)
- Various features including support for ABR, multiperiod, DRM, MPD patching, Gap handling, CMCD, CMSD, Content Steering, low latency, various subtitle formats (TTML, IMSC1, WebVTT) and many more.



## Application areas

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### Reference

- **Validation:** Implements features from DASH-IF IOP guidelines and ISO/IEC specification.
- **Synergy:** Used by other organizations in their reference implementations or for testing:
  - DVB
  - HbbTV
  - CTA-WAVE
  - 5G-MAG

### Industry

- **Production ready:** Used as a foundation for commercial applications, for instance by BBC, Deutsche Telekom and Orange.

### Research

- **Extensible:** Used for research purposes, e.g., to test and compare new ABR algorithms against existing buffer and throughput-based algorithms.
- **Evaluation:** Evaluate new features such as MPD patching, Common Media Client Data (CMCD), Common Media Server Data (CMSD).

## Work Items

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### Version 4

- ✓ Added support for DASH Content Steering
- ✓ Added basic support for Common Media Server Data (CMSD)
- ✓ Added support for preloading media segments into a virtual buffer to enable broadcast-broadband ad-insertion on HbbTV Devices
- ✓ Support for WebVTT on HbbTV Terminals
- ✓ Support for ManagedMediaSource
- ✓ Added new functional test suite
- ✓ Added support for inband prft box parsing
- ✓ Many other improvements and bugfixes

### Version 5

- ✓ Added new XML Parser
- ✓ Reworked ABR and Throughput Logic
- ✓ Move to ECMAScript Modules
- ✓ DescriptorType based track selection
  - Ongoing
    - Support for AdaptationSet Switching
    - New Reference UI
    - Integration of SVTA Common Media Player Library
    - Improve documentation
    - Support for Xlink onRequest
    - Support for forced subtitles
  - See <https://github.com/orgs/Dash-Industry-Forum/projects/8/views/2>

## Participation

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- 📍 52 releases
- ⭐ > 4.900 stars
- 👁 253 watchers
- 🍴 > 1.700 forks
- 👨‍💻 164 contributors

<https://github.com/Dash-Industry-Forum/dash.js>



- Different DASH-IF WG calls every week
- Monthly dash.js developer call
- Discussions on
  - Slack (1800 member)
  - Github
  - Google Groups (1216 member)

<https://groups.google.com/g/dashjs>

# Contact

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