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FAMIUM DASH

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Dynamic Adaptive Streaming over HTTP (DASH)

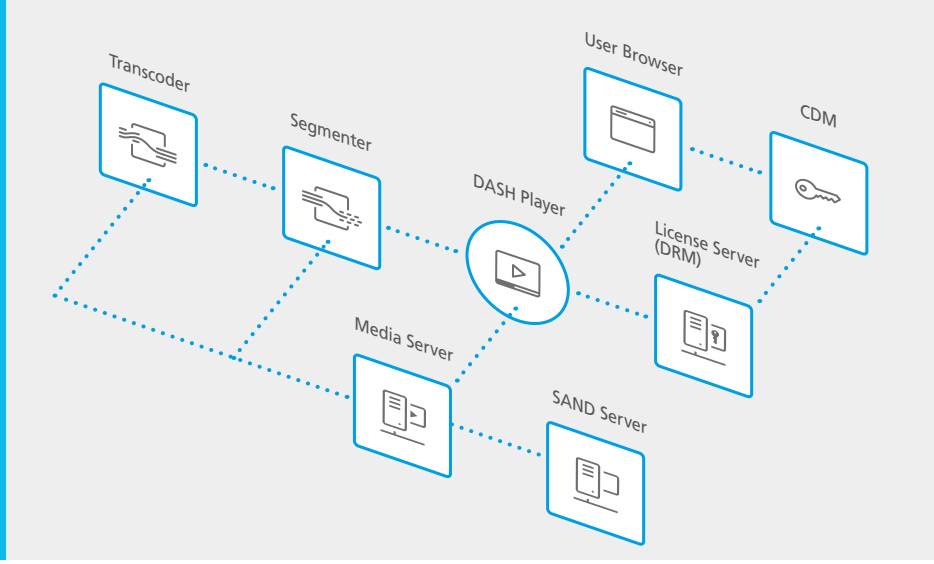
FAMIUM DASH is a fully standard-compliant DASH end-to-end solution. It also supports cutting-edge features on content creation side. These are complimented by the various features included in the HTML5-based FAMIUM player, which enables a wide range of use cases. With DASH, clients can seamlessly adapt to media representations (e.g. in terms of resolution, codec or bitrate) that best fit the user's device and network connection.

Not only does FAMIUM provide content delivery in the highest quality available for a given network – faster start-up times for media playback can also be expected.

FAMIUM Transcoder & Segmenter

For integration with existing delivery networks, the FAMIUM Transcoder & Segmenter components are designed as cloud services. In addition, they can run on-premise (e.g. for use in testbeds) on Windows or Unix-based systems. It even runs on Raspberry Pis. The packager supports different DASH profiles.

Providing Common Encryption (CENC) in ISO Base Media File Format, it encodes and encrypts each media segment individually and in compliance with different DRMs. The media data is encrypted using the Advanced Encryption Standard (AES). Every common media source can serve as input of the FAMIUM Transcoder, including live media streams (RTSP/RTMP).



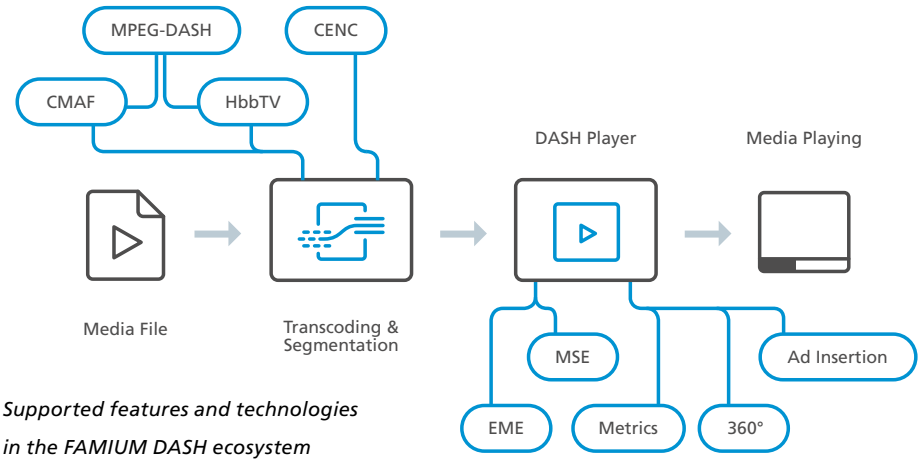
The FAMIUM DASH solution forms an end-to-end system from content creation to content consumption

Supported standards:
- MPEG-DASH (ISO/IEC 23009)
- Common Encryption (ISO/IEC 23001-7)
- HLS (RFC 8216)
- CMAF (ISO/IEC 23000-19)
- DASH profiles: ISO BMFF Live/On-Demand Profile
- HbbTV 1.5 (HbbTV ISOBMFF Live) and 2.0 (DVB-DASH)
- UHD with HEVC, VP9

FAMIUM Player

The FAMIUM Player is based on dash.js. It allows playing of on-demand and live DASH content and dynamically adapts the bitrate to current network conditions. Fraunhofer FOKUS is an active contributor to the 'dash.js' Open Source project. It takes advantage of the HTML5 Media Extensions MSE & EME, enabling interoperable premium video consumption in HTML5 Web browsers without depending on proprietary plug-ins.

Supported features & technologies:
- Adaptive 360° video streaming
- Dynamic Ad Insertion
- Multi-screen media synchronization
- Metrics/Analytics using server and network assisted DASH (SAND): ISO/IEC 23009-5



Supported features and technologies in the FAMIUM DASH ecosystem

At a glance

Dynamic Adaptive Streaming over HTTP (DASH) is the streaming standard for the Web and harmonizes video delivery across the Internet. The Fraunhofer FOKUS solution FAMIUM provides an ecosystem for the consumption and delivery of adaptive bitrate content. It also supports well as Digital Rights Management (DRM) protected content. FAMIUM bundles several DASH and DRM related functionalities for use in Web applications.

Benefits and areas of application

The FAMIUM ecosystem provides DASH based support for live streaming, 360° viewing, dynamic advertisements, metrics and multiscreen content. As target platforms, FAMIUM addresses mobile, desktop, Consumer Electronic (CE) equipment and HbbTV devices.

What is FAMIUM?

FAMIUM facilitates multi-screen content presentation and synchronization, adaptive media streaming and content protection. It is an end-to-end prototype implementation for early technology evaluation and interoperability testing, developed by the Fraunhofer FOKUS Business Unit for Future Applications and Media (FAME).