PRESS RELEASE

Video streaming in a new dimension: 360° video for Smart-TVs with HbbTV at IBC 2016

At the International Broadcasting Convention IBC in Amsterdam on September 9-13, 2016, Fraunhofer FOKUS will present its cloud-based 360-degree video solution, the HbbTV Application Toolkit, the Broadcast Probing System and the Open Content Decryption Module.

For a panoramic view video experience Fraunhofer FOKUS presents its **360° Video Solution:** With the 360° Video Cloud Streaming Solution viewers can watch a high-definition 360° video on an HbbTV (Hybrid Broadcast Broadband TV)-TV or mobile device. The viewer can freely change his individual perspective of view and gets deeper into the events of the film.

The **HbbTV Application Toolkit** (HAT) is an easy and cost-efficient way for application developers and content creators of broadcasters to produce HbbTV applications for their program. HbbTV, the abbreviation for» Hybrid Broadcasting Broadband TV «provides the TV broadcasters various ways of TV reception (hybrid broadcasting) and broadband Internet (broadband) to provide new information and services for the audience. HbbTV is the relevant technical standard that promotes the merging of TV and Internet and increasingly replaces the conventional Teletext. With this HbbTV Application Toolkit Fraunhofer FOKUS offers templates and components to content creators to create various HbbTV applications such as video galleries. Additional plug-ins support Companion Screen and Media Synchronization conforming to the HbbTV 2.0 standard and 360° video playback.

With the **Broadcast Probing System** Fraunhofer FOKUS offers a cloud-based system for monitoring digital broadcast networks (DVB-T1/T2/S/C) to detect potential misconfigurations and service degradation in broadcasts. This feedback helps operators to optimize the broadcast operations. The main purpose is the

cost-effective and near real-time service monitoring at lots of locations to support the detection of faulty conditions. Beside this, the system can support evaluations with queries like "What was the avg. packet error rate for Channel C, at location X with radius R yesterday". Moreover, the tracked probing data can be used for inter-regional comparisons, traceability or linkage with other data sources.

With the **Open Content Decryption Module** (OCDM), a Content Decryption Module (CDM) is accessible as an open source solution on GitHub and compliant to W3C Encrypted Media Extensions (EME) specification. It is used with HTML5 based browser environments and enables DRM interoperability for license retrieval and management for handling and decoding of protected media data. It is intended for OEMs, DRM providers, system integrators and browser vendors looking to enable playback of premium video content via EME. The API supports use cases ranging from simple clear key decryption to high value video (given an appropriate user agent implementation). This specification does not define a content protection or Digital Rights Management system. Rather, it defines a common API that may be used to discover, select and interact with such systems.

The FAMIUM Multi-DRM backend leverages Common Encryption (CENC) and DASH-IF CPIX to encrypt media streams just once. DASH-IF-CPIX is the abbreviation for "Content Protection Information Exchange" and is used as an exchange format. The CPIX file contains information used for encrypting and protecting DASH content, and can be used for exchanging this information among entities needing it in many possibly different workflows for preparing DASH content. Different DRM license servers are integrated in the FAMIUM Multi-DRM backend, in order to support a wide range of platforms and devices. New components based on "MPEG DASH part 5", "Server and Network-assisted DASH" (SAND), are now part of the FAMIUM DASH ecosystem. One key feature is reporting and analysis of streaming-related metrics. Another benefit is coordination of multiple devices in the same network, by allocating the available bandwidth fairly.

Visit Fraunhofer FOKUS on September 9 - 13, 2016, at the joint-stand of the Fraunhofer-Gesellschaft in Hall 8, Stand B80.

More information:

http://www.fokus.fraunhofer.de/go/ibc

OCDM available on GitHub: http://s.fhg.de/ocdm

HAT available on GitHub: https://github.com/fraunhoferfokus/HAT

High-resolution images are available on request.

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