# Technical Synergies and Next Steps

Sessions 2 and 3
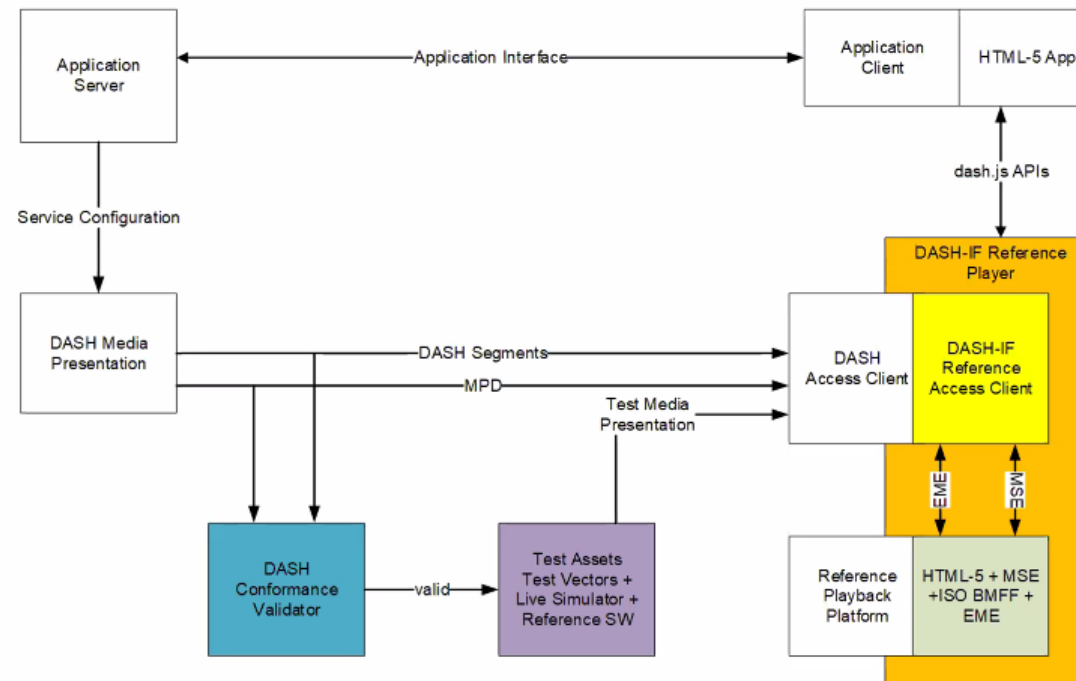
09.05.2022

1st OSMART Workshop

# Getting the broad picture right

- Thomas:
  - A distinction between Test Material, Conformance Software and Reference Tools is needed
  - Interoperability needed
  - An example from DASH-IF:

## More than just specs: Test, Reference and Conformance

# Getting the broad picture right

**Conformance Software**
**Testing Material**
**Reference Tools**

## Content Packager & Service Layer

Content Ingest Interfaces + Control

DVB Service Metadata

Metadata Validator

DVB-DASH bitstreams

MPDs, DRM,… DASH-IF Live Source Simulator

JCCP Content Validation,…

DASH DRM Content Preparation, (inc. dash LiveSim)

JCCP-based testing of CMAF, Media Profiles, DASH/HLS interop

## Extra Modules

DVB-I CSR

Distribution (origin to client) performance and tracing. Cross-CDN interoperability

**5G System APIs**

Implementation of 3GPP/5G Systems Media Streaming + Broadcast (+SRSRAN)

DVB-NIP over Satellite

## Clients / Applications

3GPP Clients: 5GMS, MBMS,… (inc..dash.js, hls.js,…)

DVB-I Client (Bluebook A177)

DVB-I Ref App (inc. dash.js)

DASH.js Reference Player

HbbTV Ref App DASH DRM Player (inc. Dash.js)

Web media API tests Device Capabilities Tests

Associated test vectors

**CONTENT PROVISION AND MANAGEMENT**   **CDN/CLOUD/DATA**   **ACCESS NETWORK DOMAIN**   **USER EQUIPMENT / DEVICES**

OSMART
OPEN-SOURCE MEDIA APPLICATION REFERENCE TOOLS

# What's next for each of us?

- Mike (CTA WAVE):
  - Frameworks for extension:
    - JCCP, W3C WPT (Web Platform Test), CTA WAVE
    - HbbTV has a test framework (not public) and is using the above

- Daniel (DASH-IF):
  - HbbTV: Dash.js + HbbTV
  - DVB: uses dash.js in the DVB-I Reference Client
  - CTA WAVE: Feedback from Devices and implementation
  - 5G-MAG: Media Session Handler + dash.js

- Johann (5G-MAG):
  - 5GMS Implementation
  - Service Announcement conformance?
  - DVB-I: 5G-MAG Reference Tools can offer V&V on the scope of JTF
  - Use Cases: Targeted-Ads, Content Replacement (to find out what can be used from projects)

- Romain (JCCP):
  - Maximize visibility of the projects / Community building
  - Focus on goals to maximize efficiency of resources and let people contribute more

OSMART
OPEN-SOURCE MEDIA APPLICATION REFERENCE TOOLS
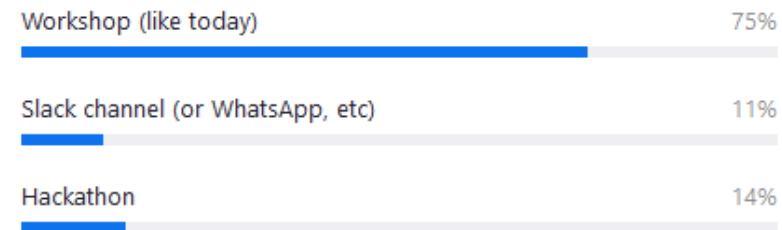
# Finding best framework for developers

- Thomas: Is a workshop with slides good?
  - Today: Meeting each other and presenting the tools

- Daniel:
  - Getting developers together when we want to implement a specific use case
  - On-boarding new people / students
  - Involve developers / bring code back and merge it
  - On-going activity in 3GPP on «how to write specs that end up being useful to developers»

- Paul:
  - Getting feedback from end users of the tools

- What do attendees think?

1. What format works best for you? (Single Choice) *

Workshop (like today)                                          75%

Slack channel (or WhatsApp, etc)                              11%

Hackathon                                                     14%

# Next steps on joint work

- Work on a full picture architecture (more clarification is needed)

- Exchange information on the use-cases to be implemented and try to align roadmaps

- Work on a proposition for a follow-up gathering

# Interested in the OSMART Tools?

- [5G-MAG Reference Tools](#)

- [DVB Verification and Validation tools](#)

- [DASH-IF dash.js development](#)

- [DASH-IF JCCP (Joint Streaming Conformance Software Project)](#)

- [HbbTV Reference Video Application](#)

- [CTA WAVE Test Suite](#)