



FUTURE TECH

IBC Accelerator Programme 2025

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FUTURE TECH

Ultra-low Latency Live Streaming at Scale



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Ultra-low Latency Live Streaming at Scale

#Accelerators2025

Champions:



MEDIA AND
BROADCAST



Participants:



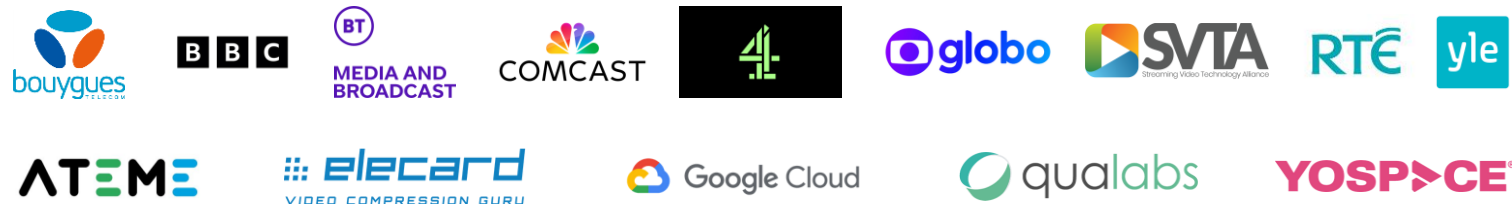


Ultra-low Latency Streaming at Scale

The switch-off of digital terrestrial and satellite TV is coming fast.

We need a truly scalable architecture to deliver TV to millions of consumers over the internet with the same latency, stability, feature set, and performance they are accustomed to – over an entirely different technology stack.

This project combined several open standards to create a production-like experience over a large number of clients and geographies





Ultra-low Latency Streaming at Scale

Building off IBC'24 Accelerator L3D-DASH implementation, we introduced functionality expected from a production DTT channel using new open specifications

Telemetry:

- CMCDv2 (CTA 5004-A) used for monitoring and KPI derivation

Advanced advertisement:

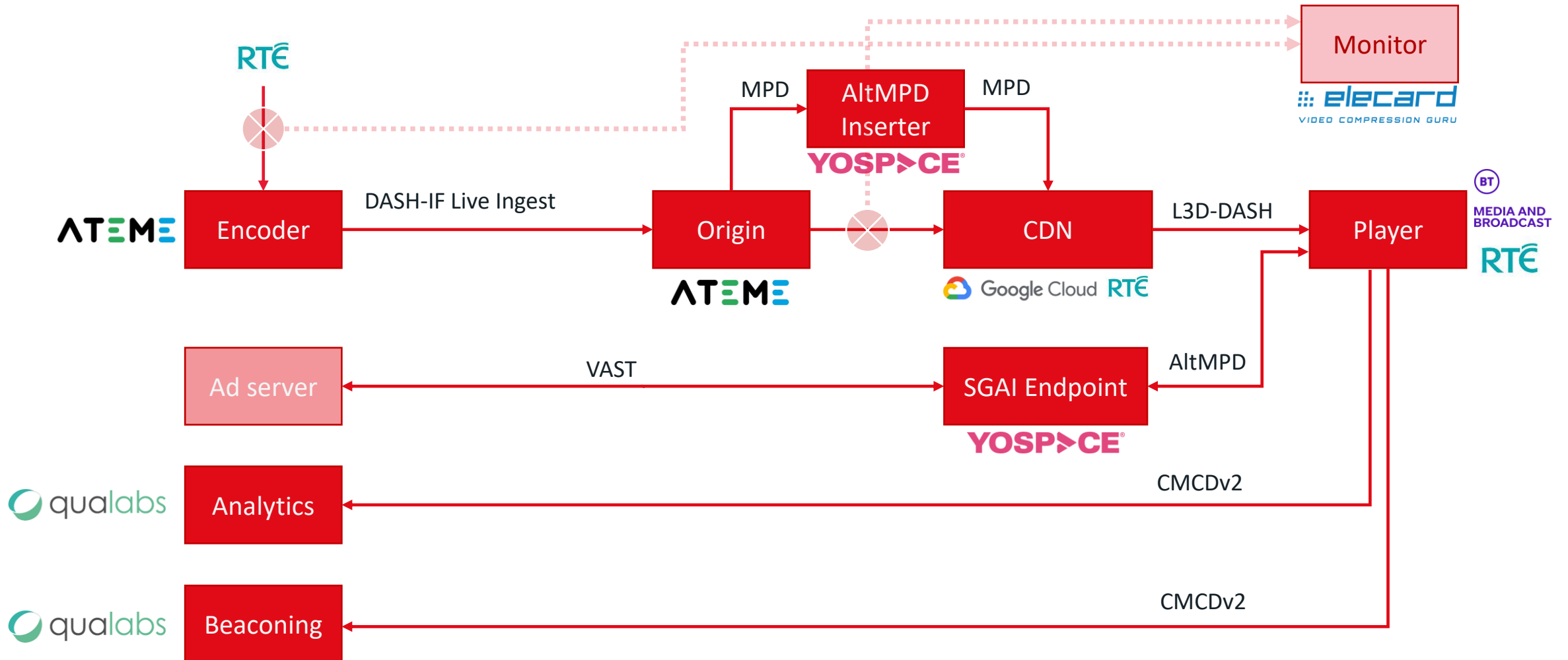
- Alternative MPD Events (DASH 6th ed.) as ad triggers
- Pre-standard SCTE 214-1 overlay ads (“L-shaped ads”)
- Native beaconing: CMCDv2

CDN:

- Google MediaCDN, RTÉ



Architecture





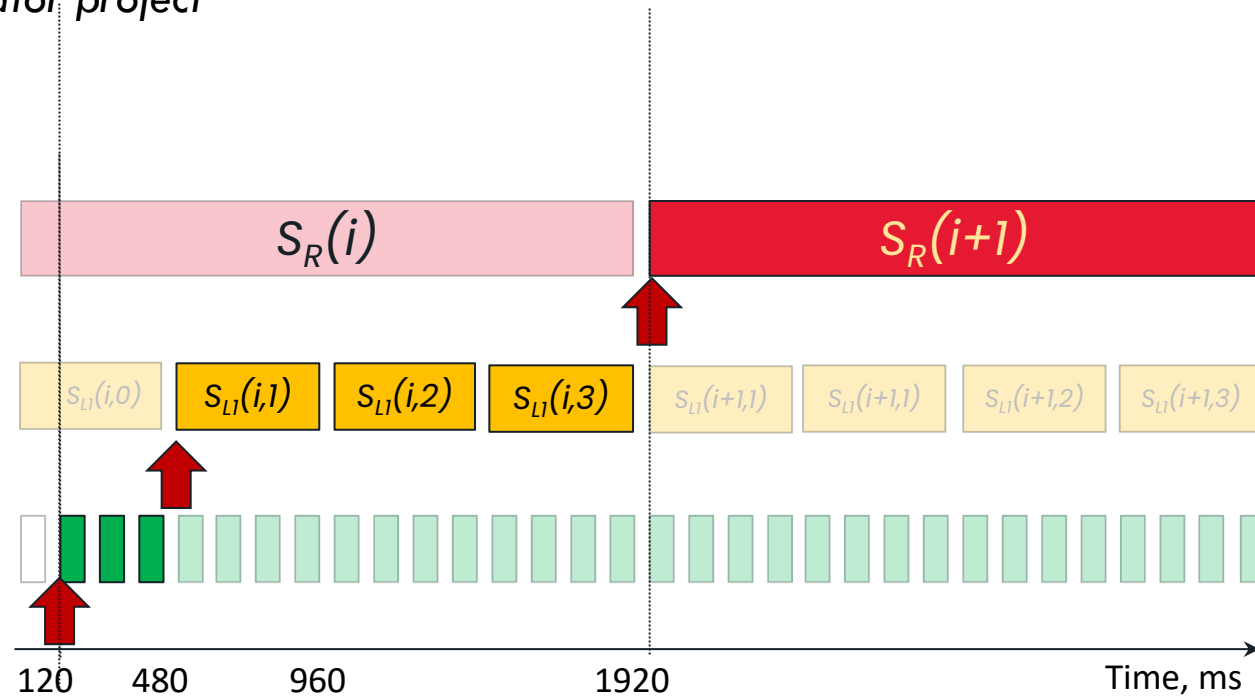
Low latency: L3D-DASH

- Low-latency low-delay extensions of MPEG DASH (upcoming 6th edition)
- **Fine-grain random access** (possibly frame-accurate)
- Open-source implementations: Shaka, dash.js
- ... basis of the IBC'24 Accelerator project

Regular segments
(current, 1920ms GOP)

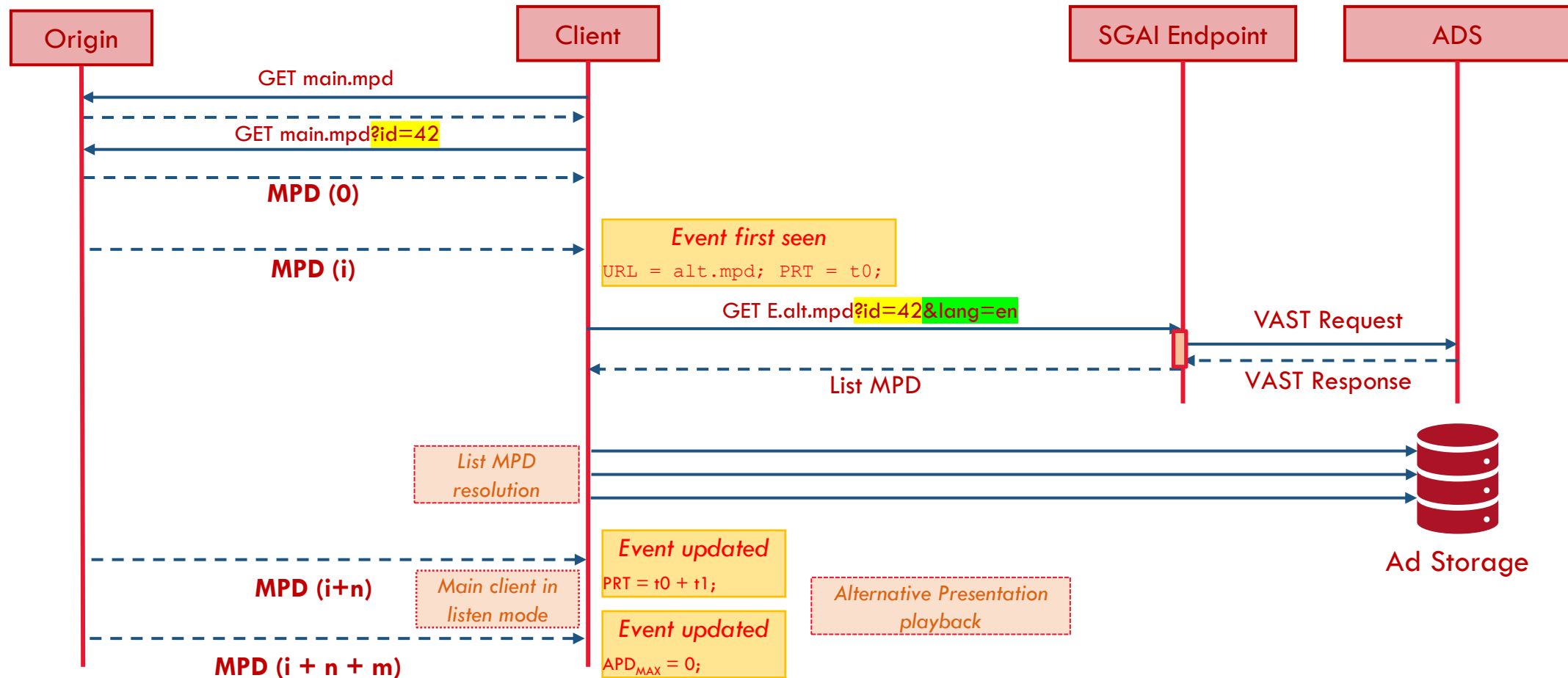
Low-delay segments
(new, 480ms GOP)

Low-delay segments
(new, 120ms GOP)





Server-Guided Ad Insertion: Alternative MPD





Interoperable Telemetry: CMCDv2



- Client sends an HTTP request to an analytics endpoint, after segment request completion
- There can be multiple targets and multiple different sets of keys
- Analytics system *may* process the information immediately



What's next?

Industry adoption:

- The blueprint is there – now it's time for wider vendor adoption

Transport optimization:

- Transport-level latency matters
- What can we do *at the transport level* to reduce rebuffering rate?



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Want to learn more?

SMPTE 2025 Media Technology Summit

October 13-16, 2025, Pasadena CA, USA

Demuxed 2025

October 29-30, 2025, London, UK

Mile-High Video 2026

February 2-5, 2026, Denver CO, USA



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Q&A