

Tata Elxsi collaborates in Xfinity IP player development

Open source players have emerged as one of the major distribution and access techniques for broadband multimedia services driven by increasing throughput speeds. Access bandwidth, Service interoperability and network interconnection issues are the biggest challenges faced by MSO in delivering QoE to the IPTV viewer. IPTV players play a significant role in adapting the playback dynamically to overcome these challenges, provide a seamless viewing experience to the end user. Some of the key characteristics that enable IPTV players to provide a seamless viewing experience to the end user are

- Playback free and protected content.
- Compliance to various protocols and standards like HLS, MPEG-DASH, Smooth Streaming etc. used by streaming services that delivers content.

Unlike players where the code base is proprietary to the licensor with limited options for the licensees, open source players offer customisation options that can be tailored to any operator requirements. As part of the RDK initiative, Comcast decided to develop an open source lightweight player called “Advanced Adaptive Micro-Player” (AAMP) that scales to meet the requirements of IPTV content delivery.

Tata Elxsi collaborated with Comcast in the development of AAMP for IP-HLS/DASH streaming which was successfully used to bring Winter Olympics 2018 in 4K HDR to viewers across America. As the key partner for the deployment of AAMP, Tata Elxsi engineers were a part of the team that designed and developed support for HLS/ DASH Streaming, integrated PlayReady and WideVine DRMs for Access Control and incorporated Adaptive Bit Rate (ABR) switching to overcome network issues. Tata Elxsi played a significant role in developing client side TSB support for DASH and HLS and developing additional features including enabling CC support, adding trick mode/seek features, enabling service-side Dynamic Ad Insertion (DAI) support and validation and automation to enable AAMP as a robust client player.

Tata Elxsi QA team worked hand-in-hand with the development team to validate IP linear & VoD for HLS/DASH with features like trick play, CC, SAP etc., ABR validation for HLS/DASH, DRM validation of IP/VOD playback for clear and encrypted content, 4K content validation, performance testing and end-to-end functional validation. Tata Elxsi in-house developed Network Parameter Control and Monitoring Tool for IPTV service validation called FalconEye Cube was leveraged for validating the availability of un-interrupted end user video service delivery, across combinations of network bandwidth while monitoring content bitrate for varying conditions.

The deployment enhanced the end user experience of the Comcast customers with faster channel change reducing the time taken from earlier 3.39 seconds to 2.332 seconds in AAMP player. The 4K VoD deployment was achieved in a short timeframe enabling trials to start much ahead of the actual start of winter Olympics 2018. Currently AAMP has achieved 100% GA in most of the Comcast Set Top Box platforms as the default player for IP video playback. AAMP was also used for delivering playback of 2018 FIFA World Cup in 4K HDR format.

The AAMP source code is now made available through RDK LLC and can be used for integration by any licensee. For more details contact rdk_architects@tataelxsi.co.in