

CASE STUDY

Codec 2 support for Proprietary HDR Technology on Android 11 and beyond

FOR AN AV TECHNOLOGY MAJOR





INTRODUCTION

A US-based audiovisual technology major which licenses IP to leading consumer electronics OEMs approached Ignitarium to integrate their proprietary HDR processing capabilities on Android devices running Android 11 and upwards.

Service in Focus

ANDROID VENDOR SERVICE INTEGRATION AND HDR INTEGRATION



Industry

Consumer Electronics



Challenge

- In-depth understanding of Android Codec 2 framework and HIDL implementation
- Need for a power optimized solution with no compromise on performance



Scope

- Enable Android-based device with HDR playback
- Formulate a Verification & Validation process for accommodating customer specific enhancements

THE CHALLENGE

While building the solution, Ignitarium was required to address the following challenges:

- Codec 2 being a new technology, the team had to build the right technical expertise on Codec 2 Multimedia Framework to architect the expected scalable solution
- Using guidelines from Treble architecture, HDR processing blocks had to be integrated
- Support additional feature of directly getting user input to control the dynamic range of the picture with the HIDL callbacks
- Design generic wrapper to make solution agnostic to hardware platform
- Making sure the developed components do not add any extra overhead on performance or memory (secure & non-secure) during playback of UHD 60fps content





IGNITARIUM'S APPROACH

Ignitarium's scalable solution enabled the customer to release the HDR feature on latest Android devices (phone/TVs) in time

- Well defined interface enabled easy adoption by various OEMs working on different platforms like QCOM, MTK, custom platforms, all running customized AOSP code
- Custom-built HIDL interface enabling seamless integration of Vendor and System services
- Generic design helped isolate issues faster in customer side integrations, enabling reduced debug cycle.

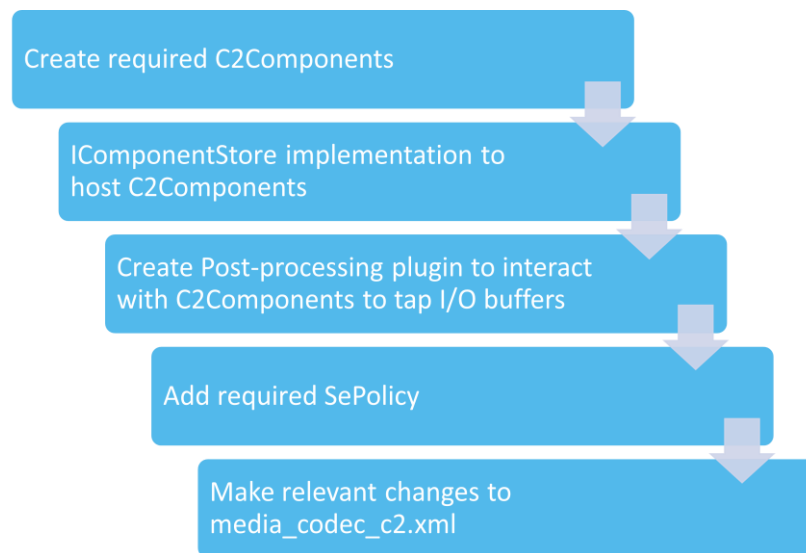


Fig.1. High-level Approach

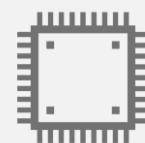
BUSINESS IMPACT



Easy and seamless migration for OEM, thereby increasing the adoption of the solution and hence the market share



Reduced time-to-market for customer by delivering a solution that is platform agnostic. Enabled end customer wins



Enabled HDR processing for over 1 million+ devices running Android R / S versions

Looking to transform your product engineering?

Drop us a line to get in touch with our experts.