BUD17-118
Status of Android “AOSP” TV Project

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Overview

- What is AOSP TV Project about?
- Focus and Goals of AOSP TV project
- Current Status - What’s delivered?
- Future Plans - Road map
- Q and A
What is AOSP TV PROJECT?

**Is**
- Android TV sources from AOSP as Baseline, integrated with other open source applications (exoplayer, Live TV) and frameworks (OPTEE) for TV
- Validated with CTS, VTS to confirm CDD compliance.
- Public release for all the open source components.
- Few proprietary software (like Widevine integration) etc might be released to members only.

**Is NOT**
- Is not a Fork of AOSP.
- No fragmentation of Android for TV.
AOSP TV Project - Segment Focus

Viewers have multiple options to view the TV content:
- TV Panel, Gaming console
- Settop Box
- Over The Top (Tablets, Phone, etc)

We focus on devices with Premium User Experience, example: advanced settop boxes, Gaming Console, Smart TV, etc. We are not trying to be a "me too" implementation that is focused on an inexpensive AOSP TV experience.

We collaborate with Linaro LHG members to keep the Android TV brand synonymous with first rate user experience.
AOSP TV Project - Goals

- Bring TV products faster to market
  - CDD compliant Android software for TV made available on open hardware 96boards.org TV reference platform.

- Reduce software R&D on baseline software
  - Premium user experience like 4K HDR, Graphics, Picture in Picture, etc. require high end SOCs with complex software integration. We enable you to address the software requirements for high end TV use cases.
  - Don’t start from scratch, only focus on differentiators like hardware accelerators, customized UI, deployment tools, regional use cases, etc.

- Enable public forum to collaborate on TV use cases
  - Avoid redundant efforts, work with engineers across different organizations solving similar problems.
AOSP TV Project - Key software areas of focus

- **TVIF device HAL and Service**
  - VTS compliant HALs for TV peripherals like Antenna, HDMI IN. Initial development based on USB Video IN, USB Antenna.
  - TVIF sample service to list hardware devices on Live TV channels.

- **Secure Video Playback**
  - Integrate OPTEE for TEE, use ARM trusted firmware to boot, ION for secure memory allocation and support multiple DRMs. Initially Widevine and Playready are being planned.

- **CDD compliant Android TV software baseline from AOSP**
  - AOSP TV Starter Kit on reference TV hardware from 96boards
  - Linaro LHG M-LCR - monthly release of Android TV software with open source components, apps and secure media playback to cover TV and Settop box use cases
AOSP TV Project - Tasks Completed: LAS16 - BUD17

- Member approval for AOSP TV Lead project
- Initial Android TV software bringup on Hikey. The contents are:
  - Android TV software from AOSP.
  - Live TV channels app
  - TVIF sample service and channels app
    - [https://github.com/googlesamples/androidtv-sample-inputs](https://github.com/googlesamples/androidtv-sample-inputs)
  - Exo Player with HLS support
    - [http://developer.android.com/guide/topics/media/exoplayer.html](http://developer.android.com/guide/topics/media/exoplayer.html)
  - Build made public:
    - [https://wiki.linaro.org/LHG/Build-AndroidTV-For-Hikey](https://wiki.linaro.org/LHG/Build-AndroidTV-For-Hikey)
- Secure Video Playback
  - Enabling OPTEE on 4.4 Kernel and Widevine DRM with non-secure buffers.
- Linaro LHG M-LCR - Content finalization in progress.
AOSP TV Project - Tasks Planned: Next 6 Months

- Secure media playback with Widevine / Playready DRM **
  - Integrating OPTEE with Android N, Kernel 4.9.
  - Secure buffer allocation: Pass the xtest sdp_perf testing
  - Handling ION buffer descriptor
  - Widevine validation with device key. (May 2017)
  - Implement and support Playready DRM playback.
- TVIF (initial development on Hikey)
  - Identify USB Antenna or USB Video-In module with open Linux drivers support and implement TVIF service and HALs.
- Create LHG M-LCR for AOSP TV (Begin releases from May 2017)
- Migrate to Android O
- Migrate to 96boards TV platform

** For members who are not licensees of Google Widevine DRM, a plug-in module supporting a W3C EME Clear Key version will be available
Thank You

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BUD17 keynotes and videos on: connect.linaro.org