RDK-V 3.0 - SOC Porting Guide

Below is the list of components that has a HAL layer implementation that needs to be ported by SoC vendors.

- DTCP
- tr69hostif
- gst-plugins-rdk /qamtunersrc
- gst-plugins-soc /playersinkbin
- hdmicec
- iarmmgrs
- media_utils
- Mocahal
- westeros-soc
- wifi (client)

Device Settings

Devicesettings component is having a hal interface to control device specific peripherals such as video port, audio port and display and front panel.

More details on hal interface can be found here: Device Settings HAL Types & Public APIDTCP HAL Interfaces

DTCP

Integrates the SoC provided dtcp library with DTCP/IP manager Interface implementation which manages source/sink DTCP/IP sessions and performs the encryption/decryption.

Hal Interface specification: DTCP HAL Interfaces

tr69hostif

Contains SoC specific moca libraries, headers and moca profile codes.

API Details: TR69 Host Interface Handler

gst-plugins-rdk /qamtunersrc

qamtunersrc is a push based gstreamer source plugin which tunes to the given service and provides the SPTS data.

- Manages tuner and demux
- Filters PIDs required for SPTS
- Output SPTS as gstreamer buffer

Properties:

1. modulation:
2. frequency : frequency to tune in KHZ.
3. Tunerid : Tuner Handle

Depends on platform specific libraries for tune, filtering, and pod functionalities

gst-plugins-soc /playersinkbin

Playersinkbin is a gstreamer bin element consisting of demux, decoder and sink elements. A template file gstplayersinkbin.c.template and gstplayersinkbin.h.template are provided as a reference for SoC implementation. SoC has to add details of platform specific plugins and implement the required properties expected out of them.

hdmicec

SDK Vendors should implement CEC driver interface API as specified in hdmi_cec_driver.h

HAL Interface Specificcation: HDMI-CEC HAL API's specification

iarmmgrs

Power, IR and DeepSleep modules are having SoC dependency. API's are specified in plat_power.h, plat_ir.h and deepSleepMgr.h

More details about api's can be found here

media_utils

To stream out audio over Bluetooth to BT Headset /Speakers. Media Utils hal APIs

Mocahal

MoCA HAL is an abstraction layer, implemented for interacting with MoCA driver. MoCA HAL API's functionality should be ported. moca_hal.c file provides the function call prototypes and structure definitions used for the RDK MoCA hardware abstraction layer. More details about api's can be found here

westeros-soc

Contains functions for creating and handling native eglwindow. Hal api's are specified in westeros-gl.h.

wifi (client)

Wi-Fi Client HAL provides an interface (data structures and API) to interact with underlying Wi-Fi driver and enabling the client to be connected with an Access Point.

Hal api's are specified in wifi_client_hal.h. Doxygen Link: Wifi HAL API Specification