# 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