



Library or App Programmer

hw/hal/hal\_xxx\_api.h  
This is used by the application programmer to create and use hardware devices

hal\_xxx\_init(SystemDeviceDescriptor sysid)

hal\_xxx\_method(struct hal\_xxx\_dev\_s \*pdev)

hw/hal/hal\_xxx.c  
This is a shim in the HAL that dispatches to the proper driver and contains the factory to create a new device for the application (with help from the BSP).

hw/hal/hal\_xxx\_int.h -- This is the internal API that a driver will implement. This includes the main interface to the driver and a small iteiface for the BSP to help with creation of devices.

struct hal\_adc\_device\_s \*  
bsp\_get\_hal\_adc\_device(sysid);

pdev->driver\_api->method()

**BSP**

The BSP provides the system description via the SYSID enumeration.

The BSP serves to MAP the init function from the hal into a driver and call the driver intializtion and creation, providing the driver config.

dev\_specific\_constructor(cont struct dev\_cfg\_s pconfig)

/device/hal\_xxx.h: This is where the device provides its interface to the hardware. Typically this contains the creation function and the configuration the device requires.

**Device Driver**

This contains the device implementation. This hooks directly to the hal interface via the function pointer API defined in hal\_xxx\_int.h

- DEVICE -- This code is implemented by the device driver
- BSP -- This code is implemented by the BSP designer
- HAL -- This code is provided in Mynewt