

RDK VlanBridgeManager

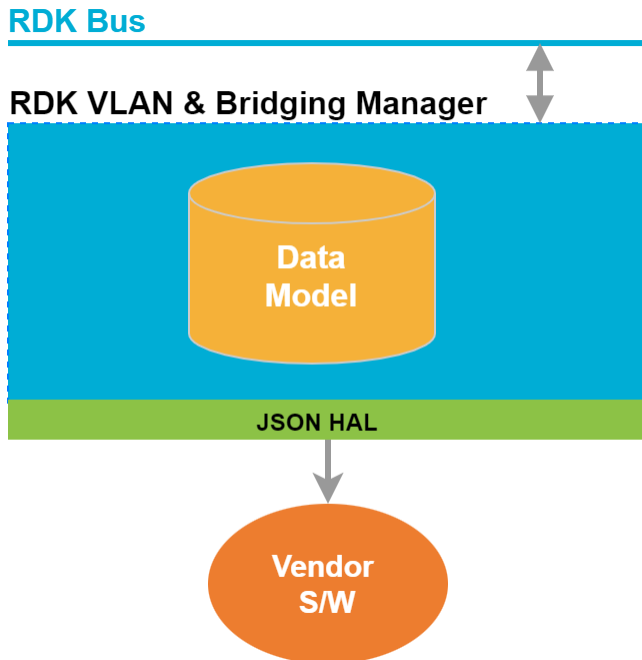
Introduction

RDKVLAN&BridgeManager is a component that interfaces directly with the RDK Bus.

It is responsible for:

- Supporting bridges and VLAN interfaces
- Storing configuration and statistical data for bridges and VLAN interfaces
- Creating/deleting the bridges or interfaces
- And communicating the status of the bridges or interfaces with other RDK Managers

The following diagram shows how RDKVLAN&BridgeManager sits in the RDK-B architecture as well as its internal processes:



The RDKVLAN&BridgeManager component will hold the Ethernet Link, VLAN Termination, and Bridging data models, and will run processes related to creating or deleting bridges or interfaces

Architecture

1. OVSDB and WebPA can receive data from the Cloud in any format but they **MUST** translate this data into the DML syntax exposed by RDK VLAN & Bridging Manager and transmit this data to that module via the Bus.
2. RDK VLAN & Bridging Manager stores a custom data model that allows for all OVS functionality (e.g. OpenFlow), as well as generic bridging /VLAN termination functionality.
 - a. Basic bridge and VLAN configuration **MUST** be generic enough (where possible) such that it is not tied to any one particular implementation.
 - b. Some features (e.g. OpenFlow) will only be implementable using OVS, and therefore will not feature an equivalent Linux Utilities implementation.
3. RDK VLAN & Bridging Manager's Southbound API can be used to translate configuration data into specific OVS or Linux Utilities commands, depending on the platform requirements.
 - a. In some cases, OVS Bridging will have to be supported alongside Linux VLAN configuration.
 - b. In other cases, platforms may choose between a full OVS implementation or a full Linux Utilities implementation.
4. In this design, the CPE bridge/VLAN configuration is decoupled from backend management services as well as from low-level utilities. This allows RDK-B to be more flexible in how it is managed from the cloud, and how it operates on a platform.

