

# RDK VlanBridgeManager

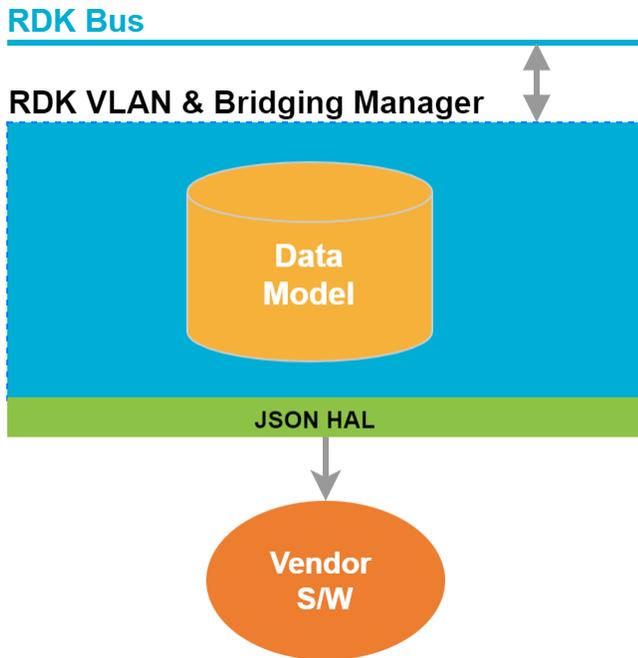
## Introduction

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.

