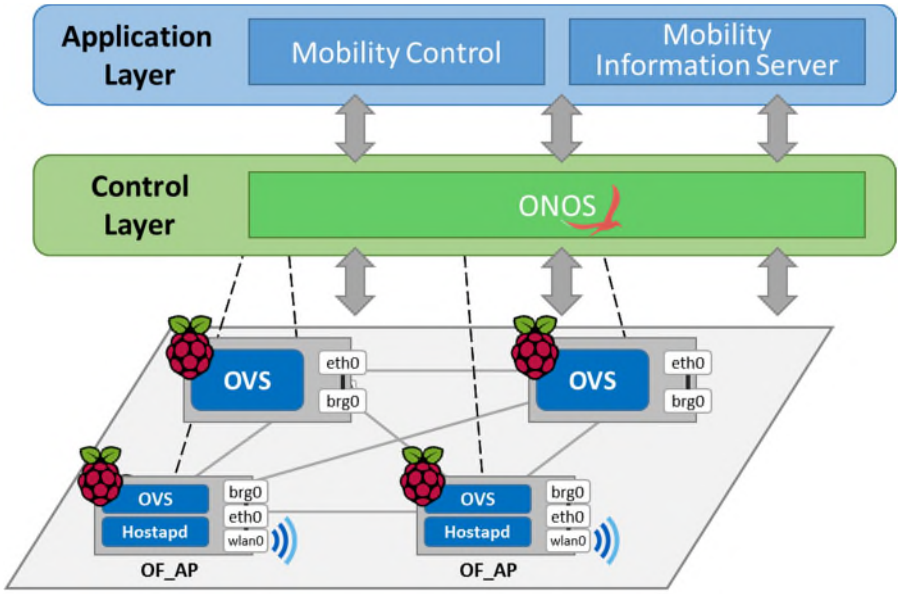
IPv6 host mobility management

Introduction: This module supports a network-based mobility management by using the OpenFlow-enabled AP (OF_AP) and ONOS controller. It consists of **mobility control module** and **mobility information server** in ONOS controller. **The mobility control module** handles the signaling messages and decision logic. **The mobility information server module** takes care of entries managing the mapping information associated with host-ID, AP-ID, and prefix information.

Architecture and Operation:



MN sends RS message to receive RA message which includes Prefix address. Once receiving the RS message in OF_AP, it is encapsulated with the OpenFlow Packet_In message and sends to the ONOS controller. **In the mobility control module**, parsing host ID and AP-ID from the received RS message and transferring them to **the mobility information server module**. In **the mobility information server module**, there is entry which include host-id, AP-id, Prefix address for IPv6 host. If there is no entry for the host, it will make a new entry or if there is the entry, it will update or maintain entry. The entry information (Prefix address) is delivered to **the mobility control module** to create the RA message and encapsulate it with the OpenFlow Packet_Out message. This OpenFlow Packet_Out message will send to OF_AP and OF_AP will decapsulate it and delivery RA message to MN

Command:

- cfg set org.onosproject.provider.host.impl.HostLocationProvider ipv6NeighborDiscovery true
- cfg set org.onosproject.proxyarp.ProxyArp ipv6NeighborDiscovery true
- App activate org.onosproject.mobilitycontrol
- App activate org.onosproject.mobilityinformationserver