

# CAPWAP Proposal

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## Name

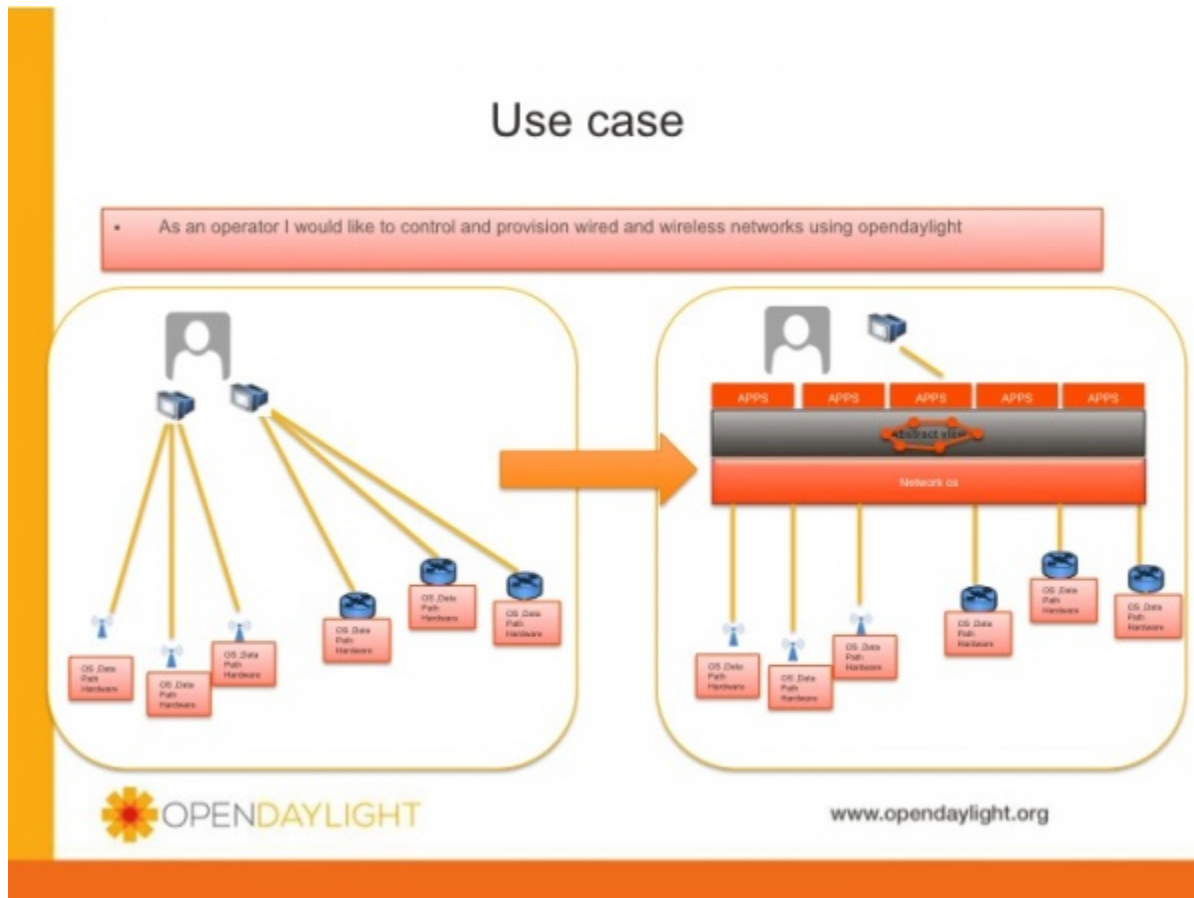
CAPWAP interface support

## Repo Name

capwap

## Description

As a baby step for achieving the goal of **Unified management of wired and wireless networks using right abstractions**, we would like to propose the implementation of "Control And Provisioning of Wireless Access Points (**CAPWAP**) Protocol" as one of the south bound interface.



## User Stories

- As an administrator I would like to have a single application using which I could control provision & apply policies in my network with an end to end view ( **Wireless access + Wired** )  
  
# As an administrator I would like to have a single application using which I could **control** my network with an end to end view  
# As an administrator I would like to have a single application using which I could **provision** my network with an end to end view  
# As an administrator I would like to have a single application using which I could **apply policies** in my network with an end to end view
- As an administrator I would like provide service discovering capabilities for my access points. I would like to do this using CAPWAP open standard.
- As an administrator I would like to authorize and authenticate my access points and allow them to join to my administrative domain. I would like to do this using CAPWAP open standard.
- As an administrator I would like to configure and apply policy to the access points in my administrative domain . I would like to do this using CAPWAP open standard.
- As an administrator I would like to get statistics and reporting from my access points. I would like to do this using CAPWAP open standard.

## Trello Story Board

<https://trello.com/b/jPO74GLb/capwap-user-stories>

## Standards to be supported

- CAPWAP RFC ( [RFC 5415](#) ) -
- IEEE 802.11 Binding ( [RFC 5416](#) )

## Scope

- South Bound MD-SAL Plugin for CAPWAP
  - CAPWAP Protocol library ( [CAPWAP RFC 5415](#) )
  - CAPWAP 802.11 bindings" ( [CAPWAP RFC 5416](#) )
  - "Unified test Application for CAPWAP and the 802.11 bindings
  - Local Mac with local bridged- In the initial version Local Map Support will be provided . There will not be split mac support in the initial version.
- 
- From [RFC 5415](#)

.....The Local MAC mode of operation allows for the data frames to be either locally bridged or tunneled as 802.3 frames. ....

.....When Local Bridging is used, the WTP does not tunnel user traffic to the AC; all user traffic is locally bridged. ....

## Software Components

- Connection Handler

Handles UDP & DTLS connections

- CAPWAP Protocol Library

Implements CAPWAP Protocol

- MD-SAL CAPWAP Plugin

South bound ODL plugin

- Inventory Manager

Database for Access Points

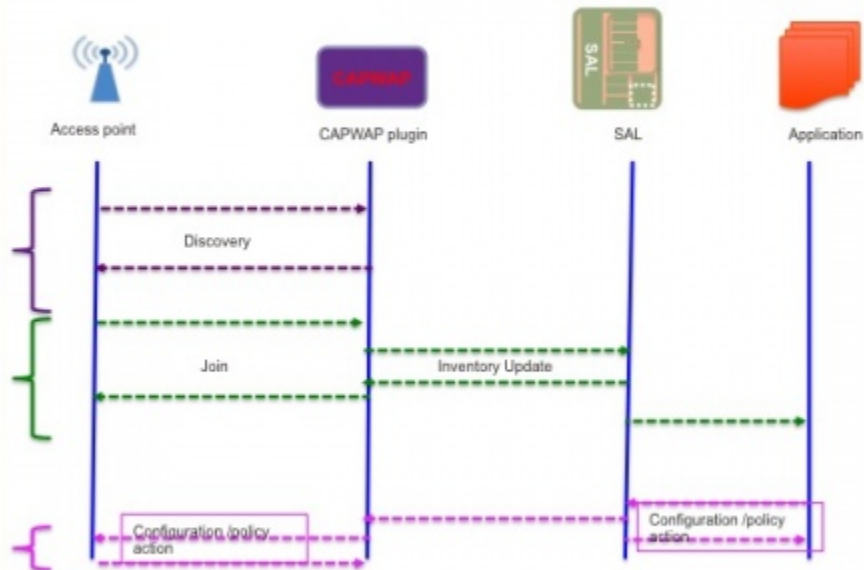
- North Bound Sample application

Example application which could demonstrate e2e network abstraction

## Message Flows

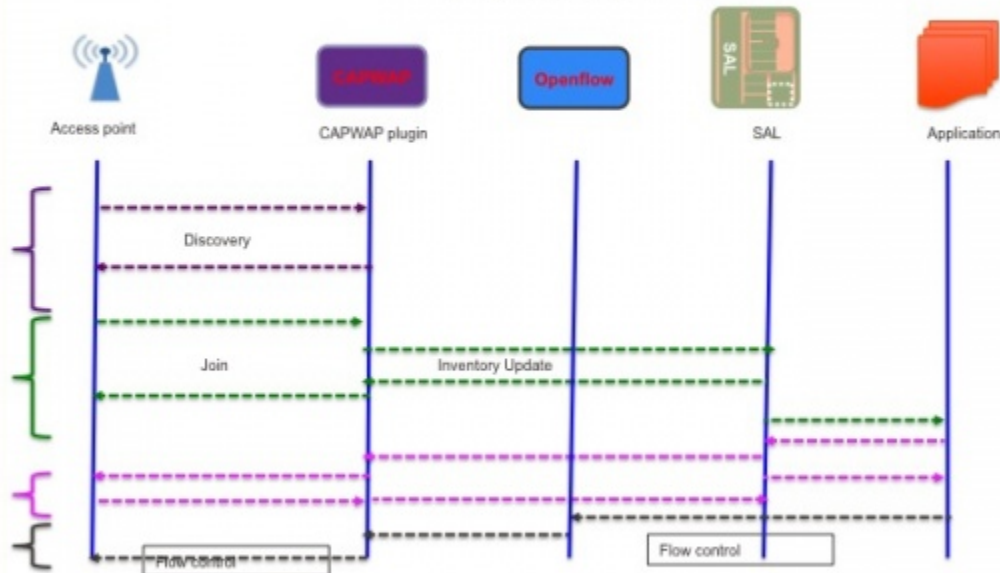
# High Level message flow

Targeted for initial release



# High Level message flow with CAPWAP and Openflow

Potential future



## Presentation used for creation review

<https://wiki.opendaylight.org/images/b/b6/CAPWAP2.ppt>

## Resources Committed (developers committed to working)

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## Vendor Neutral

If this proposal is coming from an existing proprietary codebase, have you ensured that all proprietary trademarks, logos, product names, etc. have been removed? Please specify.

## Meets Board Policy (including IPR)

## Release Plan

[Release\\_Plan\\_For\\_CAPWAP](#) Release plan for Capwap

## Release Milestones

- **Offset:** <Should be 0, 1 or 2. The dates in the table and the number in the column header should be adjusted to match>

Milestone	Offset 2 Date	Deliverables									
M1	3/24/2016	<table border="1"><thead><tr><th>Name</th><th>Description</th></tr></thead><tbody><tr><td>Release Plan</td><td>Candidate Release Plan</td></tr></tbody></table>	Name	Description	Release Plan	Candidate Release Plan					
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Release Plan	Candidate Release Plan										
M2	5/5/2016	<table border="1"><thead><tr><th>Name</th><th>Description</th></tr></thead><tbody><tr><td>Release Plan</td><td>Final Release Plan</td></tr></tbody></table>	Name	Description	Release Plan	Final Release Plan					
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M3	6/2/2016	<table border="1"><thead><tr><th>Name</th><th>Description</th></tr></thead><tbody><tr><td>Feature Freeze</td><td></td></tr><tr><td>Candidate Stable Distribution</td><td>A running candidate of what is attempting to be the stable distribution to be blessed by the TSC.</td></tr><tr><td>Extension Distribution</td><td>A running candidate of what is attempting to be the extension distribution.</td></tr></tbody></table>	Name	Description	Feature Freeze		Candidate Stable Distribution	A running candidate of what is attempting to be the stable distribution to be blessed by the TSC.	Extension Distribution	A running candidate of what is attempting to be the extension distribution.	
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M4	6/30/2016	<b>Name</b>		<b>Description</b>	
		API Freeze			
		Candidate Stable Distribution		A running candidate of what is attempting to be the stable distribution to be blessed by the TSC.	
		Extension Distribution		A running candidate of what is attempting to be the extension distribution.	
M5	8/4/2016	<b>Name</b>		<b>Description</b>	
		Code Freeze			
		Candidate Stable Distribution		A running candidate of what is attempting to be the stable distribution to be blessed by the TSC.	
		Extension Distribution		A running candidate of what is attempting to be the extension distribution.	
RC0	8/11/2016	<b>Name</b>		<b>Description</b>	
		Candidate Stable Distribution		A running candidate of what is attempting to be the stable distribution to be blessed by the TSC.	
		Extension Distribution		A running candidate of what is attempting to be the extension distribution.	
RC1	8/18/2016	<b>Name</b>		<b>Description</b>	
		Candidate Stable Distribution		A running candidate of what is attempting to be the stable distribution to be blessed by the TSC.	
		Extension Distribution		A running candidate of what is attempting to be the extension distribution.	
RC2	8/25/2016	<b>Name</b>		<b>Description</b>	
		Release Review		Release Review Description	
		Candidate Stable Distribution		A running candidate of what is attempting to be the stable distribution to be blessed by the TSC.	
		Extension Distribution		A running candidate of what is attempting to be the extension distribution.	
RC3	9/1/2016	<b>Name</b>		<b>Description</b>	
		Release Review		Release Review Description	
		Candidate Stable Distribution		A running candidate of what is attempting to be the stable distribution to be blessed by the TSC.	
		Extension Distribution		A running candidate of what is attempting to be the extension distribution.	
Formal Release	9/8/2016	<b>Name</b>		<b>Description</b>	
		Deliverable Name	Deliverable Description		