

# hotspot

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## Overview

Hotspot is a CCSP component that provides the connectivity to the users of Service provider even if not in the range of home device WiFi. This component provides wireless connectivity to a user from a third persons device belonging to a same service provider. This helps the users to stay connected over the service provider WiFi network even outside the home network.

Hotspot offers connectivity over both 2.4GHz and 5GHz frequency range. The SSID for hotspot is same for all the devices. From WEBUI a MSO user can see the exhaustive list of all the client devices connected to the gateway over Hotspot SSID.

### What is Passpoint (hotspot 2.0)?

Wi-Fi CERTIFIED Passpoint<sup>®</sup> is an industry-wide solution to streamline network access in Wi-Fi hotspots and eliminate the need for users to find and authenticate a network each time they connect. In Wi-Fi networks that do not support Passpoint<sup>®</sup>, users must search for and choose a network, request the connection to the access point (AP), and re-enter authentication credentials each visit to gain access to a hotspot location, such as a restaurant, stadium, airport, or hotel. Passpoint automates the entire process, enabling a seamless connection between Wi-Fi hotspot networks and mobile devices, all while delivering enterprise-level security.

### Passpoint features

Passpoint improves the mobile user experience by offering:

1. Automatic network discovery and selection
2. Simplified [online sign-up](#) and instant account provisioning
  - In the Wi-Fi CERTIFIED Passpoint<sup>®</sup> certification program, mobile devices use Online Sign-Up (OSU) to accomplish registration and credential provisioning to obtain secure network access. Each Service Provider network has an OSU Server, an AAA Server, and access to a certificate authority (CA).
    - Issues certificates (i.e., creates and signs them)
    - Maintains certificate status information and issues Certificate Revocation Lists (CRLs)
    - Publishes its current (unexpired) certificates and CRLs so users can obtain the information they need to implement security services
    - Maintains archives of status information about the expired or revoked certificates it issued
3. Seamless network access and roaming between hotspots
4. Enhanced WPA2<sup>™</sup>-Enterprise and WPA3<sup>™</sup>

### Passpoint Benefits

1. Mobile data offload
2. Wi-Fi roaming agreements across carriers and service providers
3. Opportunities to engage users and extract additional value from the network
4. Wi-Fi-based services such as Wi-Fi calling
5. Streamlined, enterprise-class device provisioning and credential management for enterprise and other private networks

## Passpoint Architecture



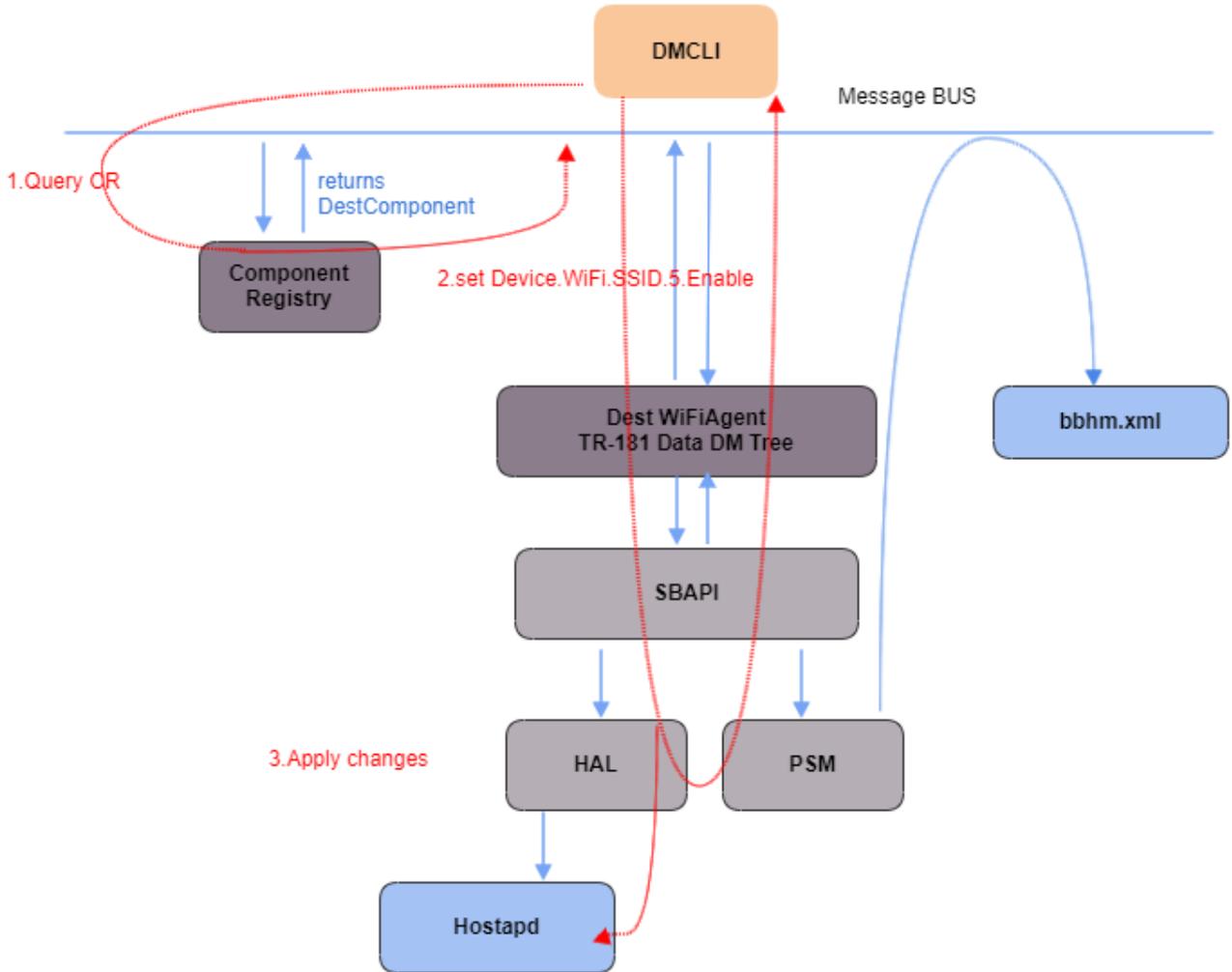
**Extensible Authentication Protocol** ('EAP') is an authentication framework frequently used in network and internet connections. It is defined in RFC 3748, which made RFC 2284 obsolete, and is updated by RFC 5247.

EAP is an authentication framework for providing the transport and usage of material and parameters generated by EAP methods. There are many methods defined by RFCs and a number of vendor specific methods and new proposals exist. EAP is not a wire protocol; instead it only defines the information from the interface and the formats. Each protocol that uses EAP defines a way to encapsulate by the user EAP messages within that protocol's messages.

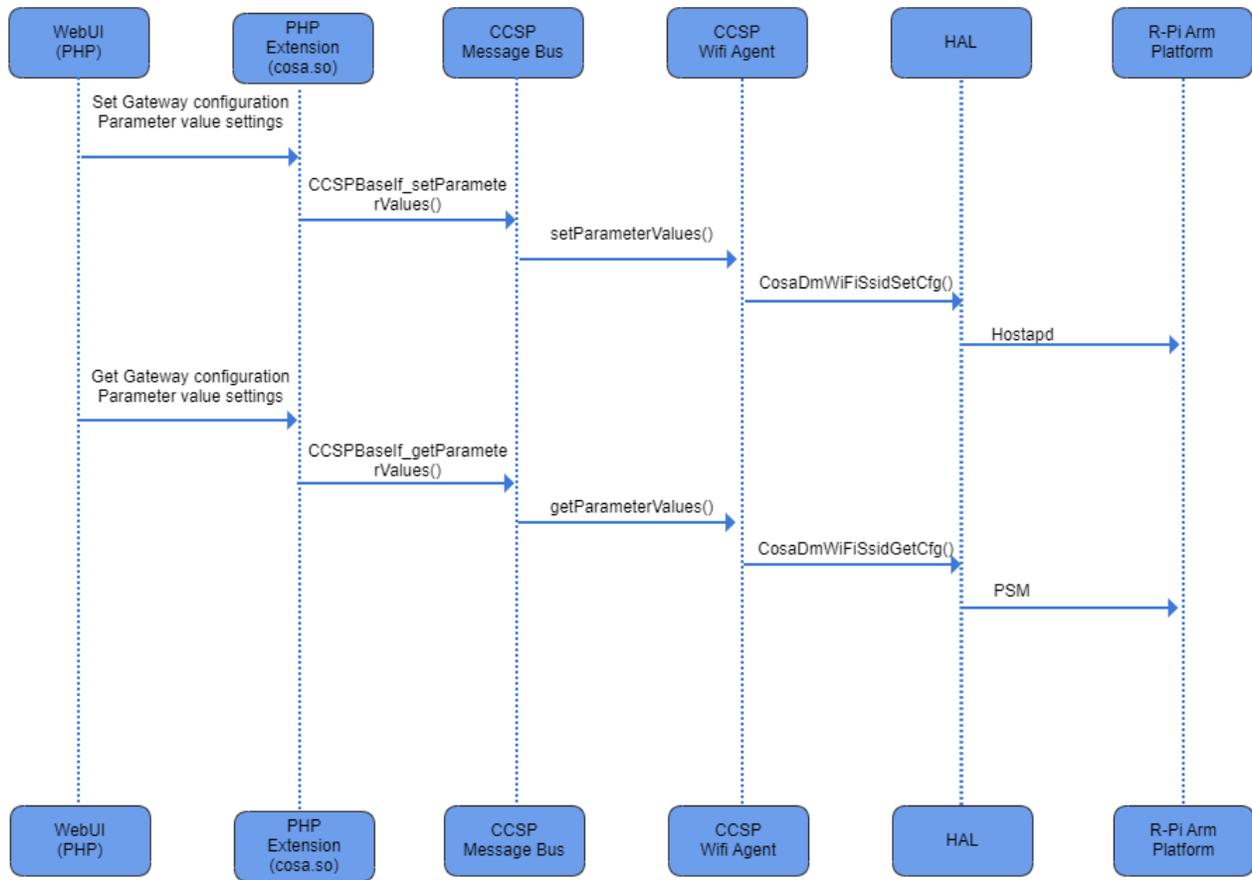
EAP is in wide use. For example, in IEEE 802.11 (WiFi) the WPA and WPA2 standards have adopted IEEE 802.1X (with various EAP types) as the canonical authentication mechanism.

## Code Flow

- Configuring parameters using CCspWifiAgent module.



## Sequence Flow



## Objects

- Device.WiFi.SSID.5.Enable.
- Device.WiFi.SSID.5.SSID.
- Device.WiFi.SSID.5.
- Device.WiFi.SSID.6.Enable.
- Device.WiFi.SSID.6.SSID.
- Device.WiFi.SSID.6.

Retrieve value using dmcli command.

```

dmcli eRT getv Device.WiFi.SSID.5.Enable
CR component name is: eRT.com.cisco.spvtg.ccsp.CR
subsystem_prefix eRT.
getv from/to component(eRT.com.cisco.spvtg.ccsp.wifi): Device.WiFi.SSID.5.Enable
Execution succeed.
Parameter      1 name: Device.WiFi.SSID.5.Enable
                type:      bool,    value: true
  
```