Location Hierarchy in the CMX Engage

This chapter describes the structure of the location hierarchy in the CMX Engage, and how to define the location hierarchy in the CMX Engage.

Location Hierarchy

Each CMX Engage customer is provided with a default customer name (root name), and this customer name acts as the root location of the CMX Engage location hierarchy.You can import the locations of both CUWN or Meraki networks to the location hierarchy. You can import the locations in the same structure in which they are defined in CMX or Meraki. For CUWN, you can use the CMX Engage even without installing the Cisco CMX. However, this option will be having certain restrictions for the location hierarchy structure.

As CMX Engage provides universal account, you can import and manage the locations of both CUWN and Meraki. However, the wireless network specified when creating your customer account will be your base network. A proximity rule can include the locations of both CUWN and Meraki.

You can create proximity rules such as captive portal rule, engagement rule, and profile rule, and view access points, BLE beacons, maps, and users for any location in the location hierarchy. The number of access points, BLE beacons, proximity rules, maps, and users for each location in the location hierarchy are displayed against that particular location. For example, the number of proximity rules, maps, and users for a group are shown against that group in the location hierarchy. The count of these location parameters are shown in a cumulative manner.

Note For a CMX Engage account with existing experience zones, you can view and edit the experience zones for each location from the location hierarchy.

Pre-requisites for Defining the Location Hierarchy

To define the location hierarchy in the CMX Engage dashboard, you must first define the required hierarchy structure in your wireless provider system such as Meraki or CUWN. In addition, you must establish connection between CMX Engage and your wireless network. When you try to add a wireless network in the location hierarchy, the CMX Engage asks you to provide the login credentials to connect to that wireless network. For CUWN-WLC, it is only required to ensure that the required access points are configured in the WLC.

Defining the Location Hierarchy

In the CMX Engage, you can import the locations in the same structure in which you have defined in your wireless network such as CUWN or Meraki. You can use the CMX Engage with CUWN even if you don't have installed the Cisco CMX.

In the "Add a Wireless Network" screen, you can select the required option based on the scenarios described below:

- Meraki- If your wireless network is Meraki, you can define the location hierarchy using the Meraki option.
- CUWN with Cisco CMX-If your wireless Network is CUWN and if you are having a Cisco CMX installed, you can define the location hierarchy using the CUWN-CMX option.
- CUWN with WLC --If your wireless Network is CUWN and if you are not having the Cisco CMX installed, you can define the location hierarchy using the CUWN-WLC option.

Based on your wireless network, opt the required instructions from the following:

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-
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Defining the Location Hierarchy for Meraki

To import the Meraki locations, first you must add the Meraki Organization under the customer name. You can then import Meraki networks. When you import a Meraki network, its floors, and access points are also imported. You can group the access points and create zones at network or floor level. You can group the locations at customer name, or organization level. You can also rename the customer name.

Before creating the location hierarchy, ensure that all the pre-requisites are met. To know the pre-requisites for creating the location hierarchy, see .

The Location Hierarchy for Meraki is as shown in Figure 3-1.

Figure 3-1   Location Hierarchy
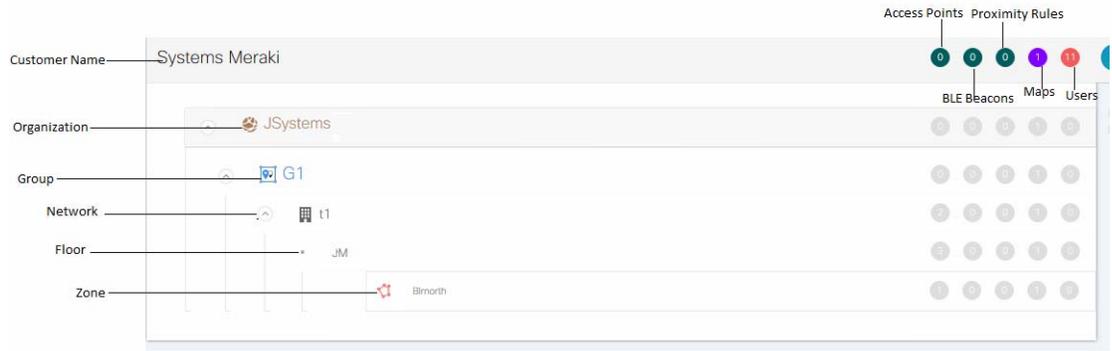
You must have Meraki credentials to import the locations. If you do not have Meraki credentials you can import the locations using Meraki API keys. For more information on importing the locations from Meraki using the API keys, see "Importing Meraki Locations Using the API Keys" section on page 3-5.

If you have the Meraki credentials, to import the Meraki locations to the CMX Engage, perform the following steps:

1. Adding a Meraki Organization, page 3-3

2. Adding a Network to Meraki Organization, page 3-4

3. Creating Zones and Adding Access Points, page 3-4

Adding a Meraki Organization

To create the location hierarchy in the CMX Engage, first you must add the Meraki organization of which you want to import the locations to the location hierarchy.

Note   The CMX Engage enables you to add multiple Meraki organization to the location hierarchy so that you can connect to the multiple Meraki organizations simultaneously.

To add a Meraki organization to the location hierarchy, perform the following steps:

Step 1   In the Location screen, click **More Actions** at the far right of the customer name (root name).

Step 2   Choose **Add a Wireless Network**.

Step 3   From the Add a Wireless Network drop-down list that appears, choose **Meraki**.

Step 4   Enter the user name and password for your Meraki account, and click **Connect account**.

Note   You can also connect to Meraki using the Wi-Fi icon in the left pane of the dashboard. If you are already connected to Meraki, the fields to enter the login credentials will not appear.

Step 5   From the "Select Organization" drop-down list, select the Meraki organization of which you want to import the locations.

Step 6   Click **Add**.

The organization added gets listed in the location hierarchy.

Adding a Network to Meraki Organization

The CMX Engage enables you to maintain the network, and floor structure followed for the location hierarchy in Meraki. After adding a Meraki organization to the location hierarchy, you can import its networks, and the associated floors.

To import a network and its associated floors to the location hierarchy, perform the following steps:

Step 1   In the CMX Engage dashboard, click **Manage Locations**.

Step 2   In the Locations page, click the drop- down menu icon at the far right of the Meraki organization for which you want to add the network.

Step 3   Choose **Add Network**.

Step 4   In the Add Location window, select the networks that you want to add to the location hierarchy.

The Add Network window appears with all the available networks for that Meraki organization. If you select a network, its floors appears to the right of the network.

Note   You can add a network to the location hierarchy any time later using the Add Network option.

Step 5   Click **Add**.

The networks added gets listed in the location hierarchy along with its associated floors.

Note   In Meraki, ensure that the network name is not duplicated.

Creating Zones and Adding Access Points

You can group the access points of a network or floor using zones. You can create the zones at network or floor level.

Note   You cannot modify the access points for a floor.

To create a zone for a network or floor, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the Locations page, click the **More Actions** icon at the far right of the network or floor under which you want to create the zone.

Step 3   In the Add Zone window that appears, perform the following steps:

    a.   In the Enter Zone Name Here text field, enter a name for the zone.

    b.   In the Select Access Points area, select the check box for the access points that you want to add to the zone.

c. Click **Add**.

Tip Before creating the zones, locate the access points that you want to include in the zone in the Meraki dashboard.

Note When you add an access point of a network or floor to a zone, that access point will not be available for that network or floor. The access points added to a zone will not be available for other zones.

Importing Meraki Locations Using the API Keys

To import Meraki locations using the API keys, perform the following steps:

Step 1 In the Locations page, click the **More Actions** icon for the customer name (root name), and click Add a Wireless Network.

Step 2 In the window that appears, from the "Add a Wireless Network" drop-down list, choose **Meraki**.

Step 3 Click the "Import Organization using API" link that appears when you select Meraki.

Step 4 In the API Key field, enter the API Key for Meraki, and click **Fetch Organizations**.

The organizations for that API key gets listed.

Step 5 Select the organization that you want to import, and click **Add**.

The organization gets listed in the Locations page.

Step 6 Add the networks under the organization using the **Add Network** in the **More Actions** menu for the organization.

When you import a network, the floors and access points under it also get imported.

Step 7 Create zones under the floors using the **Add Zones** in the **More Actions** menu for the floors.

Defining the Location Hierarchy for CUWN with CMX

If you have the Cisco CMX installed, you can use the CUWN-CMX option for defining the location hierarchy for CUWN. The CUWN-CMX option enables you to import the locations in the same hierarchy in which you have defined them in the CMX. Initially, you must add CMX nodes to the location hierarchy under the customer name. You can then import campuses. When you import a campus, its buildings, floors, and access points are also imported. You can create zones at building or floor level by grouping the access points. You can group the locations at customer name (root name), CMX node, or campus level. You can also rename the customer name.

Note The WLC must be able to reach the CMX Engage cloud over HTTPS.


> ✎
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> **Note**   The CMX Engage captive portal does not provide native support for "WLC 8.2 or earlier" in Anchor Controller" mode. For captive portal rendering for WLC 8.2 or earlier in anchor controller mode, contact the Cisco CMX Engage support team.

Before creating the location hierarchy, ensure that all the pre-requisites are met. To know the pre-requisites for creating the location hierarchy, see Pre-requisites for Defining the Location Hierarchy, page 3-2.

The location hierarchy of the CUWN-CMX is shown in Figure 3-2.

Figure 3-2   Location Hierarchy
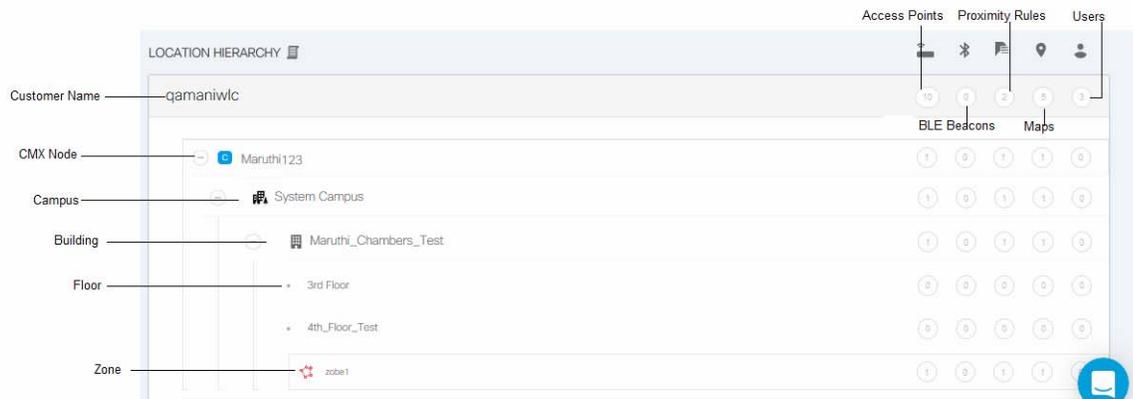
To create the location hierarchy for the CUWN-CMX, perform the following steps:

1. Adding a CMX Node, page 3-6

2. Adding a Campus to the Location Hierarchy, page 3-7

3. Creating Zones and Adding Access Points, page 3-8

4. Creating Groups, page 3-35

If your CMX is not publicly accessible, you can manually import the locations. For more information on manually importing the locations, see Creating the Location Hierarchy by Manually Uploading the CMX Details, page 3-8

Adding a CMX Node

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> **Note**   The CMX Engage supports CMX 8.0 or later.

To add a CMX node to the location hierarchy, perform the following steps:

Step 1   In the CMX Engage dashboard, click **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the customer name (root name).

Step 3   Choose **Add a Wireless Network**.

Step 4   From the Add a Wireless Network drop-down list that appears, choose CUWN-**CMX**.

Step 5   In the Display Name text field, enter the name that must display for the CMX node in the location hierarchy.

Step 6   In the URL text field, enter the URL to connect to CMX.

Step 7   In the User Name field, enter the user name to connect to CMX.

Step 8   In the Password field, enter the password to connect to CMX.

Step 9   Click **Add**.

The CMX node appears in the location hierarchy under the customer name.

Note   The CMX Engage will not allow you to add two CMX nodes with the same access point.

Adding a Campus to the Location Hierarchy

The CMX Engage enables you to maintain the campus, building, and floor structure followed for the location hierarchy in the CMX. After adding a CMX node to the location hierarchy, you can import its campuses, and the associated buildings, floors, and access points.

To import a campus and its associated buildings, floors, and access points to the location hierarchy, perform the following steps:

Step 1   In the CMX Engage dashboard, click **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the CMX node for which you want to add the campus.

Step 3   Click **Add Campus**.

Step 4   In the Add Campus window that appears, select the campuses that you want to add to the location hierarchy.

The Add Campus window appears with all the available campuses for that CMX node. If you select a campus, its buildings and floors appears to the right of the campus.

Note   If you do not want to add a particular building or floor of a campus to the location hierarchy, you can remove it by unselecting the corresponding check box. If required, you can add it to the location hierarchy any time later. For more information on adding a building to a campus, see Adding a Building to a Campus, page 3-24. For more information on adding a floor to a building, see Adding a Floor to a Building, page 3-24.

Step 5   Click **Add**.

The campuses added gets listed in the location hierarchy along with its associated buildings and floors.

Note   In the CMX, ensure that there is no duplicate for a building name under a campus.

Creating Zones and Adding Access Points

You can group the access points of a building or floor using zones. You can create the zones at building or floor level.

✎ **Note**   You cannot modify the access points for a floor.

To create a zone for a building or floor, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the building or floor under which you want to create the zone.

Step 3   In the Add Zone window that appears, perform the following steps:

a.   In the Enter Zone Name Here text field, enter a name for the zone.

b.   In the Select Access Points area, select the check box for the access points that you want to add to the zone.

c.   Click **Add**.

✎ **Note**   When you add an access point of a building or floor to a zone, that access point will not be available for that building or floor. The access points added to a zone will not be available for other zones.

Creating the Location Hierarchy by Manually Uploading the CMX Details

If you want to use the location hierarchy of a CMX that is not publicly accessible, you can import the location hierarchy to the CMX Engage by uploading the JSON file that contains the location hierarchy details.

For a location hierarchy created using the JSON file, you can rename and delete the locations such as building, floor, and so on, but you cannot edit the locations. You can create groups and zones in the location hierarchy.

✎ **Note**   As this method has many limitations, we recommend you to use this option only if you cannot connect to the CMX from the CMX Engage dashboard.

✎ **Note**   As the wireless network information required for access point synchronization is not available, the access point synchronization will not happen if the locations are added to the location hierarchy using the JSON file. So after importing the JSON file if you make changes in the wireless network for the locations, those changes will not reflect in the location hierarchy.

To create a location hierarchy using a JSON file, perform the following steps:

Step 1   In the CMX Engage dashboard, click **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the customer name.

Step 3   Click **Add Wireless Network.**

Step 4   From the Add Wireless Network drop-down list, choose **CUWN-CMX**.

Step 5   Select **Upload Json**.

Step 6   Enter the name that must be displayed for the CMX node in the location hierarchy.

Step 7   Select the JSON file to upload using the **Browse** button.

Step 8   Click **Upload**.

The JSON file is uploaded and the location hierarchy is created for the CMX in the CMX Engage dashboard.

Note   After uploading the JSON file and creating the location hierarchy, you cannot re-import the JSON file for that CMX account to update the location hierarchy.

Defining the Location Hierarchy for CUWN - without CMX Installation

You can use the CMX Engage with CUWN, even without installing the Cisco CMX. In such cases, you must use the CUWN-WLC option. However, for CUWN-WLC, you can add only zones in the location hierarchy.

Note   If you were using CMX Engage earlier with the CMX, and if you are moving to use the CMX Engage with WLC, the Reports and proximity rules will be affected. The Reports will be shown based on the new location configurations. You also have to re-configure the proximity rules to display captive portals or to send notifications.

To avail the CUWN-WLC option, you must configure the WLC to import the access points to the CMX Engage dashboard. For more information on configuring the WLC for importing the access points to the CMX Engage dashboard, see Configuring the WLC to Import the WLC Controller and Access Points to the CMX Engage, page 3-15.

For CUWN, to use the CMX Engage with WLC without a CMX installation, create the location hierarchy as following.

Step 1   In the CMX Engage dashboard, click **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the customer name.

Step 3   Click **Add Wireless Network.**

Step 4   From the Add Wireless Network drop-down list, choose **CUWN-WLC**.

The imported WLC Controllers gets listed.

Note   The WLC Controllers get listed only if you configure the WLC for importing them to the CMX Engage. For more information on configuring the WLC, see Configuring the WLC to Import the WLC Controller and Access Points to the CMX Engage, page 3-15.

Step 5 Select the WLC controller, and click **Next**.

This WLC controller will act as the primary WLC controller.

Step 6 Select another WLC controller as secondary controller, and click **Next**.

Note This feature helps you manage the CMX Engage with a secondary WLC controller with the same APs if the primary controller is down.

The secondary controller is optional. You can move to the next screen without selecting a secondary controller by clicking the "Skip" button.

Step 7 Select the networks that you want to add.

Note The CMX Engage will automatically group the APs based on the prefix of their names, and creates networks. The APs that are not grouped under a network will be listed under the name "Unconfigured".

Note If you are not selecting a network, the APs in that network will be added to the location hierarchy under the name "Unconfigured".

Step 8 Click **Done**.

The APs of the primary and secondary controllers selected will get listed in the location hierarchy.

Step 9 In the location hierarchy, click the **More Actions** icon at the far right of the network, and click **Add Zone.**

Step 10 In the window that appears, enter a name for the zone, and select the APs to be included in the zone.

Step 11 Similarly, create all the required zones.

Tip If you are an existing CMX Engage with CUWN user, create zones in the same structure as created earlier with the CMX.

Step 12 If you already have created the location hierarchy using the CMX earlier, delete that location hierarchy, and re-configure the proximity rules.

You can change the primary controller, and add more secondary controllers. For more information, see"Managing the WLC Controller and Access Points" section on page 3-11

Note When adding the APs in the WLC, follow proper naming conventions (with appropriate prefix) to ease auto-network creation in the CMX Engage.

Note In the WLC, if new APs are added to the WLC controller, those APs get automatically imported during the next WLC synchronization. If an imported AP is deleted from the WLC, the changes will be reflected in the CMX Engage only after 2 hours.

Managing the WLC Controller and Access Points

Changing the Primary Controller

To change the primary controller, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the location hierarchy, click the **More Actions** icon for the WLC Controller that you want to change.

Step 3   Click **Edit**.

Step 4   In the "Edit Controller" window that appears, click **Change** for "Primary Controller".

Step 5   In the "Change Primary Controller" window that appears, select the WLC controller that you want to configure as the Primary controller.

Step 6   Click **Change**.

Now the newly configured WLC controller has become the Primary Controller.

Adding Additional Secondary Controller

If you have skipped to add a secondary controller when importing the WLC controller, you can add it any time later. Even if you have configured a secondary controller, you can add more than one secondary controllers.

To add a secondary controller for a WLC controller, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the location hierarchy, click the **More Actions** icon for the WLC Controller for which you want to add secondary controller.

Step 3   Click **Edit**.

Step 4   In the Edit Controller window that appears, click **Add More** for Additional Controllers.

Step 5 In the "Add additional controller" window that appears, select the WLC controller that you want to configure as secondary controller.

Note The WLC controllers similar to the primary controller (having same APs) will be top in the list.

Step 6 Click **Add**.

Now the newly configured WLC controller has become the secondary controller.

Note You can add more than one WLC controller as secondary controller. However, you can add only one at a time.

Adding Networks Automatically for a Primary Controller

If you have skipped to select the networks when importing the WLC controller, you can add the networks automatically at any time later.

To add network automatically for a WLC controller, perform the following steps:

Step 1 In the CMX Engage dashboard, choose **Manage Locations**.

Step 2 In the location hierarchy, click the **More Actions** icon for the WLC Controller for which you want to add networks.

Step 3 Click **Edit**.

Step 4 In the Edit Controller window that appears, select the "Auto Network Creation" check box.

Step 5 Click **Done**.

The APs with similar prefix are grouped, and networks are formed automatically. The APs that are not added to the auto-created networks are listed under the network name "unconfigured".

Manually Adding Networks for a WLC Controller

To manually add network for a WLC controller, perform the following steps:

Step 1 In the CMX Engage dashboard, choose **Manage Locations**.

Step 2 In the location hierarchy, click the **More Actions** icon for the WLC Controller for which you want to define the network.

Step 3 Click **Add Network**.

The "Add Network" window that appears.

Step 4 In the "Network Name" field that appears, enter a name for the network.

Step 5 In the "Access Point prefix" text field that appears, enter the prefix the APs must have to group under the network, and click **Fetch**.

The APs with the prefix mentioned get listed.

Step 6   Click **Done**.

The network will be created with the APs having the prefix mentioned.

Creating Groups for a WLC controller

You can create groups under a WLC controller by grouping the networks.

To create a group for a WLC controller, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the location hierarchy, click the **More Actions** icon for the WLC Controller under which you want to create group.

Step 3   Click **Create Group**.

Step 4   In the "Add Group" window that appears, enter the following:

   a.   In the "Enter a Group Name" text field, enter a name for the group.

   b.   In the "Select Location" area, select the networks that you want to add under this group.

   c.   Click **Add**.

Now a group is created with the networks specified.

Adding Metadata for a WLC controller/Network

You can group the WLC controllers and networks using metadata. You can use this metadata when defining the proximity rules.

To add a metadata for a WLC controller/network, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the location hierarchy, click the **More Actions** icon for the WLC Controller or network for which you want to add metadata.

Step 3   Click **Add/Edit Metadata**.

Step 4   In the "Add Metadata for [WLC controller/network]" window that appears, perform the following steps:

   a.   In the Key field, enter a metadata key.

   b.   In the value field, enter a value for the key.

   c.   Click **Save**.

Renaming the Primary Controller

To rename the primary controller, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the location hierarchy, click the **More Actions** icon for the WLC Controller that you want to rename.

Step 3   Click Rename [WLC Controller].

Step 4   In the "Rename wlc" window that appears, enter the name required, and click **Rename**.

Now the name of the WLC controller is changed to the new name specified.

Note   The name change is not reflected in the WLC.

Renaming a Network

To rename a network, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the location hierarchy, click the **More Actions** icon for the network that you want to rename.

Step 3   Click Rename [network].

Step 4   In the "Rename network" window that appears, enter the name required, and click **Rename**.

Now the name of the network is changed to the new name specified.

Deleting a WLC Controller

To delete a WLC controller, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the location hierarchy, click the **More Actions** icon for the WLC controller that you want to delete.

Step 3   Click **Delete wlc**.

Step 4   In the "Delete wlc" window that appears, confirm the deletion.

Now the WLC controller is deleted from the CMX Engage.

Note   You cannot delete a WLC controller that has networks or access points under it. Also, you cannot delete a WLC controller that is associated with a proximity rule.

Deleting a Network

To delete a network, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the location hierarchy, click the **More Actions** icon for the network that you want to delete.

Step 3   Click **Delete network**.

Step 4   In the "Delete network" window that appears, confirm the deletion.

Now the network is deleted.

Note   You cannot delete a network that has zones under it. Also, you cannot delete a network that is associated with a proximity rule.

Deleting a Secondary WLC Controller

To delete a secondary WLC controller, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the location hierarchy, click the **More Actions** icon for the WLC Controller of which you want to delete the secondary WLC controller.

Step 3   Click **Edit**.

In the "Edit Controller" window that appears, the secondary controllers added for that WLC controller will be listed under "Additional Controllers".

Step 4   Click the **Delete** icon for the secondary controller that you want to delete.

Step 5   In the window that appears, confirm the deletion.

Now, the secondary controller is deleted.

Note   When you delete a secondary WLC controller, the APs that are unique for this secondary controller (APs not in the primary controller or its other secondary controllers) also will be deleted.

Configuring the WLC to Import the WLC Controller and Access Points to the CMX Engage

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Note   This configuration is not required if you are using a CMX installation.

The configurations required to connect to the WLC to import a WLC controller and its access points varies based on your WLC version. The configurations for various WLC versions are as follows:

- Connecting the WLC to the CMX Engage Using Proxy (For WLC 8.2 or earlier), page 3-15
- Connecting the WLC to the CMX Engage (For WLC 8.3 or later), page 3-19

Connecting the WLC to the CMX Engage Using Proxy (For WLC 8.2 or earlier)

The migration process is explained with an assumption that you are already using CMX Proxy to connect to CMX cloud. If you do not have the CMX Proxy installed, refer the "Installing the Cisco CMX Proxy" documentation for installing the CMX Proxy.

✎
Note   This configuration is not applicable for WLC 8.3 or later.

✎
Note   The WLC must be able to reach the CMX Engage cloud over HTTPS.

✎
Note   To connect the WLC to the CMX Engage, the internet must be available.

✎
Note   If the network deployment contains WLC in Anchor Controller mode and Foreign Controller mode, CMX Proxy must be enabled in both controllers using the commands described in this section. In addition, the WLCs in both modes must be able to reach the CMX Engage cloud over HTTPS. To use CMX Engage with anchor mode, you must have a network deployment with WLCs in both anchor controller mode and foreign controller mode.However, the CMX Engage captive portal does not provide native support for "WLC 8.2 or earlier" in the "Anchor Controller" mode. For captive portal rendering for WLC 8.2 or earlier in anchor controller mode, contact the Cisco CMX Engage support team.

The CMX Proxy is required in the following migration scenarios:

- Existing CMX Engage customers migrating from CMX Cloud to the CMX Engage with WLC 8.2 or earlier.
- New CMX Engage customers migrating from CMX cloud to the CMX Engage with WLC 8.2 or earlier.

Apart from migration, this CMX Proxy configuration is required in the following scenarios:

- New CMX Engage customers with WLC 8.2 or earlier, and without a CMX installation.

To configure the CMX Proxy to connect with the CMX Engage, perform the following steps:

Step 1   Log in to Proxy.

Step 2   Add an account using the command "proxyctl accounts add".

Step 3   Enter the CMX Engage access token.

✎
Note   To view the CMX Engage token, in the CMX Engage dashboard, choose **SSIDs**, click the **Setup SSIDs in Meraki/CUWN** link, and then click the "Configure SSID in CUWN-WLC" tab. The token is displayed in step 3 under the caption "Configuring CMX Cloud Proxy to connect WLC with CMX Engage". You can also contact the CMX Engage support team for the CMX Engage token. Ensure that there are no trailing/leading spaces.

Step 4   Enter the option to identify the services that are enabled on your CMX Cloud account. Enter 1, if you have signed up for CONNECT and PRESENCE.

Step 5   Enter the service domain name.

Note   To view the service domain name, in the CMX Engage dashboard, choose **SSIDs**, click the **Setup SSIDs in Meraki/CUWN** link, and then click the "Configure SSID in CUWN-WLC" tab. The service domain name is displayed in step 5 under the caption "Configuring CMX Cloud Proxy to connect WLC with CMX Engage".

Sample screen

```
[cmxadmin@cmx-old-proxy-ova125 ~]$ proxyctl accounts add
Please enter the account access token: eyJhbGci0iJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ0ZW5hbnRJZCI6IjFud3pkcSJ9.GhOLaL9DIftbA4YT2nq_wdD32l6uYOsIg8YWNtcbwZ8
Please enter the services enabled on this account [CONNECT and PRESENCE(1), CONNECT ONLY(2)] [1]: 1
Please enter the service domain name "cmxcisco.com" [cmxcisco.com]:
The account is added
[cmxadmin@cmx-old-proxy-ova125 ~]$
```

Step 6   Check the status of the account added using the command "proxyctl status".

Sample screen

```
[cmxadmin@cmx-old-proxy-ova125 ~]$ proxyctl status
-------------
System Status
-------------
Done
The agent service is currently running with PID: 30817
+----------------------+----------+---------+----------------+
| Host                 | Service  | Status  | Uptime (HH:mm) |
+----------------------+----------+---------+----------------+
| cmx-old-proxy-ova125 | Metrics  | Running | 2 days, 17:11  |
+----------------------+----------+---------+----------------+
| cmx-old-proxy-ova125 | Nmspproxy| Running | 2 days, 17:11  |
+----------------------+----------+---------+----------------+
--------------
Account Service Status
--------------
+---------------------+----------+------------------+------
---+------+------+------+-------------------+-----------------+
| Account             | Service  | Access Token                                                                                                             | Status
    | 1m | 5m  | 15m  | Last NMSP Sent    | Last Config Sync |
+---------------------+----------+------------------+------
---+------+------+------+-------------------+-----------------+
| 1nwzdq.cmxcisco.com | PRESENCE | eyJhbGci0iJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ0ZW5hbnRJZCI6IjFud3pkcSJ9.GhOLaL9DIftbA4YT2nq_wdD32l6uYOsIg8YWNtcbwZ8 | REACHA
LE | 300 | 1210 | 3444 | 03/24/2016 09:09:19 |                |
+---------------------+----------+------------------+------
---+------+------+------+-------------------+-----------------+
|                     | CONNECT  | eyJhbGci0iJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ0ZW5hbnRJZCI6IjFud3pkcSJ9.GhOLaL9DIftbA4YT2nq_wdD32l6uYOsIg8YWNtcbwZ8 | REACHA
LE | 129 | 148  | 186  | 03/23/2016 18:55:35 |                |
+---------------------+----------+------------------+------
---+------+------+------+-------------------+-----------------+
```

Step 7   Add a controller in the Cisco CMX Proxy using the command "proxyctl controllers add", and specify the following details.

- Controller Type: WLC
- Controller IP: WLC Controller IP
- Control Image Version [Optional]: [not required]
- Host name: specify a host name
- SNMP version: v2C
- SNMP write community: private

Sample screen

```
[cmxadmin@cmx-old-proxy-ova125 ~]$ proxyctl controllers add
Please enter controller type [WLC / NGWC] [WLC]:
Please enter controller IP: 10.22.243.20
Please enter the controller image version [Optional]:
Please enter the account hostname(s) for this controller [all]:
Please enter controller SNMP version [v1 / v2c / v3] [v2c]:
Please enter controller SNMP write community [private]: exact-ip
.
Controller Added 10.22.243.20
```

Note   V2C is the SNMP version recommended by Cisco. For more information, see Setup CMX Cloud Connection. The SNMP write community and host name are optional.

Note   Ensure that you have enabled Read-Write permission for the SNMP Community in the WLC. SNMP Read Only community does not work.

Step 8   Verify that the Proxy is successfully connected to both WLC and CMX Engage using the command "proxyctl status".

Sample screen

```
[cmxadmin@cmx-old-proxy-ova125 ~]$ proxyctl status
-------------
System Status
-------------
Done
The agent service is currently running with PID: 30817
+--------------------+---------+---------+----------------+
| Host               | Service | Status  | Uptime (HH:mm) |
+--------------------+---------+---------+----------------+
| cmx-old-proxy-ova125 | Metrics  | Running | 2 days, 17:11 |
+--------------------+---------+---------+----------------+
| cmx-old-proxy-ova125 | Nmspproxy | Running | 2 days, 17:11 |
+--------------------+---------+---------+----------------+
-------------
Account Service Status
-------------
+--------------------+---------+---------------------------------------------------------------------+-------
---+-----+------+------+------------------+------------------+
| Account            | Service | Access Token                                                        | Statu
    | 1m  | 5m   | 15m  | Last NMSP Sent   | Last Config Sync |
+--------------------+---------+---------------------------------------------------------------------+-------
---+-----+------+------+------------------+------------------+
| 1nwzdq.cmxcisco.com | PRESENCE | eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ0ZW5hbnRJZCI6IjFud3pkcSJ9.GhOLaL9DIftbA4YT2nq_wdD32l6uYOsIg8YWNtcbwZ8 | REACHA
LE | 300 | 1210 | 3444 | 03/24/2016 09:09:19 |                 |
+--------------------+---------+---------------------------------------------------------------------+-------
---+-----+------+------+------------------+------------------+
|                    | CONNECT  | eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ0ZW5hbnRJZCI6IjFud3pkcSJ9.GhOLaL9DIftbA4YT2nq_wdD32l6uYOsIg8YWNtcbwZ8 | REACHA
LE | 129 | 148  | 186  | 03/23/2016 18:55:35 |                 |
+--------------------+---------+---------------------------------------------------------------------+-------
---+-----+------+------+------------------+------------------+
------------------
Controllers Status
------------------
+------------+--------------+------+------+---------+------+------+------+------------------+
| Controller | Status       | Type | SHA2 | Version | 1m   | 5m   | 15m  | Last Activity    |
+------------+--------------+------+------+---------+------+------+------+------------------+
| 10.22.243.20 | CLIENT ACTIVE | WLC | True | 8.3.15.44 | 0.92 | 0.88 | 0.83 | 03/24/2016 09:09:19 |
+------------+--------------+------+------+---------+------+------+------+------------------+
| 10.89.238.32 | CLIENT ACTIVE | WLC | True | 8.2.100.0 | 0.57 | 0.57 | 0.57 | 03/24/2016 09:09:19 |
+------------+--------------+------+------+---------+------+------+------+------------------+
[cmxadmin@cmx-old-proxy-ova125 ~]$
```

Connecting the WLC to the CMX Engage (For WLC 8.3 or later)

Note   This configuration is not applicable for WLC 8.2 or earlier.

Note   WLC must be able to reach CMX Engage cloud over HTTPS.

Note   To connect the WLC to the CMX Engage, the internet must be available.

Note   To use CMX Engage with anchor mode, you must have a network deployment with WLCs in both anchor controller mode and foreign controller mode. If the network deployment contains WLC in Anchor Controller mode and Foreign Controller mode, WLC Cloud Connect must be enabled in both controllers using the commands described in this section. In addition, the WLCs in both modes must be able to reach the CMX Engage cloud over HTTPS. However, CMX Engage does not support WLC 8.3.102 version in anchor mode.

To connect the WLC 8.3 or later successfully to the CMX Engage using WLC Connect, you must have a root certificate issued by DigiCert CA. For more information on importing the DigiCert CA root certificate, see the "Importing the DigiCert CA Root Certificate" section on page 3-21. If the network deployment contains WLC in Anchor Controller mode and Foreign Controller mode, you must import the certificate to the WLCs in both modes".

If you try to connect the WLC to CMX Engage using a root certificate not issued by DigiCert CA, you will get the following error:

https: SSL certificate problem: unable to get local issuer certificate

To connect the WLC 8.3 or later (without CMX installation) to the CMX Engage, and to import the WLC Controller and its access points to the CMX Engage, perform the following steps:

Step 1   In the WLC CLI mode, execute the following commands:

1. `config cloud-services cmx disable`
2. `config cloud-services server url https://{Customer Path Key}.{LB Domain} {LB IP Address}`
3. `config cloud-services server id-token {Customer JWT Token}`
4. `config network dns serverip {dns server ip}`
5. `config cloud-services cmx enable`

Note   To view the {Customer Path Key}, {LB Domain}, {LB IP Address}, and {Customer JWT Token} in the CMX Engage dashboard, choose **SSIDs**, click the **Setup SSIDs in Meraki/CUWN** link, and then click the "Configure SSID in CUWN-WLC" tab. The values for these parameters are displayed in step 1 under the caption "Configuring WLC to connect to CMX Engage". You can also contact the CMX Engage support team. Ensure that there are no trailing/leading spaces.

Step 2   Check the summary using the following command:

    show cloud-services cmx summary

The result appears.

Now in the CMX Engage dashboard, when you choose "CUWN-WLC" in the "Add a Wireless Network" window, the WLC will be listed. So, you can import the APs of that WLC to the CMX Engage.

Sample Result

(Cisco Controller) >show cloud-services cmx summary

CMX Service

Server .... https://$customerpathkey.proximitymx.io

IP Address................................... 50.16.12.224

Connectivity................................. https: UP

Service Status .... Active

Last Request Status.......................... HTTP/1.1 200 OK

Heartbeat Status .... OK

Importing the DigiCert CA Root Certificate

To import the DigiCert CA root certificate to connect the WLC successfully to CMX Engage. perform the following steps:

Step 1   Download your root certificate from the following link:

- https://global-root-ca.chain-demos.digicert.com/info/index.html

Step 2   Copy the root certificate content to a file with .cer extension, and save the file as {your_filename}.cer.

Step 3   Copy the {your_filename}.cer file to the default directory on your TFTP.

Step 4   Log in to the WLC CLI, and execute the following commands:

```
transfer download datatype cmx-serv-ca-cert

transfer download mode tftp

transfer download filename {your_filename}.cer

transfer download serverip {your_tftp_server_ip}

transfer download start
```

Step 5   Type **Y** to start the upload.

Step 6   After the new root certificate has been uploaded successfully, execute the following commands to disable, and then enable your CMX Cloud Services:

```
config cloud-services cmx disable

config cloud-services cmx enable
```

> **Note**   After uploading the root certificate, WLC will prompt for reboot. Rebooting is recommended, but not mandatory. The certificate will be installed in either case.

You can now configure the WLC to connect to CMX Engage. For more information on connecting the WLC to the CMX Engage, see the "Connecting the WLC to the CMX Engage (For WLC 8.3 or later)" section on page 3-19.

Managing the Location Hierarchy

Renaming the Customer Name

To rename the customer name, perform the following steps:

Step 1   In the CMX Engage dashboard, click **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the customer name.

Step 3   Click **Rename Root**.

Step 4   In the Rename - Root window that appears, enter the customer name you want.

Step 5   Click **Rename**.

Adding a Wireless Network

The CMX Engage supports both CUWN and Meraki. You can add both CMX nodes and Meraki organizations using the Add a Wireless network option.

The Add a Wireless Network drop-down list will be having the following three options:

- **Meraki**- To define the location hierarchy for Meraki network.
- **CUWN-CMX**- To define the location hierarchy for the CUWN, when a Cisco CMX is installed.
- **CUWN -WLC** -To define the location hierarchy for the CUWN, when a Cisco CMX is not installed.

For more information on adding a CMX node, Meraki organization, or WLC access points using the Add a Wireless Network option, see the respective topic from the following:

- Adding a CMX Node, page 3-6
- Adding a Meraki Organization, page 3-3
- Defining the Location Hierarchy for CUWN - without CMX Installation, page 3-9

Searching for a Location

You can search for a location in the location hierarchy using its name. To search for a location in the location hierarchy, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The location window appears.

Step 2   In the Search text field, enter the name of the location that you want to search.

The location gets highlighted in the location hierarchy.

Searching for a User in a Location

When creating users, you can restrict the access to the locations. You can search for those users under that location.

To search for a user in a location, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click the **Users** icon for that location.

Step 3   On the Team tab, in the **Search Users** text field enter the name of the user whom you want to search.

The user gets listed in the window.

Note   The Users link for a location is enabled only if at least one user exists for that location.

Searching for an Access Point

You can search for an access point using its name or Mac address.

To search for an access point in the location hierarchy, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations window appears.

Step 2   In the Search text field, enter the name or Mac address of the access point that you want to search.

The access point gets highlighted.

Managing the Location Hierarchy for the CUWN

Adding a Building to a Campus

To add a building to a campus, perform the following steps:

Step 1   In the CMX Engage dashboard, click **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the campus to which you want to add the building.

Step 3   Click **Add Building**.

Step 4   In the Add Building window that appears, select the building that you want to add under the campus.

Step 5   Click **Add**.

The building gets listed under the campus in the location hierarchy.

Adding a Floor to a Building

To add a floor to a building, perform the following steps:

Step 1   In the CMX Engage dashboard, click **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the building to which you want to add the floor.

Step 3   Click **Add Floor**.

Step 4   In the Add Floor window that appears, select the floor that you want to add under the building.

Step 5   Click **Add**.

The floor gets listed under the building.

Renaming a CMX Node

To rename a CMX node, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the CMX node that you want to rename.

Step 3   Click **Rename "cmx name"**.

Step 4   In the window that appears, enter the new name for the CMX node.

Step 5   Click **Rename**.

Note   The renaming is not reflected in the CMX.

Editing a CMX Node

You can edit the CMX connection credentials.

To edit a CMX node, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the CMX node that you want to edit.

Step 3   Click the option to edit the CMX node.

Step 4   In the window that appears, provide the updated CMX log in credentials for the CMX node.

Step 5   Click **Edit**.

Deleting a CMX Node

To delete a CMX node from the location hierarchy, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the CMX node that you want to delete from the location hierarchy.

Step 3   Click the option to delete the CMX node.

> **Note**   To delete a CMX node, first you have to delete the locations and groups under that CMX node, if any.

> **Note**   You cannot delete a CMX node that is associated with the experience zones or proximity rules.

Renaming a Campus

To rename a campus, perform the following steps

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the campus that you want to rename.

Step 3   Click **Rename "campus name"**.

Step 4   In the Rename- campus window that appears, enter the new name for the campus.

Step 5   Click **Rename**.

Deleting a Campus

To delete a campus, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the campus that you want to delete.

Step 3   Click **Delete campus**.

Note   To delete a campus, first you have to delete the locations under that campus, if any.

Note   You cannot delete a campus that is associated with the experience zones or proximity rules.

Renaming a Building

To rename a building, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the building that you want to rename.

Step 3   Click **Rename "building name"**.

Step 4   In the Rename - network window that appears, enter the new name for the building.

Step 5   Click **Rename**.

Deleting a Building

To delete a building, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the building that you want to delete.

Step 3   Click **Delete building**.

Note   To delete a building, first you have to delete the floor or zones under that building, if any.

✎
Note   You cannot delete a building that is associated with an experience zone or proximity rule.

Renaming a Floor

To rename a floor, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the floor that you want to rename.

Step 3   Click **Rename "floor name"**.

Step 4   In the Rename-floor window that appears, enter the new name for the floor.

Step 5   Click **Rename**.

Deleting a Floor

To delete a floor, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the floor that you want to delete.

Step 3   Click **Delete floor**.

✎
Note   If the floor that you delete has any zone under it, that zone is moved under the building after the deletion of the floor.

Managing the Location Hierarchy for Meraki

You can rename, and delete the locations under Meraki.

Adding Floors to a Network

To add a floor to a network, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the network under which you want to create the floor.

Step 3   In the Add Floor window that appears, select the floor that you want to add under the network.

Step 4   Click **Add**.

The floor gets added to the network.

Renaming an Organization

To rename a Meraki Organization, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the organization that you want to rename.

Step 3   Click **Rename "Organization Name"**.

Step 4   In the Rename -meraki window that appears, enter the new name for the Meraki organization.

Step 5   Click **Rename**.

Deleting a Meraki Organization

To delete a Meraki Organization, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the Meraki organization that you want to delete.

Step 3   Click **Delete Organization**.

Note   To delete an organization, first you have to delete the locations and groups under that organization, if any.

Note   You cannot delete any organization that is associated with the experience zones or proximity rules.

Renaming a Network

To rename a network, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the network that you want to rename.

Step 3   Click **Rename "network name"**.

Step 4   In the Rename - location window that appears, enter the new name for the location.

Step 5   Click **Rename**.

Deleting a Network

To delete a network, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the network that you want to delete.

Step 3   Click **Delete network**.

Note   To delete a network, first you have to delete the floors and access points under that network, if any.

Note   You cannot delete any network that is associated with an experience zone or proximity rule.

Renaming a Floor

To rename a floor, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the floor that you want to rename.

Step 3   Click **Rename "floor name"**.

Step 4   In the Rename -floor window that appears, enter the new name for the floor.

Step 5   Click **Rename**.

Deleting a Floor

To delete a floor, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the floor that you want to delete.

Step 3   Click **Delete floor**.

✎
Note   If the floor that you delete has any zone under it, that zone is moved under the network after the deletion of the floor.

✎
Note   You cannot delete any floor that is associated with an experience zone or proximity rule.

Defining or Editing Metadata for a Location

The CMX Engage enables you to define metadata for a location using variables. You can define the metadata at any level in the location hierarchy. You can use this metadata for filtering the locations when creating the proximity rules. For example, if you want to categorize your locations as corporate branch, division branch, and local branch, then you can define a location metadata with key as **Branch** and values as CB, DB, and LB, respectively. Then, you can use this metadata to filter the locations when creating the proximity rules.

To define a metadata for a location, perform the following steps:

Step 1   In the CMX Engage dashboard, click **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the location for which you want to add the location metadata.

Step 3   Click **Add/Edit Metadata**.

Step 4   In the Add Metadata window that appears, perform the following steps:

    a.   Click the **+** button.

    b.   In the Key text field, enter a name for the variable key.

    c.   In the Value text field, enter a value for the variable key.

    d.   Click **Save**.

To update the metadata for a location, perform the following steps:

Step 1   In the Locations page, click **More Actions** at the far right of the location for which you want to update the location metadata.

Step 2   Click **Add/Edit Metadata**.

Step 3   In the Add Metadata for [location] window that appears, click the metadata that you want to update.

Step 4   Make necessary changes, and click **Update**.

✎

Note   You can delete a location metadata by clicking the Delete button for that metadata.

Defining or Changing the Time Zone for Locations

You can define the time zone for various locations in th location hierarchy. To define the time zone for a location, perform the following steps:

Step 1   In the CMX Engage dashboard, click **More Actions** for the location for which you want to define the time zone.

Step 2   Click **Time Zone**.

The Change TimeZone window appears. In the Current Time Zone field, the time zone configured for the location appears. For a location for which the time zone is not yet defined, **No Time Zone** appears in the Current Time Zone field.

Step 3   From the Time Zone drop-down list, choose the time zone that you want to configure for this location.

Step 4   Click **Change**.

The time zone is defined for the location.

✎

Note   The notifications are sent for the locations based on the configured time zones.

Wireless Network Synchronization

To know the synchronization status of the locations, perform the following steps:

Step 1   In the CMX Engage dashboard, click the Wi-Fi icon in the left pane.

Step 2   Click **Wireless Network Status**.

Step 3   Click the tab for the wireless network of which you want to see the synchronization status. For example, to view the synchronization status for Meraki, click **Meraki**.

The synchronization status is displayed.

Managing the Maps for a Location

The maps are displayed by default based on the map configuration in the wireless network. The CMX Engage enables you to display the Micello map for the floors and zones. Also, you can upload external maps for the floors and zones.

- Viewing the Maps for a Location, page 3-32
- Configuring a Micello Map, page 3-32
- Uploading an External Map, page 3-33

Viewing the Maps for a Location

To view the map for a location, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click the Maps icon for the location for which you want to view the map.

The map appears in the Maps tab.

Configuring a Micello Map

The CMX Engage enables you to configure Micello map for a floor or zone.

To configure the Micello map, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click the floor or zone for which you want to configure the Micello map.

Step 3   Click the **Maps** tab.

Step 4   Click the **Micello** tab.

Step 5   In the Map Name text field, enter a name for the map.

Step 6   In the Enter Micello details area, choose whether you want to configure the Map ID or Map URL to display the Micello map.

Step 7   In the following text field, enter the Map ID or Map URL for the Micello map based on the previous selection.

Step 8   In the API Key text field, enter the API key for the Micello map.

Step 9   Click **Save**.

The maps gets loaded from the Micello and appears in the page.

Note   The Map link for a location is enabled only if a map exists for that location.

Note   To configure a Micello map, you must have a Micello account. For a Micello account, contact
support@micello.com.

Uploading an External Map

The CMX Engage enables you to configure external maps of your choice for a floor or zone.

To configure an external map, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click the floor or zone for which you want to configure the external map.

Step 3   Click the **Maps** tab.

Step 4   Click the **Image** tab.

Step 5   In the Map Name text field, enter a name for the map.

Step 6   Click the **Choose File** button and upload the image file for the map.

Step 7   Click **Save**.

Note   You can upload the map image file in png, jpeg, and gif formats.

Managing the Access Points

You can add or remove access points to a zone.

Adding an Access Point to a Zone

To add access points to a zone, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click the zone to which you want to add the access point.

Step 3   Click **Modify Access Points.**

Step 4   Select the check box for the access point that you want to add.

Step 5   Click **Modify Access Points**.

The access point gets added to the zone.

Note   If there are no access points under that zone, the button name will be **Add Access Points**.

Note   For CUWN, to import the access points, the CMX must be publicly accessible. For a default CUWN installation, the ports 80 and 443 must be open. For more information, see the "Ports and IP Addresses" section on page 2-5.

Removing an Access Point from a Zone

To remove an access point from a zone, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click the zone from which you want to delete the access point.

Step 3   Click **Modify Access Points.**

Step 4   Unselect the check box for the access point that you want to delete.

Step 5   Click **Modify Access Points**.

The access point gets deleted from the zone.

Viewing the Access Points for a Location

You can view the access points under each location. Ideally, the access points belong to a floor or zone.

To view the access points for a location, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click the **Access Points** icon for the location for which you want to view the access points. For example, to view the access points under a floor, click the Access Points icon for that floor.

The access points associated with that location are displayed.

Note   The "Access Points" link for a location is enabled only if at least one access point exists for that location.

Managing the Groups

The CMX Engage enables you to view the group map and view the users who have access rights to the group. Also, you can rename the group name, and delete an independent group.

- Creating Groups, page 3-35
- Renaming a Group, page 3-36
- Editing a Group, page 3-36
- Deleting a Group, page 3-37

Creating Groups

Grouping enables you to create proximity rules specific to a set of locations. You can create groups at the higher levels in the location hierarchy.

For CUWN, you can group the CMX nodes or campuses in the location hierarchy. For example, you can group the Campus1 and Campus 2 under one group and Campus 3 and Campus 4 under another group. You can also create sub groups under these groups. For Meraki, you can group the Meraki organizations or networks in the location hierarchy. For example, you can group the Network 1 and Network 2 under one group and Network 3 and Network 4 under another group. You can also create sub groups under these groups.

You can also create a group including the wireless network nodes of both CUWN and Meraki. However, you cannot group the lower level locations of CUWN and Meraki. For example, you cannot group a campus and a Meraki network.

To create a group for a location, perform the following steps:

Step 1   In the CMX Engage dashboard, click **Manage Locations**.

Step 2   In the Locations page, click **More Actions** at the far right of the location under which you want to add the group.

Step 3   Click **Add Group**.

Step 4   In the window that appears, perform the following steps:

    a.   Enter a name for the group.

    b.   Select the locations that you want to add under this group.

Note   The locations available for selection depends upon where you are adding the group in the location hierarchy. When you add a group under the customer name (root level), the first level locations (For example, CMX node, Meraki Organization) are available for selection. When you add a group under a CMX node, only the campuses under that CMX node are available for selection.

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    c. Click **Create**.

Tip If you want to have a parent group without any location, and sub groups with location, then you first create the parent group with all the required locations that must become the part of its sub groups. Then you create a sub group under the parent group. The locations added to the parent group are available for selection. Select the locations that you want to add under the sub group. Similarly, you can create more sub groups under the parent group.

Note You can add more locations to a group at any time.

Renaming a Group

To rename a group, perform the following steps:

Step 1 In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2 In the location hierarchy, click **More Actions** for the group that you want to rename.

Step 3 Click **Rename "group name"**.

Step 4 In the Rename - group window that appears, enter the new name for the group.

Step 5 Click **Rename**.

Editing a Group

You can add or remove the locations from a group.

To edit a group, perform the following steps:

Step 1 In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2 In the location hierarchy, click **More Actions** for the group that you want to edit.

Step 3 Click **Edit group**.

Step 4 In the Edit Group window that appears, select the locations that you want to be part of the group.

Step 5 Click **Update**.

Deleting a Group

To delete a group, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the group that you want to delete.

Step 3   Click **Delete group**.

Note   To delete a group, first you have to delete the locations and sub groups under that group, if any.

Note   You cannot delete a group that is associated with the experience zones or proximity rules.

Managing the Zones

You can rename and delete the zones created for CUWN or Meraki.

Renaming a Zone

To rename a zone, perform the following steps

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the zone that you want to rename.

Step 3   Click **Rename "zone name"**.

Step 4   In the Rename- zone window that appears, enter the new name for the zone.

Step 5   Click **Rename**.

Deleting a Zone

To delete a zone, perform the following steps:

Step 1   In the CMX Engage dashboard, choose **Manage Locations**.

The Locations page appears with the location hierarchy.

Step 2   In the location hierarchy, click **More Actions** for the zone that you want to delete.

Step 3   Click **Delete zone**.

Note   You cannot delete any zone that is associated with the experience zones or proximity rules.

Displaying Cumulative Count in Location Hierarchy

In the location hierarchy, the count of APs, BLE Beacons, Proximity Rules, and Maps for the locations will be shown as cumulative. The count for a location will be the total of its count and the count of all its child locations. For example, the total count of APs for a floor will be the sum total of APs for the floor and the APs for each zone under that floor.

The locations with zero count will not have a link to view the details. You can view the APs, BLE beacons, Proximity Rules, Maps, and Users of a location by clicking that location. You can view the details of a location parameter only from the associated location.

For the proximity rules, only the unique rules are counted. For example, if two zones of a floor are included in an engagement rule, when counting the rule for the floor, that engagement rule will be counted only once.