



# Location Hierarchy in the CMX Engage

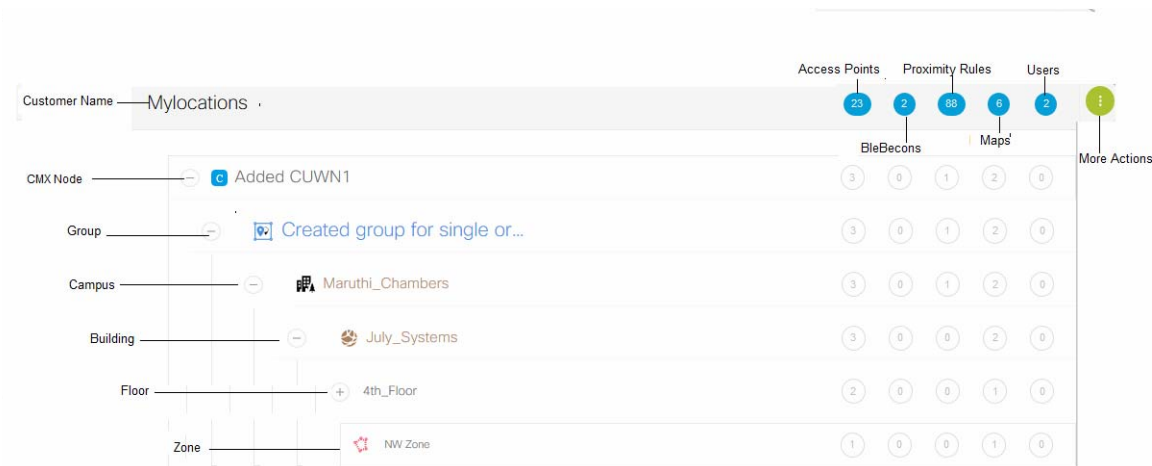
This chapter describes the structure of the location hierarchy in the CMX Engage for CUWN, and how to define the location hierarchy in the CMX Engage.

## Location Hierarchy for the CUWN

Each CMX Engage customer is provided with a default customer name and this customer name acts as the top element of the CMX Engage location hierarchy. You can add CMX nodes to the location hierarchy under this 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.

The location hierarchy of the CMX Engage is shown in [Figure 3-1](#).

**Figure 3-1** Location Hierarchy



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.

**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.

- [Defining the Location Hierarchy, page 3-2](#)
- [Creating Zones and Adding Access Points, page 3-4](#)
- [Creating Groups, page 3-5](#)
- [Adding a Building to a Campus, page 3-6](#)
- [Adding a Floor to a Building, page 3-6](#)
- [Searching for a Location, page 3-6](#)
- [Searching for an Access Point, page 3-6](#)
- [Defining Metadata for a location, page 3-7](#)
- [Defining or Changing the Time Zone for Locations, page 3-7](#)
- [Creating the Location Hierarchy by Manually Uploading the CMX Details, page 3-8](#)
- [Synchronizing with the CUWN, page 3-9](#)

## Defining the Location Hierarchy

To create the location hierarchy, perform the following steps:

1. [Accessing the CMX Engage, page 3-2](#)
2. [Adding a CMX Node, page 3-3](#)
3. [Adding a Campus to the Location Hierarchy, page 3-3](#)

## Accessing the CMX Engage

Cisco provides the user credentials to each customer of the CMX Engage.

To access the CMX Engage, perform the following steps:

- 
- Step 1** Go to [emsp.cisco.com/cmengage](https://emsp.cisco.com/cmengage).
- Step 2** In the Sign in window, enter the user credentials provided for your CMX Engage account, and click the arrow button to sign in.
- The CMX Engage dashboard appears.
-

## Adding a CMX Node

To create the location hierarchy in the CMX Engage, first you must add the wireless network of which you want to import the locations to the location hierarchy. The CMX Engage enables you to add various wireless networks to the location hierarchy.

For Cisco Unified, you can maintain a Campus, Building, floor structure as in the CMX.

If the CMX is not publicly accessible, you can import the locations using a Json file. For more information on defining the location hierarchy for CMX that is not publicly accessible, see [Creating the Location Hierarchy by Manually Uploading the CMX Details, page 3-8](#)



---

**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 **Cisco Unified**.
  - 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.

---



---

**Note** You can add the CMX nodes under the customer name, or under a group with the customer name. That is, if you are creating a group with the entire locations including the customer name, you can add CMX nodes to that group.

---

## 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 3-6](#). For more information on adding a floor to a building, see [Adding a Floor to a Building, page 3-6](#).

---

- 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 location 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 location 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 Groups

You can group the CMX nodes or campuses in the location hierarchy. You can create a group even at the customer name level. You can also create sub groups under these groups. For example, you can group the Campus1 and Campus 2 under one group and Campus 3 and Campus 4 under another group.

Grouping enables you to create proximity rules specific to that group.

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 customer name, CMX node, or campus 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) of all the wireless networks added are available for selection. When you add a group under a CMX node, only the campuses under that CMX node are available for selection.

---

- c. Click **Create**.
- 

**Tip**

If you want to have a parent group without any location (CMX node, campus, and so on), 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. You can add only those locations that are defined in the CMX.

---

**Note**

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 2-4](#).

---

## 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 floor.

---

## 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 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.
- 

## Defining 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 (campus, building, and so on) for which you want to add the location metadata.
- Step 3** Click **Add Metadata**.
- Step 4** In the Add Metadata window that appears, perform the following steps:
- Click the Add Metadata button.
  - In the Key text field, enter a name for the variable key.
  - In the Value text field, enter a value for the variable key.
  - Click **Save**.
- 

**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 the 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.

## 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.

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 **Cisco Unified**.

**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 Jjson file and creating the location hierarchy, you cannot re-import the Jjson file for that CMX account to update the location hierarchy.



## Synchronizing with the CUWN

The CMX Engage synchronize with the CUWN at frequent intervals. If there is any synchronization issue, you can view them by clicking the Sync icon in the Locations page. Whenever you log in to the CMX Engage, the CMX Engage displays the latest synchronization status.

