Network Hierarchy Design

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Overview

Using the Cisco MSX Enterprise Access, you can organize the enterprise network sites as a parent child hierarchy to be able to capture the network organization as closely as possible as it will be deployed.

The network hierarchy is predetermined:

- **Areas** do not have a physical address, such as the United States. You can think of areas as a grouping. Areas can contain buildings and subareas. For example, an area called United States can contain a subarea that is called California, and the subarea California can contain a subarea called San Jose.
- **Buildings** have a physical address and contain floors and floor plans. When you create a building, you must specify a physical address. Buildings cannot contain areas. By creating buildings, you can apply settings to a specific area.
- **Floors** are within buildings and consist of cubicles, walled offices, wiring closets, and so on. You can add floors only to buildings.

Adding an Area

Before you add an area to a network hierarchy, you should have created an Enterprise Access subscription and added a Cisco DNA Center to Cisco MSX. For more information, see Subscribing to Enterprise Access Service and Attaching Cisco DNAC Controllers.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

The dashboard page is displayed with the services added.

Step 3 Click **Enterprise Access**.

The list of Controllers attached to a tenant is displayed.

Step 4 From the list, choose the controller where you want to create a network hierarchy.

Step 5 Click the **View Actions(…)** icon, and then click **Add Area**.

The **Add Area** window is displayed.

Note In this procedure, you are creating an area under a controller. You can create an area under another area also.

Step 6 Enter a name for the area. The Controller name is automatically populated, and it is editable.

Step 7 Select a parent area from the drop-down list. By default, **Global** is the parent area.

Step 8 Click **Add**.

A message displays 'Successfully Created Area'.

Step 9 Click **OK**.

Note There is another workflow using which you can add an area, site, or floor. Go to the **Controller Overview** page, click the **Add actions** icon that is displayed at the top right corner of the screen, and then select the appropriate options from the menu.

Editing an Area

This procedure shows how to edit an area.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

The dashboard page is displayed with the services added.

Step 3 Click **Enterprise Access**.

The list of Controllers attached to a tenant is displayed.

Step 4 From the list, choose the Controller and click the collapse icon >.

The list of area is displayed.

Step 5 Click the **View Actions(…)** icon, and then click **Edit Area**.

The **Edit Area** window appears.

Step 6 Make the changes as required. Click **Save Changes**.

A message displays 'Site Successfully Updated'.

Step 7 Click **OK**.

Deleting an Area

This procedure shows how to delete an area.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

The dashboard page is displayed with the services added.

Step 3 Click **Enterprise Access**.

The list of Controllers attached to a tenant is displayed.

Step 4 From the list, choose the Controller and click the collapse icon >.

The list of area is displayed.

Step 5 Click the **View Actions(…)** icon, and then click **Delete Area**.

The **Delete Area** window appears.

Note You cannot delete a site (Area/Building) if it has a child. Delete the child first and then delete the site.

Step 6 Click **Delete**.

A message displays 'Area Successfully Deleted'.

Step 7 Click **OK**.

Adding a Building

Buildings have a physical address and contain floors and floor plans. When you create a building, you must specify a physical address.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

The dashboard page is displayed with the services added.

Step 3 Click **Enterprise Access**.

The list of Controllers attached to a tenant is displayed.

Step 4 From the list, choose the controller where you want to create a network hierarchy.

Step 5 Click the **View Actions(…)** icon, and then click **Add Site**.

A wizard is displayed with the instructions to add a building.

Step 6 Enter a name for the building.

Step 7 In the **Street Address** text field, enter an address. If you are connected to the Internet, as you enter the address, the system narrows down the known addresses to the one you enter. When you see that the correct address appears in the window, select it.

Step 8 Click **Next**.

Step 9 You can change the Controller name, which is automatically populated. The Parent Area is automatically populated, and you can change it.

Step 10 Click **Next**.

A message displays 'Successfully Created Site'.

Step 11 Click **Close**.

Editing a Building

This procedure shows how to edit the building information.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

The dashboard page is displayed with the services added.

Step 3 Click **Enterprise Access**.

The list of Controllers attached to a tenant is displayed.

Step 4 From the list, choose the Controller and click the collapse icon >.

The list of area is displayed.

Step 5 Click the collapse icon > till you see the building you want to edit.

Step 6 Click the **View Actions(…)** icon, and then click **Edit Site**.

The **Edit Site** window appears.

Step 7 Make the changes as required. Click **Save Changes**.

A message displays 'Site Successfully Updated'.

Step 8 Click **OK**.

Deleting a Building

This procedure shows how to delete a building.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

The dashboard page is displayed with the services added.

Step 3 Click **Enterprise Access**.

The list of Controllers attached to a tenant is displayed.

Step 4 From the list, choose the Controller and click the collapse icon >.

The list of area is displayed.

Step 5 Click the collapse icon > till you see the building you want to delete.

Step 6 Click the **View Actions(…)** icon, and then click **Delete Site**.

You are prompted before deleting a building.

Step 7 Click **Delete**.

A message displays 'Building Successfully Deleted'.

Note You cannot delete a building if:

- It has floors (child sites)
- A device attached to it
- It is used in fabric as site domain

Step 8 Click **OK**.

Adding Floors to a Building

After you add a building, you can create floors in that building.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

The dashboard page is displayed with the services added.

Step 3 Click **Enterprise Access**.

The list of Controllers attached to a tenant is displayed.

Step 4 From the list, choose the Controller and click the collapse icon >.

The list of area is displayed.

Step 5 Click the collapse icon > till you see the building where you want to add the floors.

Step 6 Click the **View Actions(…)** icon, and then click **Add Floor**.

The **Floor Information** window is displayed.

Step 7 Enter a name for the floor. The floor name has a 21-character limit. The floor name must start with a letter or a hyphen (-) and the string following the first character can include one or more of the following:

- Upper or lowercase letters or both
- Numbers
- Underscores (_)
- Hyphens (-)
- Periods (.)
- Spaces ( )

Step 8 The Controller name is automatically populated, and it is editable.

Step 9 Define the type of floor by choosing the Radio Frequency (RF) model from the **Type (RF Model)** drop-down list: **Indoor High Ceiling**, **Outdoor Open Space**, **Drywall Office Only**, and **Cubes And Walled Offices**. This defines if

the floor is an open space or a drywall office, and so on. Based on the RF model selected, the wireless signal strength and the distribution of heatmap is calculated.

Step 10 Enter the **Width**, **Length**, and **Height** of the floor.

Step 11 Click **Next**.

A message displays 'Successfully Created Floor'.

Step 12 Click **Close**.

Editing a Floor

This procedure shows how to edit the floor information.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

The dashboard page is displayed with the services added.

Step 3 Click **Enterprise Access**.

The list of Controllers attached to a tenant is displayed.

Step 4 From the list, choose the Controller and click the collapse icon >.

The list of area is displayed.

Step 5 Click the collapse icon > till you see the floor you want to edit.

Step 6 Click the **View Actions(…)** icon, and then click **Edit Floor**.

The **Edit Floor** window is displayed.

Step 7 Make the changes as required. Click **Save Changes**.

A message displays 'Floor Successfully Updated'.

Step 8 Click **Close**.

Deleting a Floor

This procedure shows how to delete a floor.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

The dashboard page is displayed with the services added.

Step 3 Click **Enterprise Access**.

The list of Controllers attached to a tenant is displayed.

Step 4 From the list, choose the Controller and click the collapse icon >.

The list of area is displayed.

Step 5 Click the collapse icon > till you see the floor you want to delete.

Step 6 Click the **View Actions(…)** icon, and then click **Delete Floor**.

You are prompted before deleting a floor.

Note You cannot delete a floor if:

- There is a device attached to it in Cisco DNA Center
- It is used in fabric as site domain

Step 7 Click **Delete**.

A message displays 'Floor Successfully Deleted'.

Step 8 Click **OK**.

Viewing Network Hierarchy

You can view the details of a network hierarchy on the Tenant Workspace. Cisco MSX displays the following details for a site:

- All the buildings on the Tenant Sites
- Building address
- Network hierarchy on which a building belongs
- Network devices deployed on a building
- Floors in a building
- All devices associated with a building

Viewing Buildings

This procedure shows how to view building information.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

Step 3 Under **Tenant Workspace**, click **Sites**.

All the sites attached to a tenant are displayed. To view the buildings on the map, zoom in. When you zoom in, you can see the overall health status of a building.

Step 4 Click on a site to view the building details.

The page displays all the devices that are attached to a building. From this page, you can apply a template and delete a device. Click the **Ellipsis (…)** to see the menu options. For more information on applying a template and deleting a device, see Provisioning a Device and Deleting a Device respectively.

Viewing Devices

This procedure shows how to view device information.

Procedure

Step 1 Log in to the Cisco MSX portal using your credentials.

Step 2 From the left pane, click **Tenant Workspace** and then choose a tenant from the drop-down list.

Step 3 Under **Tenant Workspace**, click **Devices**.

All the devices attached to a tenant are displayed. From this page, you can apply a template and delete a device. Click the **Ellipsis (…)** to see the menu options. For more information on applying a template and deleting a device, see Provisioning a Device and Deleting a Device respectively.

Step 4 From the list, click on a device to view the device summary.

Step 5 Click **Device Details** to see the device details.

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