



## CHAPTER 2

# Creating and Manipulating VPN MPLS Maps

This chapter describes how to change Service View maps by adding and removing VPNs, connecting CE devices and creating aggregations, as follows:

- [Adding a VPN, page 2-1](#)—Describes how to add a VPN to the currently displayed Service View map.
- [Removing a VPN from the Map, page 2-2](#)—Describes how to change the Service View map by removing a VPN from the currently active map.
- [Connecting a CE Device, page 2-3](#)—Describes how to connect a CE device to its respective Sites or LCPs.
- [Disconnecting a CE Device, page 2-4](#)—Describes how to disconnect a CE device.
- [Displaying and Hiding a CE Device, page 2-4](#)—Describes how to display and hide the CE device on the Service View map.
- [Creating an Aggregation, page 2-5](#)—Describes how to aggregate business elements according to a logical hierarchy.
- [Disaggregating a Node, page 2-5](#)—Describes how to disaggregate an aggregated node.

## Adding a VPN

The user can change the Service View map by adding VPNs that have not yet been loaded to the currently displayed map.



**Note**

Adding VPNs will affect other users if they are working with the same Service View map.

To add an existing VPN:

- Step 1** Select the root of the map in the Cisco ANA NetworkVision window's tree pane.



**Note**

The **Add VPN** option is only enabled when the root icon is selected in the tree pane of the Service View map.

- Step 2** On the toolbar, click **Add VPN**, or select **Add VPN** from the File menu. The Add Business Element to <Root> dialog box is displayed.


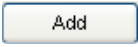
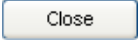
The Add Business Element to <Root> dialog box displays either or both of the following:

- The VPNs that have been automatically discovered by Cisco ANA
- The VPNs manually created by the user and not yet loaded in the map

The Add Business Element to <Root> dialog box displays the following columns:

- **Name**—The name of the VPN business element.
- **Description**—An additional description of the VPN business element.

The Add Business Element to <Root> dialog box displays the following buttons:

Button	Function
	Opens the Create Business Element dialog box, which enables the user to create a new VPN business element. The newly created VPN is displayed in the Add Business Element to <Root> dialog box. For more information, see <a href="#">Disaggregating a Node, page 2-5</a>
	Loads the selected VPN in the currently displayed Service View map. The VPN is displayed in the tree pane and map pane.
	Closes the Add Business Element to <Root> dialog box.

**Step 3** Select the required VPN in the table.

**Step 4** Click **Add**. The VPN is loaded in the Service View map displayed in the Cisco ANA NetworkVision window's map pane in the workspace.

**Step 5** Click **Close** to close the Add Business Element to <Root> dialog box.

## Removing a VPN from the Map

The user can change the Service View map by removing a VPN from the currently active map (this change does not affect other maps). When a VPN is removed from the map, it still exists in the database. The VPN is displayed in the Add Business Element to <Root> dialog box table again so that it may be added back to the map at any time.



### Note

This option does not change the business configuration or database.

In addition, the user can select and remove multiple VPNs from the map.



### Note

Virtual routers, Sites, LCAs and LCPs cannot be removed from the map without removing the VPN.

To remove a VPN:

**Step 1** Right-click the required VPN in the Cisco ANA NetworkVision window's tree pane or map pane to display the shortcut menu.

- Step 2** Select **Remove from Map**. The selected VPN is removed from the Service View map and displayed again in the Add Business Element to <Root> dialog box.



**Note** Removing a VPN will affect other users if they are working with the same Service View map.



**Note** When the **Remove from Map** option is selected for a VPN, this removes all the VPN elements from the map, including connected CE devices within the VPN, but excluding remote VPNs (extranets).

## Connecting a CE Device

The connect CE functionality enables the user to create a symbolic link to the overall connection between the CE device and the Site (IP interface) or LCPs. The CE device belongs to the currently displayed map only.

To connect a CE device:

- Step 1** Add a device by doing one of the following:
- To add a CE device to a Site, select the required VPN in the Cisco ANA NetworkVision window's tree pane or map pane,
  - To add a CE device to an LCP, select the required LCA.
- Step 2** Click **Add Device** or select **Add Device** from the File menu. The Device List dialog box is displayed. For more information, see the [Cisco Active Network Abstraction 3.6.5 User Guide](#).
- Step 3** From the Device List, select the device that you want to add.
- Step 4** Click **Add Device**. The device is displayed in the tree pane and the selected map or sub-network in the Cisco ANA NetworkVision window's workspace.



**Note** The tickets of the device will only be displayed in the ticket pane of the Cisco ANA NetworkVision window's workspace when the device is added to the VPN Service View map, for example, the ticket for link or port down.

- Step 5** Click **Close** to close the Device List dialog box.
- Step 6** Right-click the required Site or LCP in the tree pane or map pane to display the shortcut menu and select **Topology > Connect CE Device**.
- Step 7** Right-click the device in the tree pane or map pane to display the shortcut menu and select **Topology > Connect to Site/LCP** (where Site or LCP displays the details of the Site or LCP to be connected).
- Step 8** The Site or LCP is connected to the CE device and the CE device is displayed in the tree pane and map pane. A broken dark gray line is used to indicate the association in the map pane of the Cisco ANA NetworkVision window's workspace.

**Note**

The menu option **Topology > Connect to Site/LCP** is available only after **Topology > Connect CE Device** has been selected from the menu.

## Disconnecting a CE Device

A CE device can be disconnected from its respective Sites or LCPs.

To disconnect a CE device, right-click the required CE device or link in the map pane of the Cisco ANA NetworkVision window's workspace to display the shortcut menu and select **Topology > Disconnect CE Device**.

The association with the CE device is no longer displayed in the map pane.

For more information about displaying or hiding the CE device, see [Displaying and Hiding a CE Device, page 2-4](#).

## Displaying and Hiding a CE Device

The user can display the CE device for a Site or LCP in the Cisco ANA NetworkVision window's tree pane and map pane, as well as their associations on the Service View map, at any time after the CE has been connected.

To display a connected device:

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- Step 1** Select a Site in the map pane displaying the Site business element with an actively associated CE device icon (for more information about icons see [Table 1-3 on page 1-7](#)).
- or
- Select an LCP in the map pane displaying the LCP business element with an actively assigned tunnel edge for the CE device icon.
- Step 2** Right-click the Site or LCP to display the shortcut menu and select **Show CE Devices**. The connected devices are displayed in the tree pane and map pane including the associations.
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The user can also manually add connected devices (some or all them) in order to view them along with the links to Sites or LCPs.

The user can hide the CE device for a Site or LCP in the tree pane and map pane as well as their associations, so that they are no longer displayed on the Service View map.

To hide a connected device

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- Step 1** Select the Site or LCP in the Cisco ANA NetworkVision window's tree pane or map pane connected to the CE device.
- Step 2** Right-click the Site or LCP to display the shortcut menu and select **Hide Connected Devices**. The connected CE devices are hidden in the tree pane and map pane.
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The following icons are displayed:

	Site where there is at least one hidden connected device
	LCP where there is at least one hidden connected device

The user can also manually remove the connected devices (some or all them) in order to hide them along with the links to Sites or LCPs.

## Creating an Aggregation

The user can aggregate elements, for example, aggregate Sites or aggregate Sites and Virtual Routers.

To create an aggregation:

- Step 1** Select the required business elements in the Cisco ANA NetworkVision window's tree pane or map pane using <Ctrl> or the selection tool.



**Note** The **Aggregate** option is only enabled when the business elements have been selected.

- Step 2** Select the Aggregate option in one of the following ways:
- In the Cisco ANA NetworkVision window's toolbar, click **Aggregate**,
  - Select **Aggregate** from the Node menu.
  - Right-click the required business elements in the tree pane or map pane to display the shortcut menu and select **Aggregate**.

The Aggregation dialog box is displayed prompting you to type a name for the aggregated node.

- Step 3** Type a unique name for the aggregated node and click **OK**. The aggregated node is displayed in the Cisco ANA NetworkVision window's tree pane and map pane. Aggregated nodes are displayed as a single entity using the aggregation icon (for more information about icons see [Table 1-3 on page 1-7](#)).

## Disaggregating a Node

The aggregated node selected in the Cisco ANA NetworkVision window's tree pane or map pane can be disaggregated.

To disaggregate a node:

- Step 1** Select the required branch in the tree pane, or select the required aggregated node in the map pane.
- Step 2** Select **Disaggregate** from the Node menu, or right-click the aggregated node to display the shortcut menu and select **Disaggregate**.

A confirmation message is displayed.

**Step 3** Click **Yes**. The node is disaggregated.

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