



## Setting Up Vision Client Maps

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Vision client maps display devices and their physical and logical relationships, including relationships with logical NEs such as services. From a map, users can drill down into both the physical and logical NE details and perform other operations, such as launching command scripts and external applications. These topics explain how to set up maps:

- [Workflow for Creating a Map, page 4-2](#)
- [Creating a New Map and Add NEs to the Map, page 4-3](#)
- [Applying a Background Image To a Map, page 4-12](#)
- [Grouping Network Elements into Aggregations, page 4-7](#)
- [Labelling NEs to Associate Them with Customers \(Business Tags\), page 4-9](#)
- [Adding a Static Link When a Network Link is Missing, page 4-13](#)
- [Changing Vision Client Default Settings \(Sound, Display, Events Age\), page 4-15](#)
- [Changing Your Vision Client Password, page 4-16](#)

Whether you can perform these setup tasks depends on your account privileges. See [Vision Client Permissions, page B-1](#) for more information.

## Workflow for Creating a Map

Use maps to highlight different segments of your environment. For example, you could create one map to display the BGP architecture and relationships between NEs, and another map to display the physical connectivity of the network. You can create maps that cover specific network segments, customer networks, services, or any other mix of network elements required. Network maps provide a graphic display of active faults and alarms and serve as access points for activating services. When you create a map, it is saved in the database and made available to other users if they have sufficient access and security privileges. When you delete a map, it is removed from the database.

You can only perform these tasks if you have the required privileges. See [Vision Client Permissions, page B-1](#).

The following table provides the basic workflow for setting creating maps.

	Description	See:
<b>Step 1</b>	Launch the Vision client and create an empty map using a name that reflects the map purpose, and add elements or services to the map.	<a href="#">Creating a New Map and Add NEs to the Map, page 4-3</a>
<b>Step 2</b>	Apply optional customizations to the map:	
	Group NEs into aggregations, which are displayed as a single entity by default (but can be opened for NE details).	<a href="#">Grouping Network Elements into Aggregations, page 4-7</a>
	Apply a layout or drag NEs to a desired layout	<a href="#">Applying a Layout to a Map, page 4-7</a>
	Label important NEs by creating and applying business tags, allowing users to search for NEs using labels created for your deployment's needs.	<a href="#">Labelling NEs to Associate Them with Customers (Business Tags), page 4-9</a>
	Apply background images to maps.	<a href="#">Applying a Background Image To a Map, page 4-12</a>
<b>Step 3</b>	Create logical links to ensure that correlation flows are not interrupted.	<a href="#">Adding a Static Link When a Network Link is Missing, page 4-13</a>
<b>Step 4</b>	Adjust Vision client settings that affect maps (audio alarms, display defaults, and so forth).	<a href="#">Changing Vision Client Default Settings (Sound, Display, Events Age), page 4-15</a>
<b>Step 5</b>	(Optional) Create ticket (or event) filters and save them so you can use them as needed.	<a href="#">Table 11-2Regular and Resynced Events Processing, page 11-6</a>
<b>Step 6</b>	Check the global settings that can impact map operations (for example, whether users can view maps created by others).	<a href="#">Check Global Settings for Vision Client Maps, page 4-14</a>
<b>Step 7</b>	(Optional) Extend the Vision client to model and display additional NE properties; support new devices, software versions, and modules; display commands that users can launch from an NE's right-click menu; launch external applications; integrate with northbound applications; and many other customizations.	<a href="#">Extending Prime Network Features, page 2-6</a>

After creating a map and adding devices to it, you can view the NE properties as described in [Opening Maps, page 7-2](#).

# Creating a New Map and Add NEs to the Map

## Naming Your Maps

The name you assign a map is a significant way to organize the NEs in your network. Use these guide 5.1 when naming maps:

- Give each map a specific function. For example, do not mix network and service elements together in a map.
- Give each map a name that reflects the map function, such as:
  - **Core Devices** for a network map named
  - **MPLS** for a service map named

**Step 1** Launch the Vision client.

If You Are Using Prime Network:	Launch the Vision client by choosing:
As part of suite	<b>Assure &gt; Prime Network &gt; Vision</b> from the REPLACE main menu bar
As a standalone application	<b>Start &gt; Programs &gt; Cisco Prime Network &gt; Cisco Prime Network Vision</b> from your local machine

**Step 2** To create a new map, choose **File > New Map** in the Vision client main menu and enter a map name that reflects the map function. To add elements to the map, do one of the following:

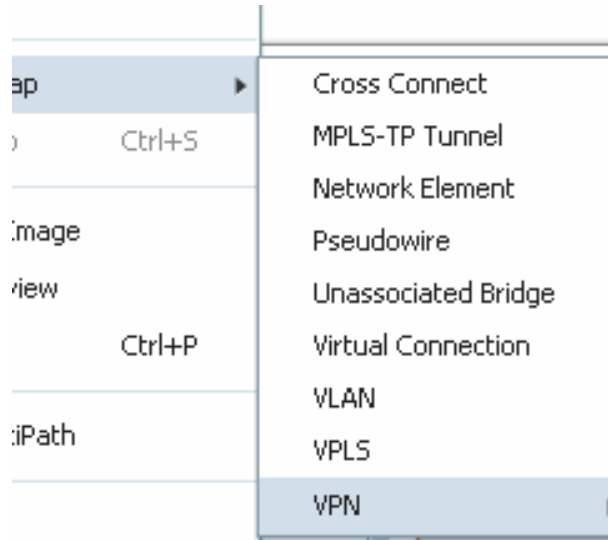
For this map function:	Examples	See:
A map of services in the network	Cross connects, Ethernet services, MPLS-TP tunnels, pseudowires, unassociated bridges, VLANs, VPLs, VPNs	<a href="#">Creating a Service Map, page 4-3</a>
A map of the network's physical topology	Core devices with their physical links	<a href="#">Creating a Physical Topology Map, page 4-4</a>
A map of NEs that are connected using a specific type of link	Data links: ATM, Frame Relay Tunneling: GRE, Layer 2 TP, pseudowires, MPLS-TE, GRE Tunnels Protocol architectures: BGP	<a href="#">Creating a Special-Purpose Map, page 4-5</a>

## Creating a Service Map

This procedure explains how to locate services in the network so you can add them to a map. When Vision client users open the map, they will only be permitted to view a service if the NE associated with the service is in their device scope.

If you have a very large network, you can alternatively generate a service report by choosing **Reports > Run Report > Network Service Reports** and choosing Ethernet Services, Pseudowire, or VPLs.

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- Step 1** Choose **File > New Map**, and enter a map name that reflects the service.
- Step 2** Click the tab for your new map and choose **File > Add to Map**. The following figure shows the service types you can choose.



If you choose **VPN > New**, the Create VPN dialog box is displayed. For information on creating a VPN, see [Creating a VPN, page 17-22](#).

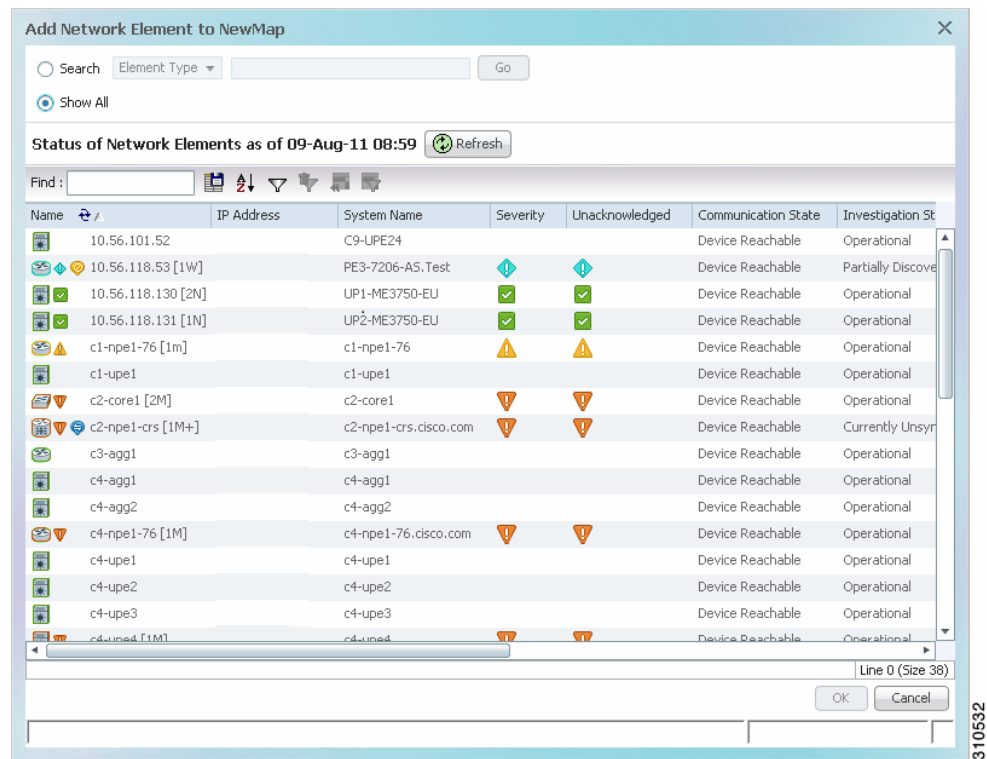
- Step 3** Choose a service (such as **VPLS**) and Prime Network displays all services of that type.
- Step 4** If you are working with a very large number of NEs that are affected by the services, click **Search**. The search criteria depends on the entity type. For example, you can search for Ethernet Services by the system name, pseudowires by their role, and so forth.
- Step 5** Choose the services and click **OK**.
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### Creating a Physical Topology Map

This procedure explains how to locate physical NEs in the network so you can add them to a map. When a Vision client user opens the map, they will be able to see the map devices, but devices outside their device scope will be displayed with a lock icon.

If you have a very large network, you can alternatively generate a service report by choosing **Reports > Run Report > Inventory Reports** and choosing a hardware report.

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- Step 1** Choose **File > New Map**, and enter a map name that reflects the map purpose (such as **Core Devices**).
- Step 2** Choose **File > Add to Map > Network Elements**.
- Step 3** Click **Search** to find NEs by their vendor, element type, IP address, and so forth; or click **Show All** to list all NEs. A locked device icon means the device is not in your scope. For example, to find all Cisco 7600 series routers, click the Filter button, choose Element Type as your filter criteria, and enter **76** in the text box.



**Step 4** Choose the NEs and click **OK**.

## Creating a Special-Purpose Map

You can create a special-purpose map by selecting specific link types for your map, such as a map that shows all the BGP links in the network.



### Tip

Do not mix logical and physical links into one map because they can be displayed the same way. Link types can only be ascertained by hovering the mouse over the link.

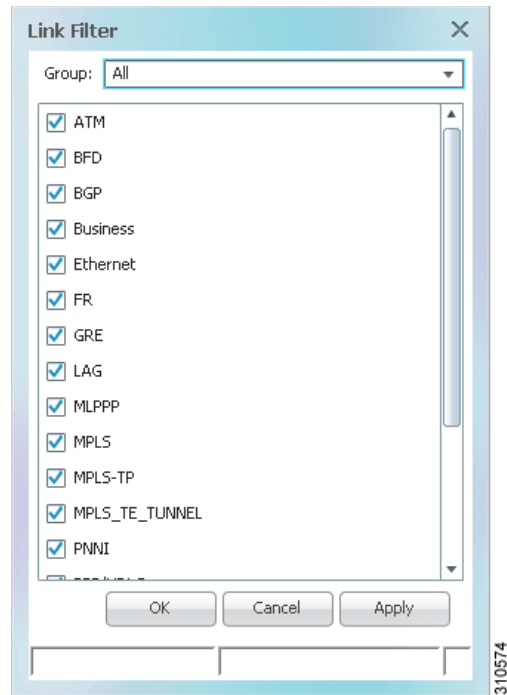
By default, Vision client users will only be able to view links if both link endpoints are in their device scope. (This can be changed using the Registry Controller; see the [Cisco Prime Network 5.1 Administrator Guide](#).)

Keep in mind that this procedure effectively filters in or filters out certain link types. If subsequent users want to filter the map, the links offered for filtering are limited to what you specify in this procedure.

**Step 1** Choose **File > New Map**, and enter a map name

**Step 2** In the Create Map dialog box, and click **Advanced**. The Link Filter dialog displays link types, as shown in [Figure 4-1](#).

Figure 4-1 Link Filter Dialog



These are some examples of what you can create using the various link types:

- Process map with all BFD links
- Traffic map with all Frame Relay links
- Tunnel map with all GRE tunnels

The link type also determines the algorithm Prime Network will use for the map layouts (symmetrical, orthogonal, and so forth).

- Step 3** Check the link type you want to include in your map and click **Apply** to apply the defined link filter settings and continue with more selections.
- Step 4** Click **OK** when you have completed your selections.
- Step 5** In the Create Map dialog box, enter a name for the new map and click **OK**. An empty new map is displayed in the navigation pane and content area, and the map toolbar displays the Link Filter Applied button, which indicates that a link filter is currently applied to the map.



Indicates a link filter is currently applied to the map. If you want to clear the filter, click this icon and choose **None** from the Group drop-down list.

- Step 6** Add the required elements to the map by choosing **File >Add to Map**.

# Grouping Network Elements into Aggregations

An aggregation is a group of NEs. You specify the NEs to add to the group, and then name the aggregation as needed. These are some examples of ways to use aggregations:

- Group NEs that are in a logical segment of the network
- Group NEs located in a geographical fragment of the network.
- Group NEs that have the same device type or role

**Note**

You cannot aggregate service entities that exist within a service. For example, you cannot aggregate VRFs that exist within a VLAN.

To aggregate network elements, follow this procedure. The aggregation name can include Chinese characters.

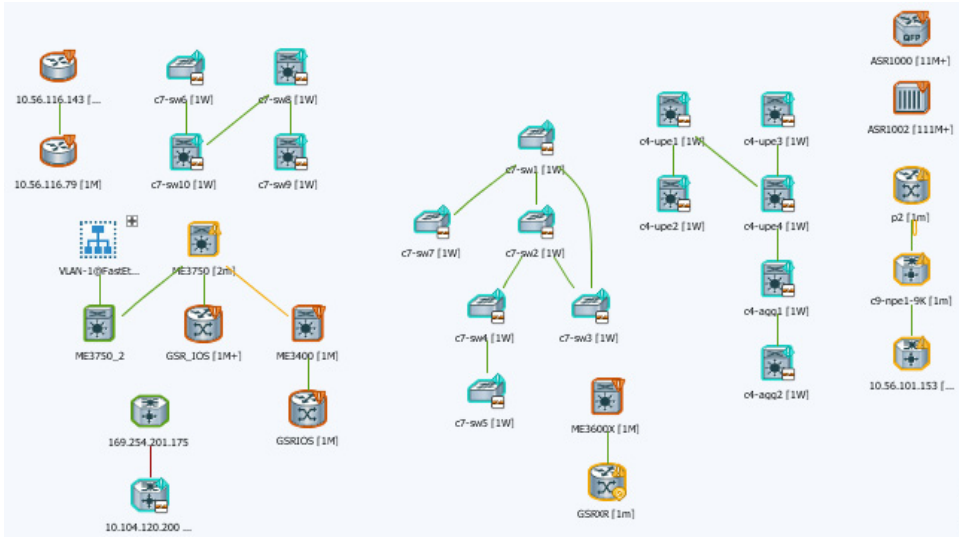
- 
- Step 1** Select multiple NEs by pressing **Ctrl**.
- Step 2** Aggregate the network elements by choosing **Node > Aggregate**.
- Step 3** In the Aggregation dialog box, enter a unique name for the aggregation and click **OK**. The aggregation is displayed in the navigation pane and the map pane. The aggregation icon changes color according to the alarm severity. For more information about severity colors, see [Severity Icons and Colors for Events, Tickets, and NEs, page A-15](#).
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## Applying a Layout to a Map

The Vision client provides four standard layouts that you can apply to your map. The layout determines how the topology should be displayed: Circular, hierarchical, orthogonal, or symmetric. By default, maps use a circular topology. To select a layout, choose **View > Layout** from the main menu. You can also move individual NEs as desired. When you have finished, choose **File > Save Map**.

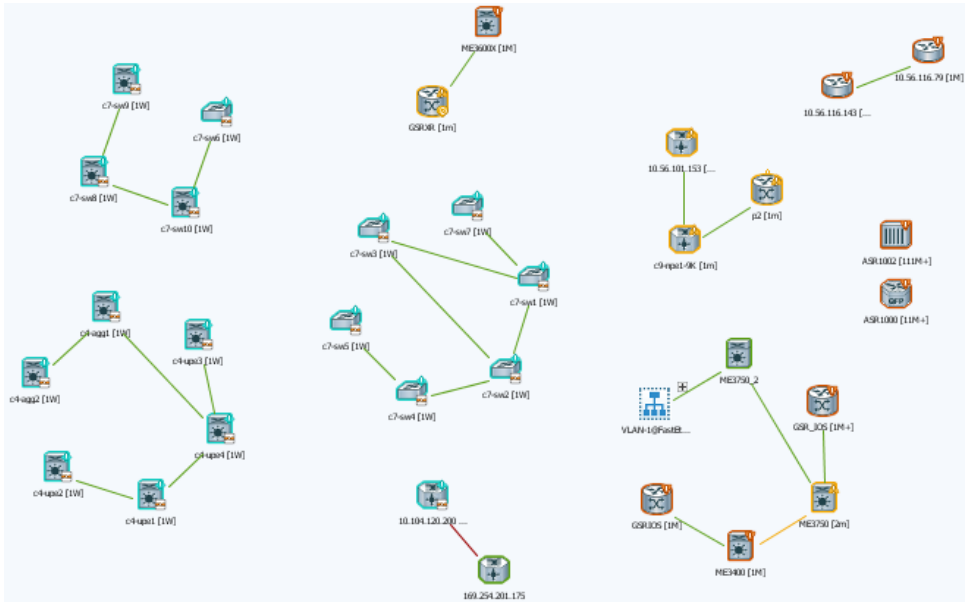
The following screen shots provide examples of the same map using the different layouts.

Figure 4-2 Hierarchical Map Layout



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Figure 4-3 Circular Map Layout (The Default Layout)



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Figure 4-4 Orthogonal Map Layout

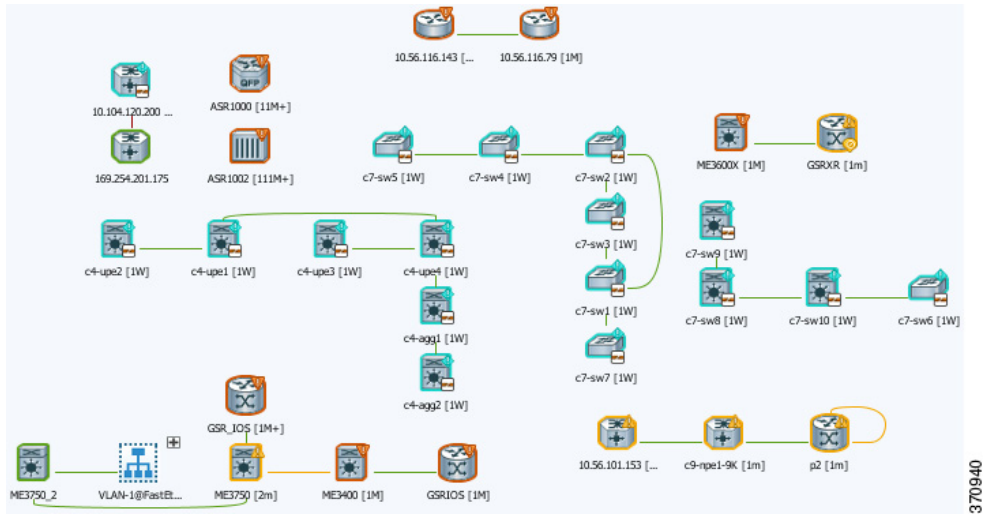
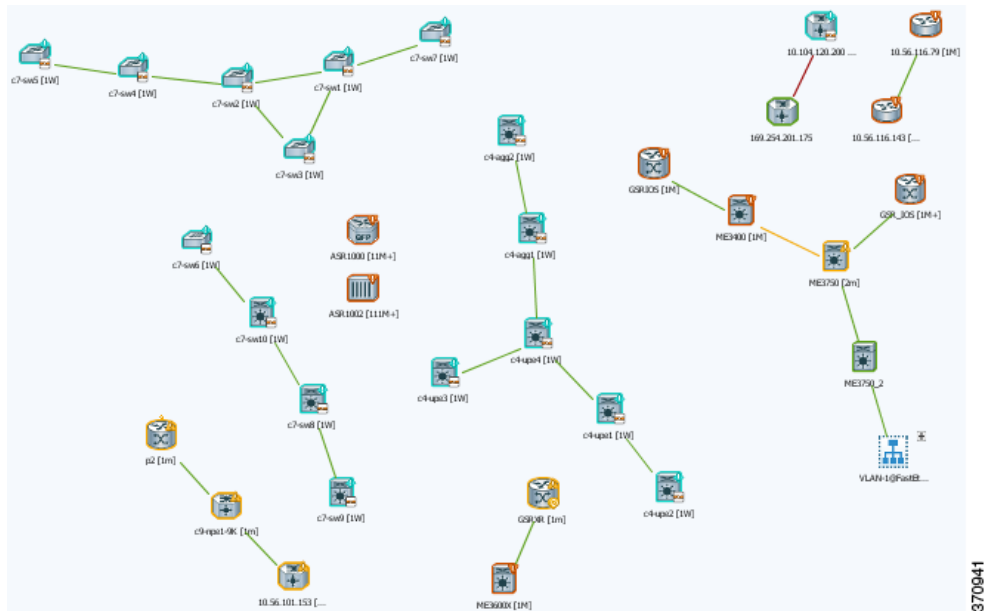


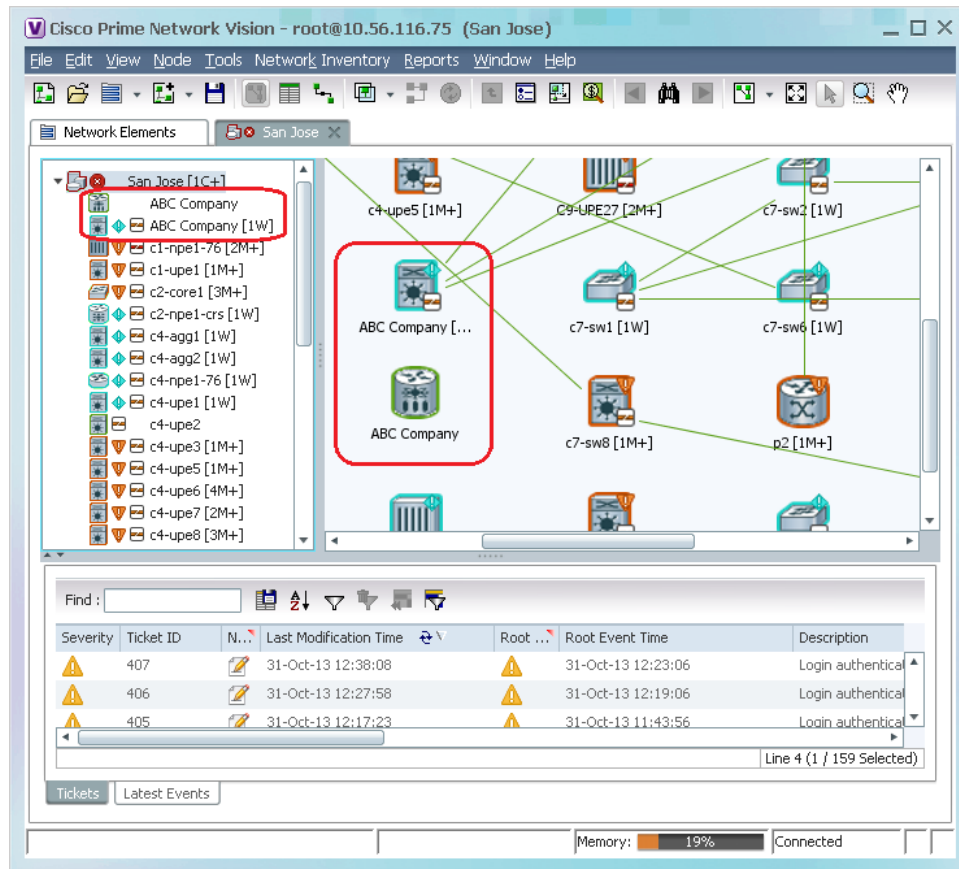
Figure 4-5 Symmetrical Map Layout



## Labelling NEs to Associate Them with Customers (Business Tags)

A *business tag* is a string that is meaningful to the business, and which can be used to label a component of a network element for use in Prime Network screens and reports. Figure 4-6 shows two devices with a business tag named **ABC Company**.

Figure 4-6 Find Business Tag Dialog Box With Results



Business tags are normally applied to *business elements*, which are constructions or organizations of certain network elements and their properties into a logical entity (such as Layer 2 VPNs, Layer 3 VPNs, and virtual routers). You can also apply business tags to individual entities, such as a single port or interface. Business tags allow you track business elements and individual entities in a way that makes sense from your business perspective. For example, a business tag might identify a new subscriber to a port, or other information that is relevant in your environment.

**Note**

Business tags support Chinese characters, but your system must be properly configured to support this. See the [Cisco Prime Network 5.1 Installation Guide](#).

By default, business tags replace the NE name. If you want to change this setting, or disable business tags completely, see [Changing Vision Client Default Settings \(Sound, Display, Events Age\)](#), page 4-15.

**Step 1** Right-click the required network object and choose **Attach Business Tag**.

**Step 2** Enter the information for the business tag in the Attach Business Tag dialog box:

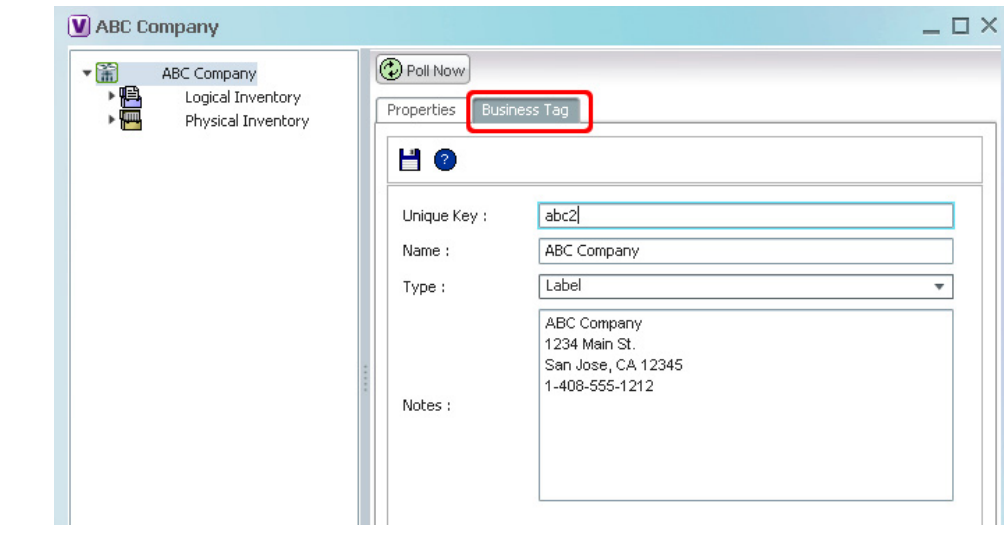
Field	Description
Unique Key	A letter or number string that identifies the entity throughout the deployment. For example, if three devices have the ABC Company business tag, you could use abc1, abc2, and abc3.
Name	Name that is displayed in the clients. Names are case-sensitive.
Type	Subscriber, Provider Connection, or Label.  <b>Note</b> If you select Label, the name of the network object changes to display the business tag name if the Replace name with Business Tag option is selected in the Options dialog box ( <b>Tools &gt; Options</b> ). For more information about display options, see <a href="#">Changing Vision Client Default Settings (Sound, Display, Events Age)</a> , page 4-15.
Notes	Text-free message.

**Step 3** [Figure 4-7](#) provides an example. (After the tag is attached, the Vision client allows you to search for business tags based on type or on partial strings that appear in the Unique Key, Name, and Notes fields.)

**Figure 4-7** Attach Business Tag Dialog Box

**Step 4** Click **Save**. The business tag is attached to the network object and displayed throughout the Vision client. A new Business Tag tab is also added to the device's inventory window, as shown in [Figure 4-8](#). (The tab is displayed when you select the entity that contains the business tag.)

Figure 4-8 Vision Client Device Inventory—Business Tag Tab



You can edit or delete business tags by right-clicking them and using the appropriate command.

## Applying a Background Image To a Map

You can apply GIF, JPG/JPEG, and PNG images as a map background. Subordinate windows (such as a detailed view of an aggregation) can use the same or a different image.

- Step 1** Navigate to the required map in the Vision client.
- Step 2** Right-click the map background and choose **Set Map Background**.
- Step 3** In the Manage Map Background dialog box, provide the following information.

**Table 4-1** Manage Map Background Options

Field	Description
Select Image	Applies the selected image to the current map background: <ol style="list-style-type: none"> <li>1. Choose <b>Select Image</b>.</li> <li>2. Click <b>Browse</b>.</li> <li>3. In the Open dialog box, select the desired image and click <b>OK</b>.</li> <li>4. Click <b>OK</b> in the Manage Map Background dialog box.</li> </ol>
Use Image From Upper Level	Indicates whether the selected subordinate map should use the same image as the parent map or a different image: <ul style="list-style-type: none"> <li>• To use the same image, choose <b>Use Image from Upper Level</b>.</li> <li>• To use a different image, choose <b>Select Image</b> and complete the steps.</li> </ul>
Remove Image	Removes the current image from the map background.

- Step 4** Click **OK**. The current map background is updated as specified.
- Step 5** To retain the background image for subsequent logins, choose **File > Save**.
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## Adding a Static Link When a Network Link is Missing

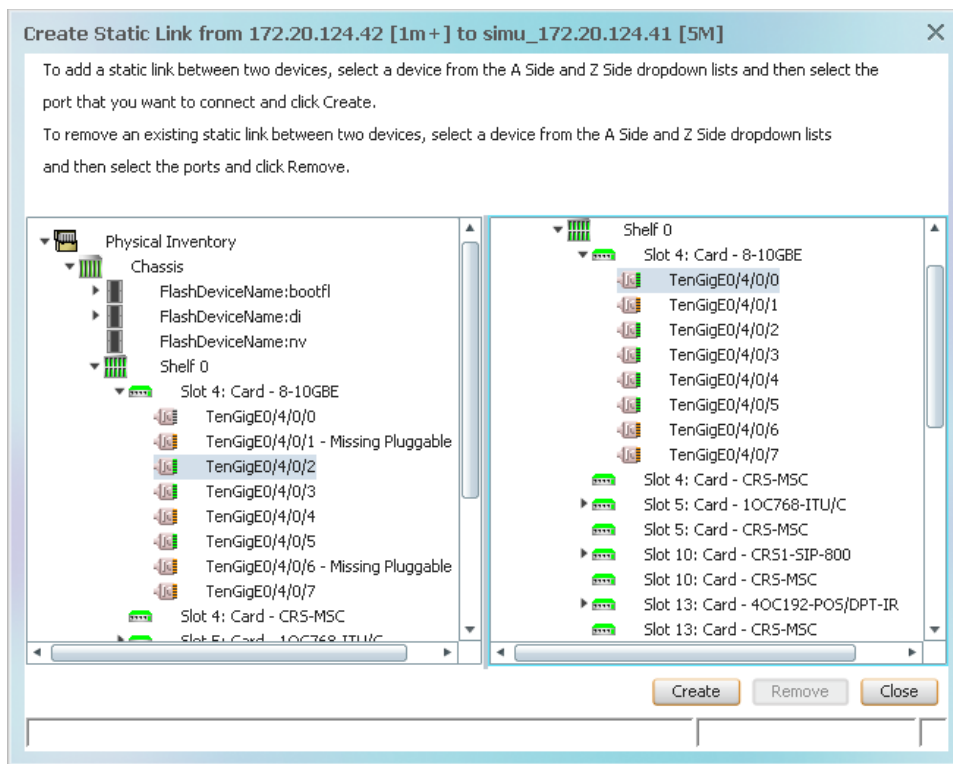
If Prime Network does not discover a link that you know exists in the network, you can create a static link that will be displayed in the map, but exists only at the model level. This allows correlation flows to go through the links, as if they were real physical or logical links. Static link properties are not updated because the links do not really exist in the network, but the link will change color under certain conditions, such as when a port is down.

You can also use static links to create a link between a device and an unmanaged network, or to connect a tunnel to a VPN.

Static links are created between a device or port on the A side, and a device or port as the Z side. Prime Network validates the new link by checking the consistency of the port types (for example, RJ45 on both sides), and Layer 2 technology type (for example, ATM OC-3 on both sides). You can also create static links between Ethernet Link Aggregation Groups (LAGs) by choosing a LAG and the desired port channel for the A or Z side as described in the following procedure.

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- Step 1** Right-click the required A Side device in the navigation pane or in a map, and choose **Topology > Mark as A Side**. (You can also perform this operation from the inventory window.)
- Step 2** Right-click the required Z Side device or LAG in the navigation pane or properties pane to display the right-click menu and choose **Topology > Mark as Z Side**. The Create Static Link window is displayed as shown in [Figure 4-9](#), so that you can select the ports to connect.

Figure 4-9 Create Static Link Window



**Step 3** Select the required port on both the A Side device and the Z Side device.

**Step 4** Click **Create** to validate the connection and create the new link.

For information about removing a static link, see the [Cisco Prime Network 5.1 Administrator Guide](#).

## Check Global Settings for Vision Client Maps

The following map behavior is controlled from the Administration client:

- The Vision client actions users can perform, and the devices users can view and manage. When a user account is created, the administrator assigns:
  - A user access level to the user account (Viewer, Operator, Operator Plus, Configurator, or Administrator). It controls what actions the user can perform using the Vision client, such as adding and removing NEs from a map, or applying a background image to a map.
  - One or more device scopes. Device scopes determine which devices a user has permission to access, and the actions a user can perform on those devices. For example, a user might have sufficient privileges to add a device to a map, but the user can only do so if the device is in their device scope.

For a matrix of actions users can perform depending on their user access level and device scope assignments, see [Vision Client Permissions, page B-1](#).

- Which maps users are permitted to use. By default, Vision client users can view all maps made by other users. Administrators can instead control which maps users can see using the Registry Controller.
- Whether users can view links with only one endpoint in their device scope. By default, users will be permitted to see links only if both link endpoints are in their scope.

Users with Administrator privileges can change these settings by following the directions in the [Cisco Prime Network 5.1 Administrator Guide](#). For information on fault-related settings that affect all of the Prime Network clients, see [Changing Vision Client Default Settings \(Sound, Display, Events Age\)](#), page 4-15.

## Changing Vision Client Default Settings (Sound, Display, Events Age)

All map users can adjust these Vision client options. Changing these options applies only to the client machine (that is, the machine from where the client is launched).

These options control which items are displayed in maps, how items are displayed in maps, whether to use audio sounds, and when to remove NE tickets and events from the map. To change them, choose **Tools > Options** from the main menu.

To Do the Following:	Select the following from Tools > Options	Default
When Vision client starts, display Open Map dialog with last maps viewed	Startup tab—Load Workspace on Startup	Enabled
Change NE Label Font Size	Display tab—Map Labels Font Size	30pt
Change what severity information is displayed with NE icons	Severity tab—Show Severity Text	Enabled
	Severity tab—Show Acknowledged	Enabled
	Severity tab—Show Propagated	Enabled
Change how labels (business tags) are displayed (choose one)	Display Name tab—Do not use business tags	Disabled (tags are enabled)
	Display Name tab—Add business tags to name	Disabled (tag replaces name)
	Display Name tab—Replace name with business tag	Enabled

To Do the Following:	Select the following from Tools > Options	Default
Enable or disable audio alerts and control audio sounds	Audio tab—Enable Audio Response for Alarm	Disabled
	Audio tab—Critical, Major, Minor If audio is enabled, specifies .wav file for sound.	(see client)
	Audio tab—Loop Sound on Critical Alarm If audio is enabled, continuously plays .wav file for critical event.	Disabled
Control how long events are displayed in inventory window	Maximum age of events to display in the Tickets and Latest Events tabs. To only display active events, enter 0 (zero). The default (6 hours) is controlled from the Administration client client.  <b>Note</b> Prime Network also has a limit of 15,000 events that can be sent from the server to clients. Older events are purged when either the maximum age or the maximum number of events is exceeded. The purging mechanism runs once per minute.	6 hours

## Changing Your Vision Client Password

Users can change their own Vision client passwords at any time by selecting **Tools > Change User Password** from the Vision client main menu. You may be required to change your password on a regular basis according to the password rules set by the Administrator.