



## CHAPTER 15

# Enterprise Navigation

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This chapter describes the overview of the enterprise navigation feature, how to configure and set up the navigation tree in the Cisco Network Building Mediator (Mediator) and includes the following sections:

- [About Enterprise Navigation](#)
- [Creating a Navigation Tree in Mediator Using configTOOL, page 15-2](#)
- [Verifying the Point Association, page 15-6](#)
- [Verifying the Link to the Web Pages, page 15-7](#)
- [Viewing the Navigation Tree Using a Web Browser, page 15-7](#)
- [Searching Entities in the Navigation Tree, page 15-8](#)

## About Enterprise Navigation

This section describes the enterprise navigation feature and includes the following topics:

- [Overview, page 15-1](#)
- [Understanding Enterprise Navigation, page 15-1](#)
- [Enterprise Navigation Terms, page 15-2](#)

## Overview

The enterprise navigation feature enables you to browse all the systems connected to the Mediator and navigate to different levels. Using the navigation tree, you can monitor and control systems attached to the Mediator in real time.

## Understanding Enterprise Navigation

The navigation tree is used by the System Integrator (SI) to navigate all the systems that are connected to the Mediator. It provides a hierarchical tree structure, Search text box, a Display tab, a Properties tab and a Global Setpoints tab. It is possible to view the system graphics and real-time value of all the points in the Mediator. The value of editable points may be set directly from the Enterprise Navigation portal.

The hierarchical tree enables you to search through entities by traversing the navigation tree and expanding the entities. The search text box enables you to find and display the desired entities from the navigation tree, instead of traversing the entire tree and expanding the entities. The Display tab is used

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to present a graphical view that summarizes key system data. The Properties tab lists all points and its attributes associated with a particular device. The Global Set points tab enables you to set point control for changing system set points across entities.

## Enterprise Navigation Terms

- **Downstream Mediator**—The Mediator to which different subsystems and devices are connected physically through the interfaces like RS-485 ports, RS-232 ports, Ethernet ports, and so on.
- **Navigation Tree**—Provides the hierarchical tree structure of the system from where you can select the level and view the Navigation pane.
- **Navigation Pane**—Consists of a Display tab and a Properties tab. The Display tab is used to present a graphical view that summarizes key system data. The Properties tab lists all points and its attributes that are associated with a particular device.
- **Entity Root**—The container for all entities that are attached to a Mediator.




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**Note** A navigation tree may have multiple roots and in turn the root may have sub-roots, depending upon how you want to define the hierarchy during deployment.

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- **Entity**—A child of the Entity root that represents a group of devices or a particular device that controls or monitor a piece of equipment.
- **Device**—The hardware that controls a piece of equipment based on sensor inputs and the control program in memory of the module.
- **Points**—Generic term used to describe a single item of information in a building control system. For example, the temperature of a room, the duct pressure of an Air Handling Unit (AHU), and the chiller water flow rate are some examples of points.
- **User**—Refers to an end user (you) who operates the system (Mediator). The user is identified by a name and a password.

## Creating a Navigation Tree in Mediator Using configTOOL

This section describes how to create a navigation tree in the Mediator and includes the following topics:

- [Adding an Entity Root, page 15-2](#)
- [Adding an Entity, page 15-4](#)
- [Saving the Configuration, page 15-6](#)

### Adding an Entity Root

To create an entity root in the navigation tree using configTOOL, perform the following steps:

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**Step 1** Launch the Mediator configTOOL main window.

For more information, see:

- [Starting configTOOL, page 4-3](#)

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- [Accessing Mediators Using configTOOL, page 4-11.](#)

The Mediator configTOOL window appears.

**Step 2** In the node tree pane, click the host node of the Mediator (represented by an IP address) to display the anchor nodes (aliases, interfaces, and services).

**Step 3** To expand the aliases node tree, click **aliases**.

The node tree pane displays the available aliases in the navigation tree and on the aliases tab.

The aliases tab appears in the right part of the Mediator Configuration Tool window. The default name and description of the connected device appear in the upper area of the tab.

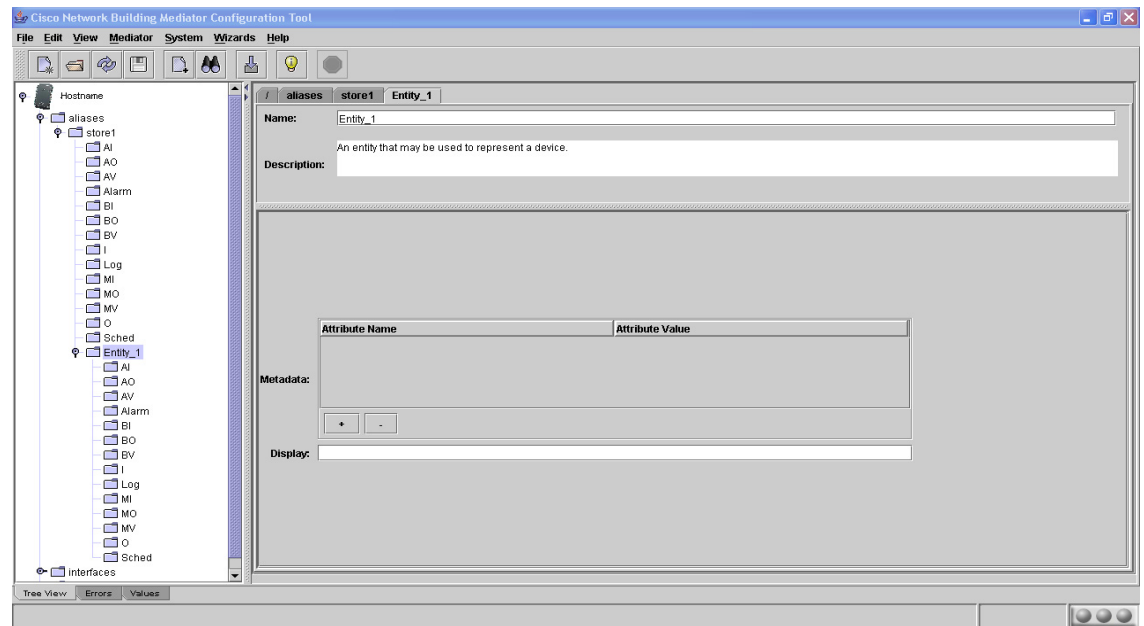
**Step 4** To add an entity root to the aliases node, right-click **aliases**, and then choose **Add** from the right-click menu.

The Available Devices dialog box appears. This dialog box displays the list of available devices that can be added to the aliases node.

**Step 5** Choose **Entity root**, and then click **OK**.

A new entity root appears under the aliases node in the node tree pane along with the properties. (See [Figure 15-1](#).)

**Figure 15-1** Entity root Node



The tab displays the default name (Entity Attach Point) and description of the node in the upper area, and the configured parameters in the lower area.

**Step 6** (Optional) To change the default name and description of the entity root node, do the following:

- In the Name text box, enter the new name (for example, Store1) and then press **Enter**.

The entity root node is renamed and appears in the node tree pane.



**Note** See [Table 15-1](#) for the description of Entity properties.

- In the Description text box, enter a description to identify the purpose of this node.

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**Note** In the Display text box, enter the URL of a web page that represents this element. For example, /store\_dash.html.



**Note** The web page can be added in the Mediator and stored in /var/mpx/www/http, before the page is added in the Display text box.

**Step 7** In the Hostname text box, enter the hostname of the Mediator.

The default is localhost.

**Step 8** (Optional) In the Mount point text box, retain the default value.

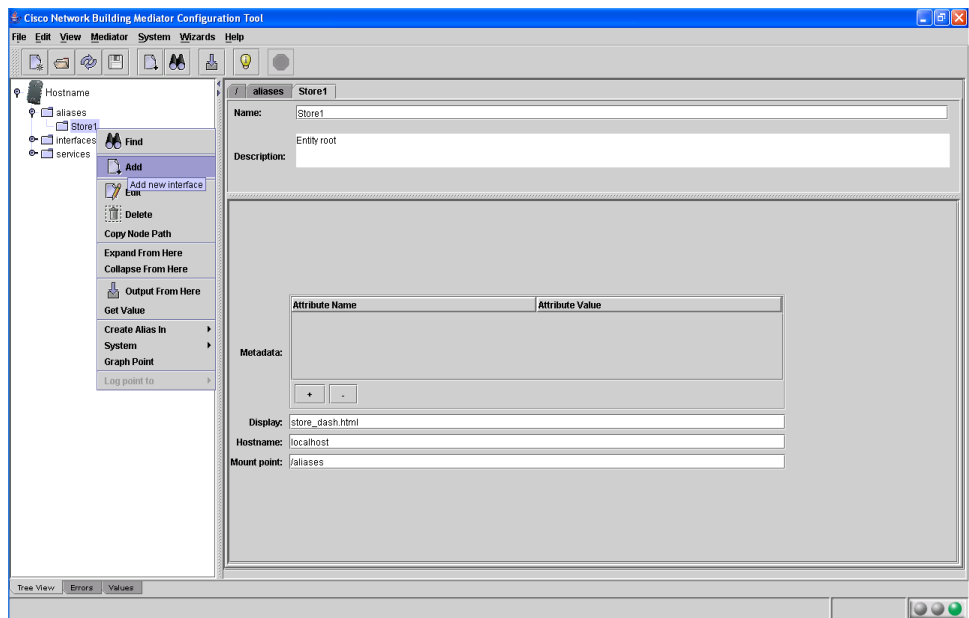
The default is /aliases.

## Adding an Entity

To add an entity to the entity root node in the navigation tree, perform the following steps:

**Step 1** Right-click the entity root and then choose **Add** from the right-click menu. See [Figure 15-2](#).

**Figure 15-2** Adding an Entity



**Step 2** The Available Devices dialog box appears and displays the list of available devices that can be added to the entity root node.

**Step 3** Choose **Entity** and then click **OK**.

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A new child node and a list of entity property groups appear under the entity root in the node tree pane. The new child nodes created will be Entity\_1, Entity\_2, and so on.

Table 15-1 describes the entity property groups and their description.

**Table 15-1 Entity Properties**

Property	Refers to
AI	A group of analog input properties.
AO	A group of analog output properties.
AV	A group of analog value properties.
Alarm	A group of alarm properties.
BI	A group of binary input properties.
BO	A group of binary output properties.
BV	A group of binary value properties.
I	A group of generic input properties.
Log	A group of log properties.
MI	A group of multistate input properties.
MO	A group of multistate output properties.
MV	A group of multistate value properties.
O	A group of generic output properties.
Sched	A group of schedule properties.

The Entity\_1 tab displays the default name (Entity\_1) and description of the Entity\_1 node in the upper area, and the configured parameters in the lower area.

**Step 4** (Optional) To change the default name (for example, RTU01) and description of the entity node, perform the following steps:

- a. In the Name text box, enter the new name, and then press **Enter**.  
The entity is renamed and appears in the node tree pane.
- b. In the Description text box, enter a description to identify the purpose of this node.  
In the Display text box, enter the URL of a web page that represents this element.



**Note** The web page should be built before it can be added in the Display text box.

**Step 5** To add the entity property under the entity property group, right-click **Property Group** and choose **Add**.

**Step 6** In the Available devices dialog box, choose **Property** and click **OK**.

The Property tab displays the default name (Property) and description of the Property node in the upper area, and the configured parameters in the lower area.

**Step 7** (Optional) To change the default name (for example, Occupancy) and description of the property node, perform the following steps:

- a. In the Name text box, enter the new name (Occupancy), and then press **Enter**.  
The property is renamed and appears in the node tree pane.

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b. In the Description text box, enter a description to identify the purpose of this node.

**Step 8** In the Refers to text box, enter the node path of the Property. For example, /services/network/BACnet/internetnetwork/Devices/76004/19/11.

**Step 9** In the Label text box, enter the label for the Property.

**Step 10** In the Description text box, enter a description to the Property.

**Note**

The metadata attribute named 'purpose' is needed for global set point feature, while the value is a user defined string. The Global Setpoint will discover and give the user all purposes that have been defined, as 'point type'. For more information, see [Discovery, page 16-12](#).

## Saving the Configuration

To save the Mediator configuration file, perform the following steps:

**Step 1** Choose **File > Save Configuration**.

A Confirmation request dialog box appears.

**Step 2** Click **Yes** to save the confirmation.

A Save configuration progress dialog box appears.

The configuration file is saved and the Mediator reboots.

**Step 3** Click **Connect** to connect to the Mediator.

## Verifying the Point Association

To verify the Mediator configuration and check if you can get the values for a particular point, perform the following steps:

**Note**

See [Mediator configTOOL, page 4-1](#) for adding property under entities and how to associate the node path.

**Step 1** Right-click a point in the node tree pane, and then choose **Get Value** from the shortcut menu.

A Get Value dialog box appears.

**Step 2** The Node path text box displays the value of the node and the node path.

**Step 3** Click **OK**.

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## Verifying the Link to the Web Pages

To verify the link to the web pages, verify that the proper URL appears in the Display text box for the entity root (see [Figure 15-1](#)) and for the entity as shown in [Figure 15-2](#).)

## Viewing the Navigation Tree Using a Web Browser

To view the navigation tree in the Mediator, perform the following steps:

- Step 1** Open a web browser and enter the Mediator IP address.
- Step 2** Enter the username and password.
- The Mediator homepage appears, see [Customizing HTML Pages Using Web Express, page 13-1](#).
- Step 3** In the Mediator homepage, click the **Navigation** tab.
- The left pane displays the navigation tree and the right pane displays the Display and Properties tabs. You can click and navigate to various nodes in the Navigation pane to monitor the real-time status of all devices and entities in the tree.
- Step 4** Click the **Display** tab.
- The Display tab displays the corresponding web page defined the configTOOL. This web page is typically used to display summary status information for an entity. (See [Figure 15-3](#).)

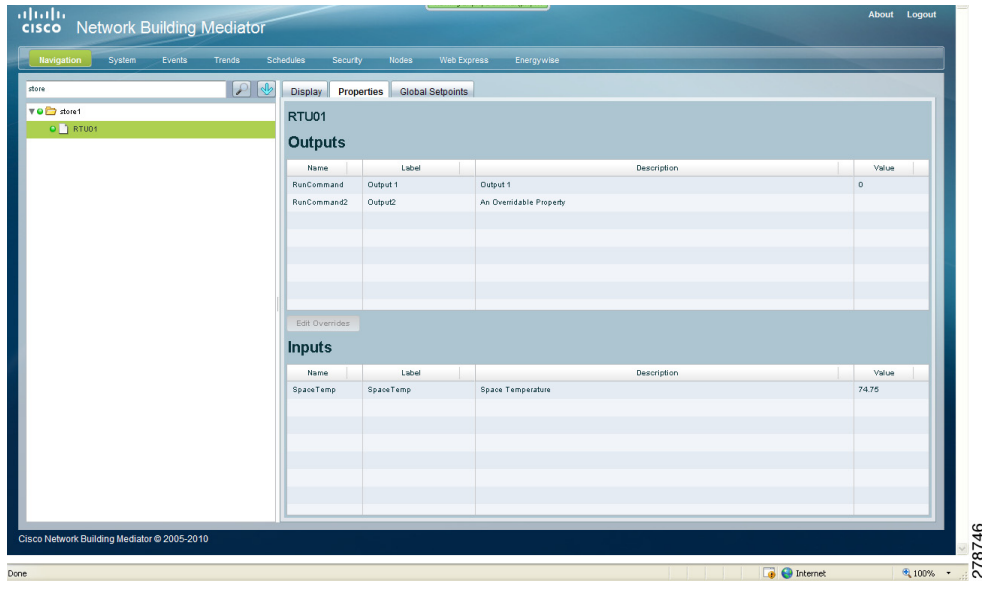
**Figure 15-3** Navigation - Display Tab



- Step 5** Click the **Properties** tab.
- The Properties tab displays the output and input properties defined in configTOOL. (See [Figure 15-4](#).)

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**Figure 15-4** Navigation - Properties Tab



## Searching Entities in the Navigation Tree

To search entities in the navigation tree in the Mediator, perform the following steps:

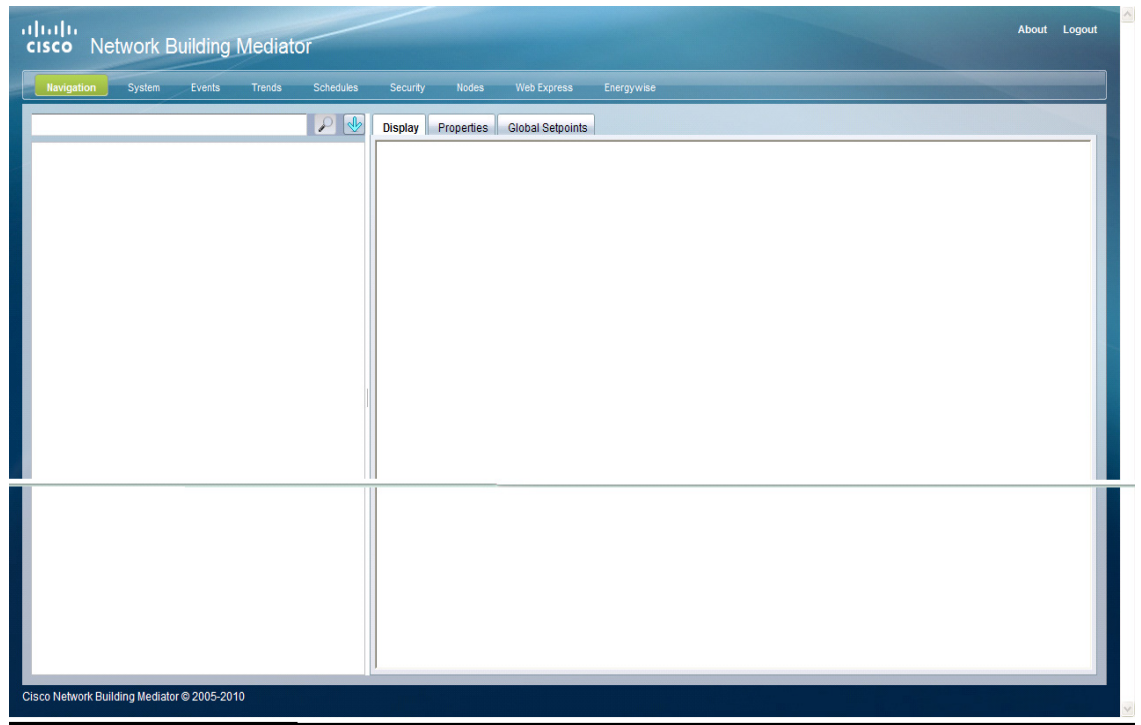
- Step 1** Open a web browser and enter the Mediator IP address.
- Step 2** Enter the username and password.

The Mediator homepage appears, see [Customizing HTML Pages Using Web Express, page 13-1](#).



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**Figure 15-5** Cisco Network Building Mediator - Navigation



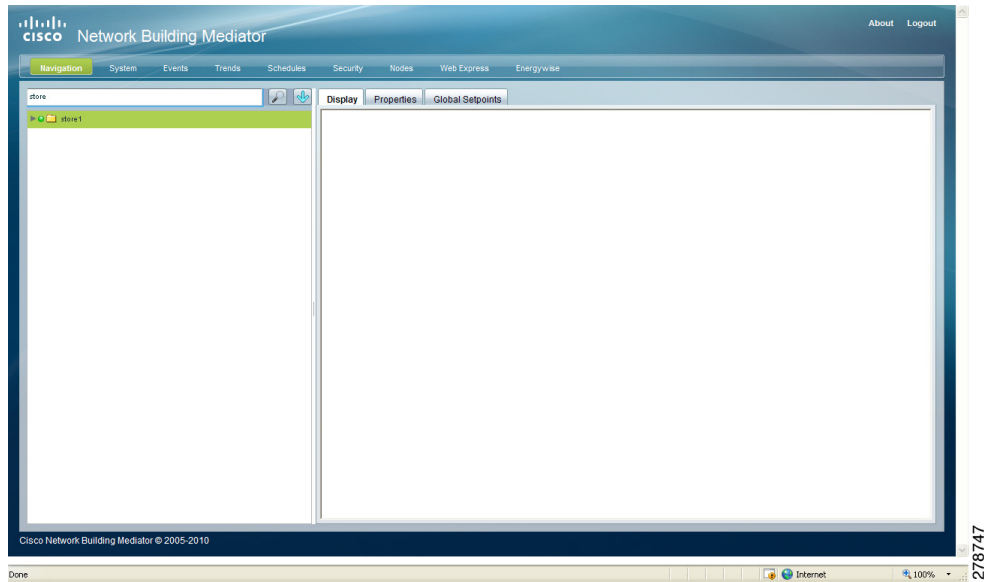
**Step 3** In the Mediator homepage, click **Navigation**.

The left pane displays the search text box and the navigation tree. The right pane displays the Display, Properties and Global Setpoints tabs. You can search for the desired navigation tree entities using the search text box instead of traversing through the entire tree and expanding the entities. (See [Figure 15-6](#).)

**Step 4** Enter the desired entity name in the search text box, and click the **Search** icon.

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**Figure 15-6 Cisco Network Building Mediator - Search**



The results are displayed in the search text box. The navigator continues to appear in the left pane under the search text box. Each result shows the name of the entity and the path to the entity. (See [Figure 15-7](#).)



**Note**

The search supports the wild characters like \* and ? where \* represents more than one character and ? represents one character. Any search string that does not provide a wild character is actually converted into \*<str>\* by prefixing and suffixing \*.

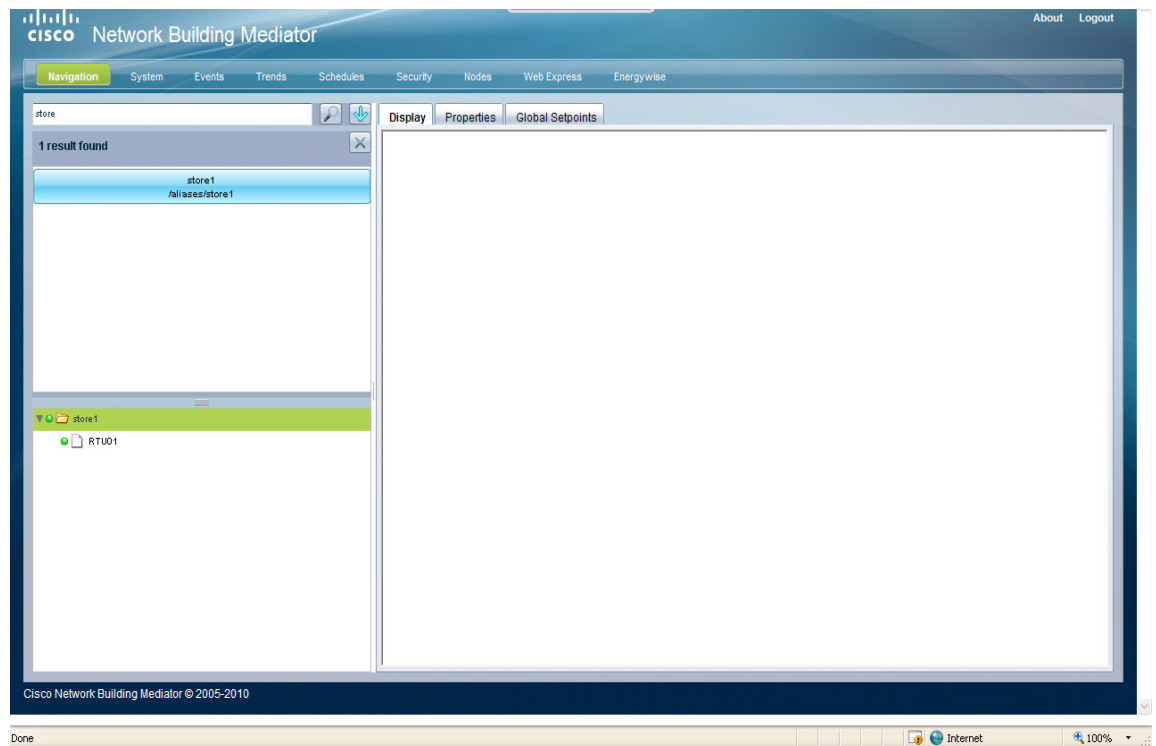


**Note**

You can search for exact names by enclosing the query in single quote (') or double quotes ("). For example, "ahu-1" will find only those entities with the exact name of ahu-1. These searches are not case sensitive.

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**Figure 15-7** Cisco Network Building Mediator - Results



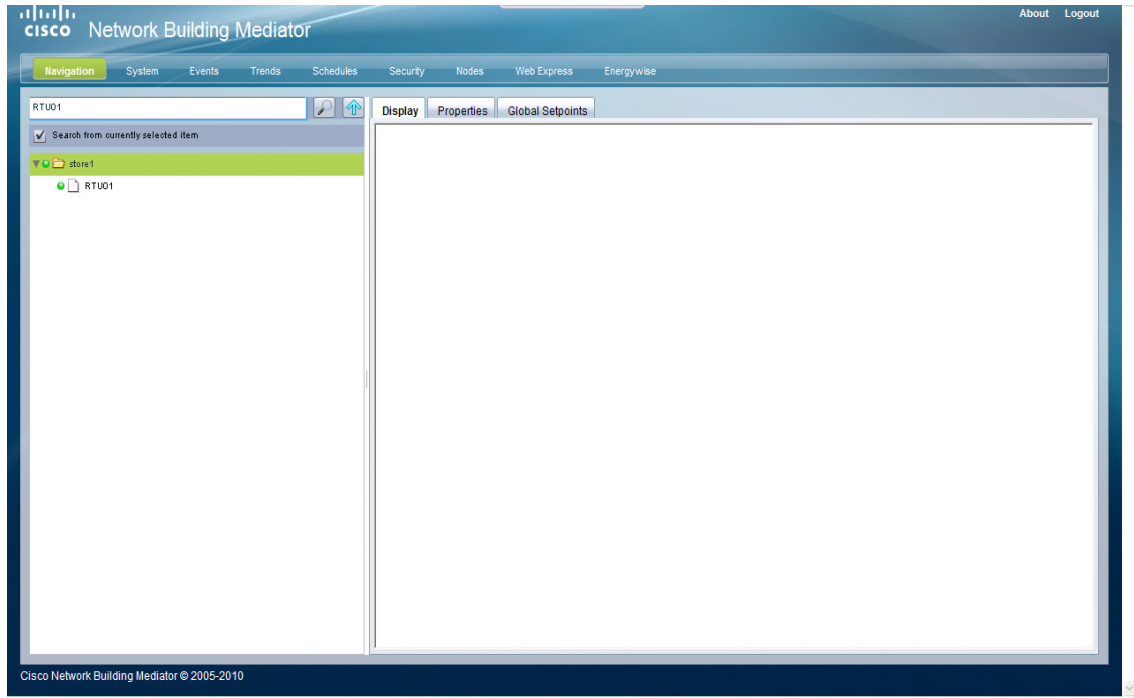
**Step 5** Click a search result to select the corresponding entity in the navigation tree.

**Step 6** If you want to restrict the search to only the children of a certain entity, perform the following steps:

- Click the **down arrow** icon, next to the Search icon.
- Select the **Search from currently selected item** check box.
- In the navigation tree, select the entity you want the search to begin with and enter the search term in the search text box.
- Click the **Search** icon or press **Enter**. (See [Figure 15-8](#).)

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**Figure 15-8** Cisco Network Building Mediator - Specific Search



The results are displayed in the search text box. The navigator continues to appear in the left pane under the search text box. Each result shows the name of the entity and the path to the entity.