



CHAPTER 3

Working with the Soft Properties Manager

This chapter describes the Soft Properties Manager working environment and how to access Soft Properties Manager tools. In addition, it describes the process from creating to publishing a soft property.

Topics include:

- [Launching Soft Properties Manager, page 3-2](#)
- [Soft Properties Manager Window, page 3-3](#)
- [Soft Properties Manager Workflow, page 3-6](#)
- [Creating or Editing a Soft Property, page 3-7](#)
- [Defining the Soft Property General Parameters, page 3-7](#)
- [Defining the Soft Property Parsing Parameters, page 3-9](#)
- [Testing the Parsing Rules, page 3-14](#)
- [Defining TCA Parameters, page 3-14](#)
- [Debugging the Soft Property, page 3-17](#)
- [Viewing the Soft Property in the Inventory Window, page 3-19](#)
- [Publishing the Soft Property, page 3-19](#)
- [Deleting a Soft Property, page 3-22](#)
- [Importing and Exporting a Soft Property, page 3-22](#)



Note

We recommend that the users who manage Soft Properties have the following:

- For their user account, the Configurator default permissions.
- For all assigned device scopes, the Configurator security level.

Creating users with a combination of security access roles lesser than Configurator may have security implications.

Launching Soft Properties Manager

Soft Properties Manager is launched from a specific network element, which could be a managed element or a selected object within a managed element, such as a port. This network element is used to develop and test the soft property. The content that is displayed in the Soft Properties Manager window is based on the location from which it is launched.

Once the soft property has been completed, it can be published and attached to a wider scope of managed elements.

**Note**

Initially the soft property applies only to the specific object that you are working on during runtime. Once a soft property has been published and the system has been restarted, it is applied to all objects of the same type, according to the location to which it is published.

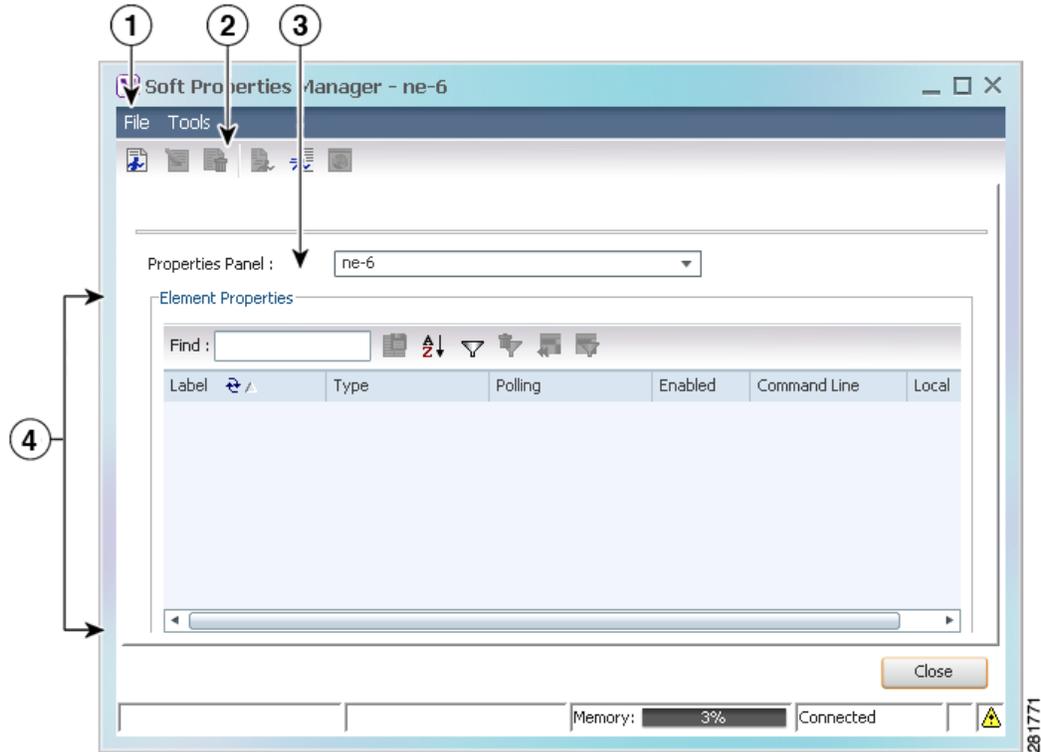
To open Soft Properties Manager:

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- Step 1** Do one of the following:
- In the Prime Network Vision tree pane or workspace, right-click a managed element to display a shortcut menu. (For more information about the Prime Network Vision window, see the [Cisco Prime Network 3.8 User Guide](#).)
 - Open the Inventory window for the required managed element, then right-click the required object in the network element; for example, a port or card. (For more information about the Inventory window, see the [Cisco Prime Network 3.8 User Guide](#).)
- Step 2** Choose **Management > Soft Properties Management** from the shortcut menu. The Soft Properties Manager window is displayed.
-

Soft Properties Manager Window

Figure 3-1 shows an example of the Soft Properties Manager window.

Figure 3-1 Soft Properties Manager Window



1	Menu bar	2	Toolbar
3	Properties panel	4	Element properties table

The Soft Properties Manager window displays a table of all existing soft properties according to the selected entity from which it has been launched. In addition, the applicable properties panels for the managed entity from which the Soft Properties Manager was launched are displayed. For example, the properties panels for an ATM port are Location Information, ATM, and DS3.



Note

No soft properties are displayed in the Soft Properties Manager window for a managed element or required object in the network element when it is opened for the first time.

The Soft Properties Manager enables you to:

- Add a new soft property.
- Edit an existing soft property.
- Delete a soft property.
- Import and export soft properties.
- Test a soft property on the selected managed element.

- Publish a soft property and attach it to a wider scope of managed elements.

The Soft Properties Manager consists of the following:

- [Properties Panel, page 3-4](#)
- [Element Properties Table, page 3-4](#)
- [Soft Properties Manager Menu Bar, page 3-4](#)
- [Soft Properties Toolbar, page 3-5](#)

Properties Panel

The properties panel is a drop-down list that contains a list of panels equivalent to the panels displayed in Prime Network Vision for the selected network element from which the Soft Properties Manager was launched. For example, if an ATM port is selected as the launching point, the properties panel contains Location Information, ATM, and OC3 properties. You can then select the panel to which to add the property.

Element Properties Table

The content displayed in the element properties table changes according to the selection made in the properties panel. The following information is displayed in the element properties table of the Soft Properties Manager window:

- **Label**—The name of the property as displayed in the GUI; for example, Port Type. For tables, this is the table name displayed in the tab.
- **Type**—The soft property type, such as Property or Table.
- **Polling**—The polling group specified for the property, such as system or status.
- **Enabled**—Runs (true) or does not run (false) the command.
- **Command Line**—The command execution for this protocol that should be sent to the NE to retrieve the property. This command can be either a Telnet/SSH command or an SNMP **GET** command for a specific object identifier (OID).

A table can be sorted:

- According to a column by clicking the column heading. The sort icon is displayed next to the selected column heading.
- In ascending or descending order by clicking the column heading. A triangle is displayed next to the selected column heading.

Click a red triangle in a cell to expand the cell and display all information in the cell.

The Location field displays the number of selected rows and the total number of rows in the table, such as 2/16 Selected. In addition, it displays the location of the selected row in the table, such as Line 3.

Soft Properties Manager Menu Bar

This section provides a description of each option available in the Soft Properties Manager menus:

- [Soft Properties File Menu, page 3-5](#)
- [Soft Properties Tools Menu, page 3-5](#)

Soft Properties File Menu

The File menu provides the following options:

- New Element—Create a new soft property. For more information, see [Creating or Editing a Soft Property, page 3-7](#).
- Edit Element—Edit an existing soft property. For more information, see [Defining the Soft Property General Parameters, page 3-7](#).
- Delete Element—Delete a soft property whether or not it has been published. For more information, see [Deleting a Soft Property, page 3-22](#).

Soft Properties Tools Menu

The Tools menu provides the following options:

- Export Element—Save a soft property to a file that can later be imported to another managed element. For more information, see [Importing and Exporting a Soft Property, page 3-22](#).
- Import Element—Copy a soft property from an exported file and import this soft property to another managed element. For more information, see [Importing and Exporting a Soft Property, page 3-22](#).
- Hierarchy Manager—Move the soft property to a different location or change the scope of the soft property across the network hierarchy (publishing). For more information, see [Publishing the Soft Property, page 3-19](#).

Soft Properties Toolbar

Table 3-1 identifies the buttons that appear in Soft Properties Manager.

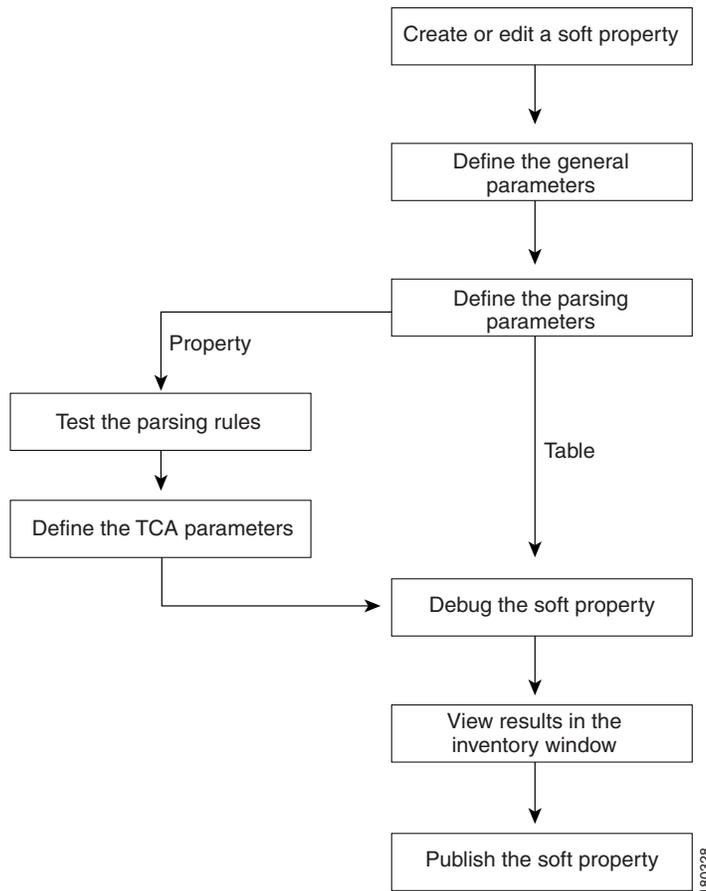
Table 3-1 Soft Properties Manager Toolbar

Icon	Name	Description
	New Element	Create a new soft property. For more information, see Creating or Editing a Soft Property, page 3-7 .
	Edit Element	Edit an existing soft property. For more information, see Defining the Soft Property General Parameters, page 3-7 .
	Delete Element	Delete a soft property whether or not it has been published. For more information, see Deleting a Soft Property, page 3-22 .
	Export Element	Save a soft property to a file that can later be imported to another managed element. For more information, see Importing and Exporting a Soft Property, page 3-22 .
	Import Element	Copy a soft property from an exported file and import this soft property to another managed element. For more information, see Importing and Exporting a Soft Property, page 3-22 .
	Hierarchy Manager	Move the soft property to a different location or change the scope of the soft property across the network hierarchy. For more information, see Publishing the Soft Property, page 3-19 .

Soft Properties Manager Workflow

Figure 3-2 illustrates the steps required to define a new soft property definition using Soft Properties Manager and the order in which they must be performed.

Figure 3-2 Workflow



At any point after the soft property has been defined, it can be tested and published to a wider scope of managed elements or network elements.

For more information, see the following sections:

- [Creating or Editing a Soft Property, page 3-7](#)
- [Defining the Soft Property General Parameters, page 3-7](#)
- [Defining the Soft Property Parsing Parameters, page 3-9](#)
- [Testing the Parsing Rules, page 3-14](#)
- [Defining TCA Parameters, page 3-14](#)
- [Debugging the Soft Property, page 3-17](#)
- [Viewing the Soft Property in the Inventory Window, page 3-19](#)
- [Publishing the Soft Property, page 3-19](#)

- [Deleting a Soft Property, page 3-22](#)
- [Importing and Exporting a Soft Property, page 3-22](#)

Creating or Editing a Soft Property

Soft Properties Manager enables you to create or edit an existing soft property using the Add Soft Property dialog box. First, you must determine the managed element or selected object in the network element to which the soft property should be added.

To create a soft property:

-
- Step 1** In Prime Network Vision:
- Right-click a managed element in Prime Network Vision or the workspace.
 - Open the Inventory window for the required managed element, then right-click the required object.
- Step 2** Choose **Management > Soft Properties Management**. The Soft Properties Manager window is displayed.
- Step 3** Open the Add Soft Property dialog box in one of the following ways:
- Click **New Element** in the toolbar.
 - Choose **File > New Element**.
-

The Add Soft Property dialog box is divided into the following tabs (configuration categories):

- **General**—Configure general definitions for the soft property. For more information, see [Defining the Soft Property General Parameters, page 3-7](#).
- **Parsing**—Configure parsing definitions for the soft property. For more information, see [Defining the Soft Property Parsing Parameters, page 3-9](#).
- **TCA Alarms**—Configure alarm threshold management for the soft property. For more information, see [Defining TCA Parameters, page 3-14](#).

Defining the Soft Property General Parameters

The General tab enables you to configure general definitions for the soft property. You can also configure just a single soft property field or an entire soft property table.

To define the general parameters:

-
- Step 1** Select the **General** tab in the Add Soft Property dialog box.

The following fields are displayed:

- **Name**—The soft property identifier, which is unique to the location and IMO scope. This field is mandatory.



Note A warning message appears if the name specified already exists. You are asked whether to override the existing soft property implementation.

- Label—The soft property name that is displayed in the GUI and which is unique to the location and IMO scope. For tables, this is the table name that is displayed in the tab. This field is mandatory.
- Description—A description of the soft property.

The following drop-down lists are displayed:

- Type—The soft property type, either Property (default value) or Table. The fields displayed in the Parsing tab depend on your selection.



Note If you select Table, the TCA Alarms tab does not appear in the Add Soft Property dialog box.

- Polling Rate—The polling rate group to which the soft property is assigned:
 - topo_I2
 - topo_I1
 - configuration
 - status
 - system

The following check box is displayed:

- Enabled—Indicates whether the VNE is to run the command. This option is enabled by default.

The following buttons are displayed in the Add Soft Property dialog box:

- OK—Validates the changes according to the field's rules; that is, the definitions defined in the General, Parsing, and TCA Alarms tabs. If validation is successful, the changes are saved and the Add Soft Property dialog box closes.



Note A warning message is displayed if the validation is unsuccessful.

- Cancel—Closes the Add Soft Property dialog box without saving any changes.
- Debug—Opens the Debug Soft Property dialog box, displaying the status of the soft property debug.

Step 2 Define the soft property's general parameters.



Note If you select the soft property type Table, proceed to [Defining the Parsing Parameters of a Soft Property Table, page 3-13](#) to continue creating the soft property.

Proceed to [Defining the Soft Property Parsing Parameters, page 3-9](#) to define the parsing parameters of the soft property.

Defining the Soft Property Parsing Parameters

The Parsing tab enables you to configure, view, and edit parsing definitions defined for the soft property.

To define the parsing parameters:

- Step 1** Select the **Parsing** tab in the Add Soft Property dialog box. (The Parsing tab is available if you select the type Property in the General tab.)



Note If you select the type Table in the General tab, only the SNMP option is available. For more information about defining parsing parameters for a soft property table, see [Defining the Parsing Parameters of a Soft Property Table](#), page 3-13.

The Parsing tab enables you to specify either a Telnet/SSH command or a MIB OID for an SNMP **GET** command.

The following radio buttons are displayed in the Parsing tab:

- Use SNMP get(OID)—The SNMP retrieval expression. The text field is enabled and mandatory when this option is selected. The expression can include environmental arguments.



Note When Use SNMP get(OID) is selected, press **Ctrl-Spacebar** in the text box to view a list of all parameters available for all protocols.

Figure 3-3 shows an example of the output if you press Ctrl-Spacebar for a port.

Figure 3-3 Output

```
moduleIndex - -1
portAlias - FastEthernet0
ifIndex - 2
specificType - 6
```

Sometimes, when building a soft property, the Telnet/SNMP command is context sensitive. A good example of this is when you want to retrieve port-related data through SNMP. Searching all ports to find the relevant port each time is not efficient and can greatly affect system performance. To solve this problem, *instrumentation data* is available for the soft property. Instrumentation data is a variant between different elements in the system, depending on the context object you want to add the soft property to.

In this example, the instrumentation data is the port ifIndex. To use the ifIndex in the OID, use 1.3.1.6.....\$ifIndex\$.5.6.4. To determine the instrumentation data that is available for your context object, press **Ctrl-Spacebar** while the cursor is in the command field.

- Use Telnet/SSH—The Telnet/SSH retrieval expression. The text field is enabled and mandatory when this option is selected. The expression can include environmental.



Note When Use Telnet/SSH is selected, press **Ctrl-Spacebar** in the text box to open a list of all parameters available for all protocols.

The text area in the Parsing tab enables you to enter the command line of the protocol. For example, for SNMP enter the OID of the SNMP packet, and for Telnet enter the Telnet command line.



Note The SNMP OID must start with a dot. For example, if you want to retrieve the OID value of 1.3.6.... you must enter .1.3.6.....

The following columns are displayed in the table of the Parsing tab:

- Index—Displays the order of the parsing rules.
- Operation—Displays the parsing operator type selected in the Add/Edit Parsing Rule dialog box. For more information about parsing operators, see [Chapter 5, “Parsing Operators/Rules.”](#)

The following buttons are displayed in the Parsing tab:

- Add—Add a new operator. The Add/Edit Parsing Rule dialog box is displayed.
- Edit—Edit an existing operator. The Add/Edit Parsing Rule dialog box is displayed.



Note You can also edit an operator by double-clicking the required operator in the table.

- Delete—Delete the selected operator from the table.



Note Delete an operator by selecting it in the table, then clicking **Delete**.

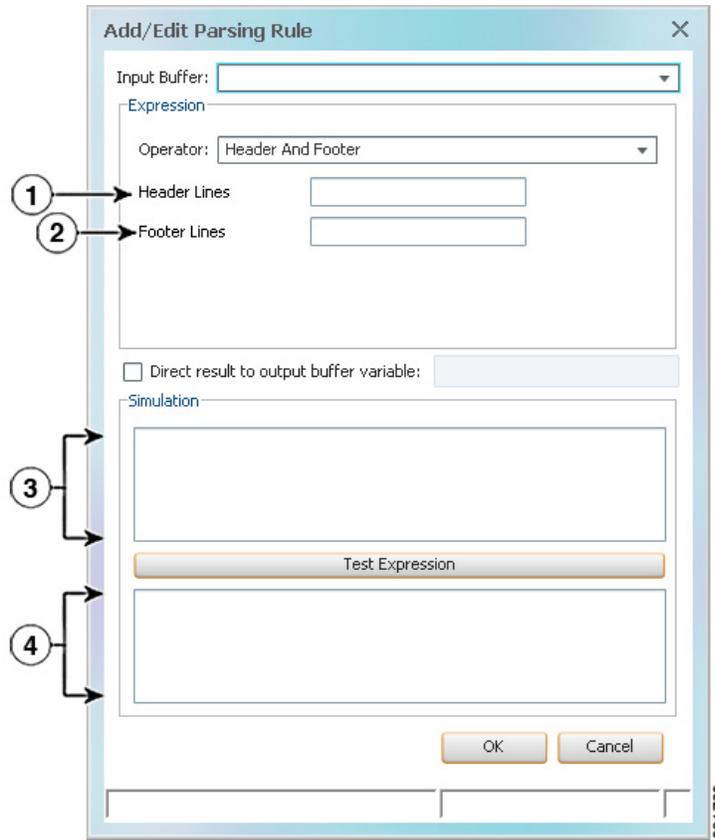
- Test—Enables you to test the soft property parsing. The Test Parsing Rules dialog box is displayed. For more information, see [Testing the Parsing Rules, page 3-14](#).

The reorder arrows enable you to move the rules up and down within the sequence to change the parsing order.

Step 2 Select the type of retrieval expression: Use SNMP get(OID) or Use Telnet/SSH.

Step 3 Click **Add**. The Add/Edit Parsing Rule dialog box is displayed (see [Figure 3-4](#)).

Figure 3-4 Add/Edit Parsing Rule Dialog Box



1	Argument 1	2	Argument n
3	Source	4	Result

The Add/Edit Parsing Rule dialog box is used for adding, editing, and testing parsing operators. Once the required operator is selected, the corresponding arguments are displayed.

The following drop-down lists are displayed in the Add/Edit Parsing Rule dialog box:

- **Input Buffer**—Displays the list of output arguments defined in previous operators and the default (the standard output buffer of the last predecessor operator that was not redirected into an output argument). This field is mandatory.

The parsing result of operator N is available by default as input for operator N+1 (it appears as Default in the Input Buffer field). The parsing result of operator N might be directed to a locally defined environment argument. In this case, the input for operator N+1 is the same as for operator N. Changing the default input buffer is supported by selecting an input buffer other than Default. The available input buffers for Operator N+1 are the set of output arguments defined in Operators 1 through N.

The fields displayed in the Expression area of the window change depending on your selection in the Operator drop-down list, which is mandatory. When an operator is selected, the corresponding arguments are displayed. The Operator drop-down list enables you to select one of the available parsing operators:

- Header And Footer—Removes a specified number of lines from the header and footer of the input text. For more information, see [Header and Footer, page 5-1](#).
- Remove Lines—Removes a range of lines from the specified starting row to the specified end row of the input text. For more information, see [Remove Lines, page 5-3](#).
- Select Lines—Extracts a range of lines from the specified starting row to the specified ending row of the input text. For more information, see [Select Lines, page 5-4](#).
- Replace—Finds one substring or all occurrences of a substring, which matches a specified regular expression, and replaces it with a specified value. For more information, see [Replace, page 5-5](#).
- Match—Finds and extracts a substring that matches a specified regular expression. If no match can be found, the output buffer receives an empty string. For more information, see [Match, page 5-6](#).
- Set—Formats the input buffer and local arguments defined in previous operators using a regular expression. For more information, see [Set, page 5-7](#).
- Substring—Extracts a substring of a specified length from a specified starting point. For more information, see [Substring, page 5-8](#).
- Parse Integer—Uses the substring rule and, when a result is received with the substring, converts it into an integer value. For more information, see [Parse Integer, page 5-9](#).



Note If the substring operator contains any characters, the parsing integer operator fails.

The Argument 1 and Argument n fields displayed in the Add/Edit Parsing Rule dialog box are dynamic and list arguments according to the selected operator. For more information about operators and corresponding arguments, see [Chapter 5, “Parsing Operators/Rules.”](#)

The Direct result to output buffer variable check box and corresponding field enable you to direct the parsing output to the provided argument instead of it being the input value for the next operator. The text box is enabled only when the check box is selected. A unique (within the complete parsing sequence of this soft property instance) argument name must be provided in this field.

The Simulation area is divided into two text areas:

- The Source text box is used to enter or paste parsing information.
- The Result text box is used to view the parsed result.

The information entered and displayed in the Simulation area is not saved when the dialog box is closed. The Test Expression button parses the information entered in the Source text box according to the parsing operator defined and displays the result in the Result text box.

The following buttons are displayed in the Add/Edit Parsing Rule dialog box:

- OK—Validates the operator according to the selected operator’s validation rules. Saves the changes and closes the Add/Edit Parsing Rule dialog box.
- Cancel—Closes the Add/Edit Parsing Rule dialog box without saving the changes.

Step 4 Define the parsing rules.

Proceed to [Testing the Parsing Rules, page 3-14](#) to test the parsing rules.

Defining the Parsing Parameters of a Soft Property Table

The fields that appear in the Parsing tab depend on your selection in the Type drop-down list in the General tab. For example, if you select Table in the Type drop-down list in the General tab, the Telnet/SSH options do not appear in the Parsing tab.

To define the Parsing parameters of a soft property table:

Step 1 Select the **Parsing** tab in the Add Soft Property dialog box.

The following radio button is displayed in the Parsing tab:

- Use SNMP get(OID)—The SNMP retrieval expression. The text field is mandatory when this option is selected. The expression can include environmental arguments.



Note When Use SNMP get(OID) is selected, press **Ctrl-Spacebar** in the text box to view a list of all parameters available for all protocols.

The following columns are displayed in the table of the Parsing tab:

- Title—Displays the column headings of the table.
- OID—Displays the column information for the table.

For more information about the buttons displayed in this tab, see [Defining the Soft Property Parsing Parameters, page 3-9](#).

Step 2 Click **Add**. The Add/Edit Column Controller dialog box is displayed.

The Add/Edit Column Controller dialog box enables you to add or edit the columns and information displayed in the table.

The following fields are displayed in the Add/Edit Column Controller dialog box:

- Column Title—The column heading displayed in the table.
- Column Data—The column information displayed in the table.

The following buttons are displayed in the Add/Edit Column Controller dialog box:

- OK—Saves the column information and closes the Add/Edit Column Controller dialog box.
- Cancel—Closes the Add/Edit Column Controller dialog box without saving any changes.
- Apply—Saves the column information; the Add/Edit Column Controller dialog box remains open.

Step 3 Define the soft property's table information.

Step 4 Click **OK**. The Parsing tab is displayed along with the newly defined table information.

Proceed to [Debugging the Soft Property, page 3-17](#) to debug the soft property table.

Testing the Parsing Rules

The Soft Properties Manager provides testing functions, which enable you to simulate each parsing rule as well as the whole parsing sequence. In addition, you can test and debug the property on the NE.

You can test and simulate the actual input parsing according to the parsing operators and display the parsing result. This tests all defined parsing rules in the order in which they are given.

To test the parsing rules:

-
- Step 1** Click **Test Expression** in the Add/Edit Parsing Rule dialog box. The Test Parsing Rules dialog box is displayed.
- The Input Buffer area enables you to enter the input to parse. You can copy and paste the parsing input or it can be retrieved from the device. The Input Buffer area is mandatory.
- The Output Buffer area displays the parsing result log. It can contain the final parsing result or the entire parsing log with comments for each parser used.
- The following buttons are displayed in the Test Parsing Rules dialog box:
- Close—Closes the Test Parsing Rules dialog box.
 - Test—Parses the input entered in the Input Buffer area according to the parsing operators. The parsing result is displayed in the Output Buffer area.
- Step 2** Click **Test**. The results of the test are displayed Test Parsing Rules dialog box.
- Step 3** Click **Close**. The Add/Edit Parsing Rule dialog box is displayed.
- Step 4** Click **OK**. The Parsing tab is displayed.
-

Proceed to [Defining TCA Parameters, page 3-14](#) to define the TCA parameters for the soft property.

Defining TCA Parameters

The TCA Alarms tab enables you to set threshold conditions for the soft property value, which generates an alarm when crossed.

This feature allows you to:

- Select the severity level to associate with an alarm.
- Enable or disable an alarm.
- Select the threshold type.

You can define multiple alarms for the same soft property. The alarm is displayed in the ticket pane of the Prime Network Vision window.

To define TCA parameters:

Step 1 Select the **TCA Alarms** tab.



Note The TCA Alarms tab is displayed only if you select the type Property in the General tab.

The following columns are displayed in the TCA Alarms tab:

- Description—A free text area used to describe the alarm.
- Trigger—Displays the details of the trigger selected; that is, what causes the alarm to be sent. For more information, see [Chapter 6, “Alarm Threshold Triggers.”](#)
- Enabled—Displays the status of the alarm: enabled (true) or disabled (false), as defined in the General tab of the Add TCA dialog box.

The following buttons are displayed in the TCA Alarms tab:

- Add—Opens the Add TCA dialog box, enabling you to define the parameters of the TCA.
- Edit—Opens the Add TCA dialog box, enabling you to edit the parameters of a previously defined TCA.



Note Edit the parameters of a TCA by selecting it in the table, then clicking **Edit**.

- Delete—Deletes the selected TCA from the TCA Alarms tab.



Note Delete a TCA by selecting it in the table, then clicking **Delete**.

Step 2 Click **Add**. The Add TCA dialog box is displayed. It is divided into the following tabs:

- General—Define the general parameters, such as the severity and name, of the TCA.
- Trigger—Define the alarm threshold trigger for the TCA. For more information, see [Chapter 6, “Alarm Threshold Triggers.”](#)

The following fields are displayed in the General tab of the Add TCA dialog box:

- Name—The alarm name that is displayed in the ticket pane when the alarm is triggered.
- Description—A description of the alarm.

The following check boxes are displayed in the General tab of the Add TCA dialog box:

- Enabled—Enables or disables the alarm; select this option to enable the alarm.
- Can be correlated to other alarms—Select this option to correlate this alarm to other alarms. For more information about correlating alarms, see the [Cisco Prime Network 3.8 User Guide](#).
- Other alarms can correlate to this alarm—Select this option to enable other alarms to be correlated to this alarm. For more information about correlating alarms, see the [Cisco Prime Network 3.8 User Guide](#).

The following drop-down list is displayed in the General tab of the Add TCA dialog box:

- Alarm Severity—Select the severity level associated with the alarm:
 - Critical
 - Major
 - Minor
 - Warning
 - Normal

For more information about alarm severity, see the [Cisco Prime Network 3.8 User Guide](#).

The following buttons are displayed in the General tab of the Add TCA dialog box:

- OK—Saves the parameters of the TCA and closes the Add TCA dialog box.
- Cancel—Closes the Add TCA dialog box without saving any changes.

Step 3 Define the General parameters for the TCA.

Step 4 Select the **Trigger** tab and define the Trigger parameters for the TCA:

In the Trigger drop-down list, select a threshold type:

- Value Equal—The alarm condition is reached when the soft property value is equal to the value defined in Alarm Value, regardless of whether or not it is numeric. For more information, see [Value Equal, page 6-1](#).
- Value Not Equal—The alarm condition is reached when the soft property value is *not* equal to the value defined in the Alarm Value, regardless of whether or not it is numeric. For more information, see [Value Not Equal, page 6-2](#).
- Upper Threshold—The upper threshold value which, when crossed, triggers the alarm for the defined numeric properties. For more information, see [Upper Threshold, page 6-2](#).
- Lower Threshold—The lower threshold value which, when crossed, triggers the alarm for the defined numeric properties. For more information, see [Lower Threshold, page 6-2](#).
- Upper Rate—The upper rate threshold value for the performance counters which, when crossed, triggers the alarm for the defined numeric properties. For more information, see [Upper Rate, page 6-3](#).
- Lower Rate—The lower rate threshold value for the performance counters which, when crossed, triggers the alarm for the defined numeric properties. For more information, see [Lower Rate, page 6-3](#).

For more information about triggers, see [Chapter 6, “Alarm Threshold Triggers.”](#)

If you do not want the alarm to be triggered immediately, select the check box and specify the number of seconds the trigger condition should persist until the alarm is triggered.

Step 5 Click **OK**. The TCA Alarms tab is displayed.

Proceed to [Debugging the Soft Property, page 3-17](#) to debug the soft property.

Editing a Soft Property

You can edit an existing soft property. The soft property that is edited affects only the local instance. When an inherited soft property is edited, the new local instance overrides the generic soft property definition for the specific managed element.

To edit a soft property:

Step 1 In the Soft Properties Manager window, select the soft property that you want to edit.

Step 2 Open the hierarchy manager table in one of the following ways:

- Click **Edit Element** in the toolbar.
- Choose **File > Edit Element**.
- Right-click the soft property, then choose **Edit Element**.

The hierarchy manager table is displayed.



Note If user-friendly VNE names exist in the schema, the hierarchy manager table displays the user-friendly registry location names in the VNE Hierarchy Location column. A user-friendly VNE name is a hierarchy path that has been defined in the registry and is then displayed in the hierarchy manager table. For more information, see [Publishing the Soft Property, page 3-19](#).

Step 3 Select the required version of the soft property from the hierarchy manager, then click **OK**. The Edit Soft Property dialog box is displayed for the selected soft property.

Step 4 Edit the soft property as required by changing the existing information using the Soft Properties Manager window.

Step 5 When the soft property has been successfully edited, click **OK** in the Edit Soft Property dialog box to save your changes. The edited soft property is supported and appears in the Soft Properties Manager window.

For information about viewing edited soft properties, see [Viewing the Soft Property in the Inventory Window, page 3-19](#). For information about publishing edited soft properties, see [Publishing the Soft Property, page 3-19](#).

Debugging the Soft Property

You can debug the soft property on the managed element or selected object in the network element by opening the Debug Soft Property dialog box, which displays the status of the soft property when it is debugged. For example, you might want to confirm that a selected device supports Telnet. (See [Chapter 4, “Soft Property Examples”](#) for more information.)

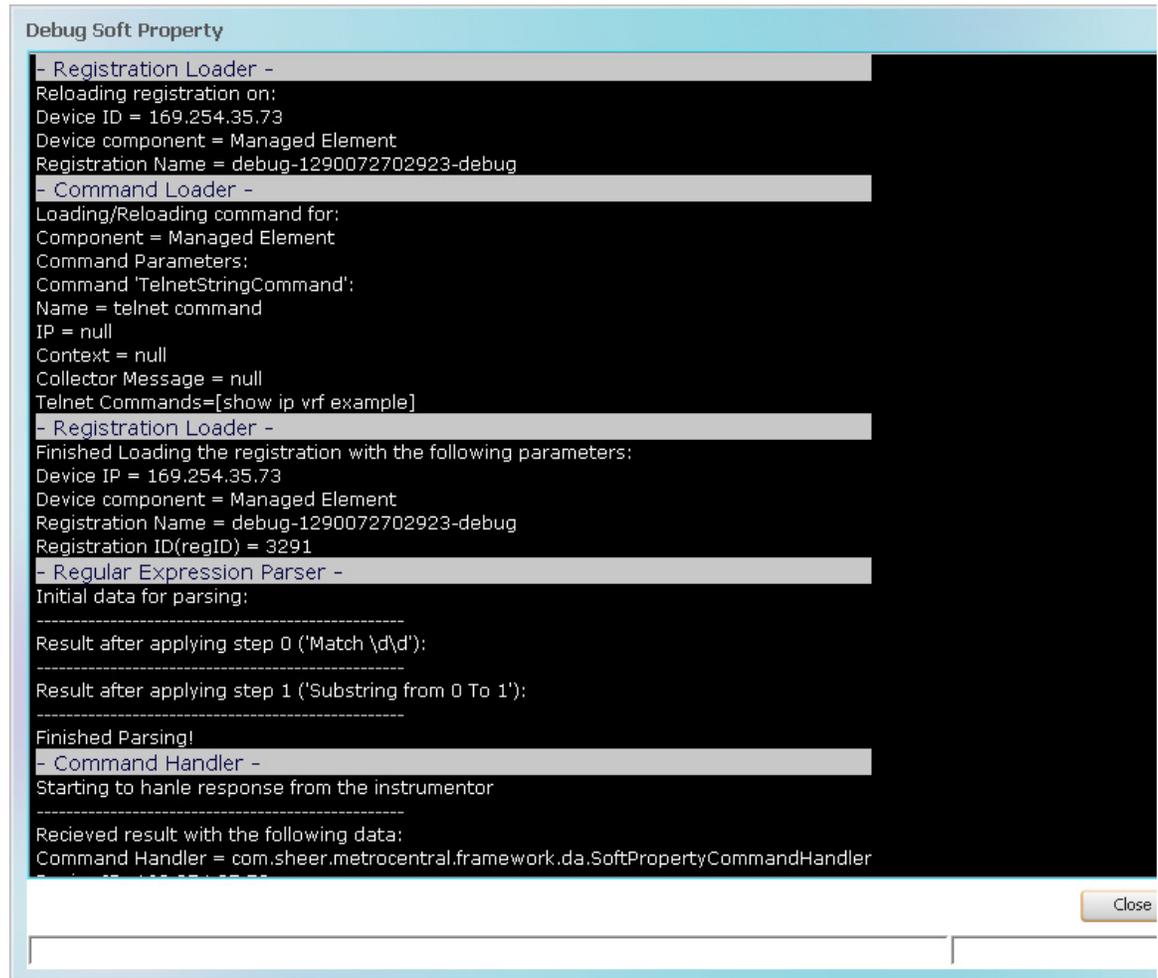


Note No notification message is displayed when a VNE fails to collect properties. The properties are not populated in the GUI.

To debug the soft property:

- Step 1** Click **Debug** in the Add Soft Property dialog box. The Debug Soft Property dialog box is displayed with the results of the debug.

Figure 3-5 Debug Soft Property Dialog Box



- Step 2** Click **Close**. The Add Soft Property dialog box reappears.
- Step 3** Click **OK**. The Soft Properties Manager window is displayed with the newly created soft property displayed in the element properties table.
- Step 4** Click **Close**. The Prime Network Vision or Inventory window is displayed, depending on your original selection.

Proceed to [Viewing the Soft Property in the Inventory Window, page 3-19](#) to view the results of the soft property in the Inventory window.

Viewing the Soft Property in the Inventory Window

After creating or editing a soft property, you can view the results in the Properties pane of the Inventory window for the managed element or selected object in the network element.

**Note**

You can view the soft property in the Inventory window only after it has been closed and reopened. For example, if you open the Inventory window for a VNE and add a property to one of the ports, it is displayed only after you close and reopen the Inventory window for the VNE.

To view the soft property:

- Step 1** Right-click the required managed element in the tree pane or workspace of the Prime Network Vision window, then select **Inventory**. The Inventory window for the required managed element is displayed with the newly defined soft property or soft property table.
- Step 2** Click the top right corner to close the Inventory window.

Proceed to [Publishing the Soft Property, page 3-19](#) to publish the soft property.

Publishing the Soft Property

A property definition is applicable to all objects of the same type in the selected NE. However, you might want to apply the same property definitions to all NEs of the same type or family. This requires moving the property definition from the specific NE instance to a higher level in the registry hierarchy.

After the soft property has been defined and tested on a specific instance of a managed element, it can be published and applied to a wider scope of managed elements in the network.

The Soft Properties Publish Controller dialog box enables you to publish the soft property to one or more locations across the inheritance hierarchy (as defined in the system). In other words, you define the scope where the soft property is to be applied in the hierarchy.

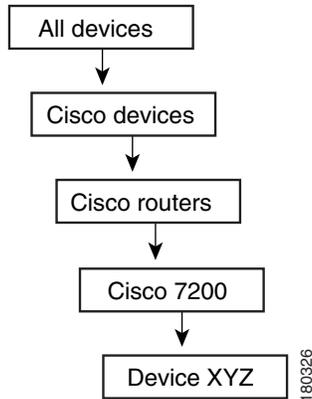
**Note**

User with a Configurator role can add and publish soft properties on all devices regardless of the device scope defined for the user.

Different variations of a soft property can be used for different managed elements and network elements, where the implementation of the soft property is different for each managed element or network element.

Figure 3-6 shows an example of an inheritance hierarchy. In this example, the top level of the hierarchy is All devices, and the lowest level of the hierarchy is Device XYZ.

Figure 3-6 Inheritance Hierarchy Example



When a soft property is published to a node in the hierarchy, it overrides any inherited soft properties from a higher level and applies automatically to all its children. For example, if a soft property is published to Cisco 7200 devices, it overrides any variant of this soft property which is defined at a higher level, and is assigned to all devices of type Cisco 7200 in the system.



Note

We strongly recommend that you measure the effect of publishing the soft property on system memory usage before you publish the soft property. To view the changes, you must restart the VNE or unit for the publishing to take effect. For more information about measuring the effect of publishing the soft property, contact your Cisco account representative.



Note

Soft property publishing sometimes deeply affects system memory usage, device utilization, and system performance. For example, you can add a property that contains the **show running-config** command to a device and publish it to a group of devices. This is likely to cause both system memory usage and device utilization to jump.

To publish a soft property:

- Step 1** In Prime Network Vision, do one of the following:
 - Right-click a managed element in the tree pane or workspace.
 - Open the Inventory window for the required managed element, then right-click the required object.
- Step 2** Choose **Management > Soft Properties Management**.
- Step 3** Select the required properties panel and soft property in the element properties table.
- Step 4** Open the hierarchy manager table in one of the following ways:
 - Click **Hierarchy Manager** in the toolbar.
 - Choose **Tools > Hierarchy Manager**.
 - Right-click the item, then choose **Hierarchy Manager**.



Note If user-friendly VNE names exist in the schema, the hierarchy manager table displays these user-friendly registry location names in the VNE Hierarchy Location column. A user-friendly VNE name is a hierarchy path that has been defined in the registry and is then displayed in the hierarchy manager table. For more information, see [Publishing the Soft Property, page 3-19](#).

Each row that is displayed in the hierarchy manager table represents a different level of the hierarchy. The rows are displayed in descending order; the top row is the highest level of the hierarchy and the bottom row is the lowest level of the hierarchy.

The following information is displayed in the table:

- **Exist**—When a node in the hierarchy is selected, it indicates that a local variant of the soft property exists for that node.
- **VNE Hierarchy Location**—The hierarchy path, as defined in the registry.
- **IMO Class Name**—Currently unavailable in this version.

[Table 3-2](#) describes the icons that appear.

Table 3-2 Hierarchy Manager Window Tools

Icon	Name	Description
	Copy	Copies the soft property from a selected node in the hierarchy to another node in the hierarchy. A copy icon is displayed to the left of the selected node.
	Cut	Cuts the soft property from a selected node in the hierarchy to move it to another node in the hierarchy. A cut icon is displayed to the left of the selected node.
	Paste	Pastes the soft property that was copied or cut from a selected node in the hierarchy to another node in the hierarchy. A paste icon is displayed to the left of the selected node.
	Delete	Deletes the soft property from the selected node in the hierarchy. Note If the soft property has been deleted from all nodes, it is removed from the list in the main dialog box of the Soft Properties Manager.

The following button is displayed:

- **Close**—Closes the Hierarchy Manager window without publishing the soft property.

- Step 5** Select the node in the hierarchy from which you want to publish the soft property.
- Step 6** Click **Copy** or **Cut** in the toolbar to copy or cut the soft property.
- Step 7** Select the node in the hierarchy where you want to publish the soft property.
- Step 8** Click **Paste** on the toolbar to paste the soft property.
- Step 9** Restart the VNE on which you want to publishing to take effect.

Deleting a Soft Property

Soft properties that you create are, by default, always created as a local instance. A soft property that is defined locally is selected in the Soft Properties Publish Controller dialog box. You can delete soft properties whether or not they have been published.

To delete a soft property:

-
- Step 1** Select the soft property that you want to delete in the element properties table of the Soft Properties Manager dialog box.
- Step 2** Delete the soft property in one of the following ways:
- Click **Delete Element** in the toolbar.
 - Choose **File > Delete Element**.
 - Right-click the soft property, then choose **Delete Element**.
- A warning message is displayed.
- Step 3** Click **Yes**. The soft property is deleted and no longer appears in the element properties table of the Soft Properties Manager window.
-

Importing and Exporting a Soft Property

The Soft Properties Manager enables you to export (save) a soft property definition to a file. The soft property definition can then be imported (copied) to another managed element.

In addition, you can export and import a soft property definition to a file and publish it to multiple places in the Hierarchy Manager window.

Exporting a Soft Property

To export a soft property:

-
- Step 1** Select the soft property that you want to export in the element properties table of the Soft Properties Manager dialog box.
- Step 2** Open the Export dialog box in one of the following ways:
- Click **Export Element** in the toolbar.
 - Choose **Tools > Export Element**.
 - Right-click the property, then choose **Export Element**.

The Export dialog box is displayed.



Note If user-friendly VNE names exist in the schema, the hierarchy manager table displays these user-friendly registry location names in the VNE Hierarchy Location column. A user-friendly VNE name is a hierarchy path that has been defined in the registry and is then displayed in the hierarchy manager table. For more information, see [Publishing the Soft Property, page 3-19](#).

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- Step 3** Select the version that you want to export in the table of the Export window. The version is selected in the table.
- Step 4** Click **OK**. The Export Property dialog box is displayed.
- Step 5** Browse to the directory where you want to save the soft property.
- Step 6** In the File name field, enter a name and extension (for example, .txt) for the soft property.
- Step 7** Click **Save**. The soft property is saved in the selected directory. The Export dialog box is displayed.
- Step 8** Click **Close**. The Soft Properties Manager window is displayed.
-

Importing a Soft Property

To import a soft property:

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- Step 1** Open the Import Element dialog box in one of the following ways:
- Click **Import Element** in the toolbar.
 - Choose **Tools > Import Element**.
- Step 2** Browse to the directory and soft property that you want to import.
- Step 3** Click **Open**. The Import Elements window is displayed.
- Step 4** Select the version that you want to import in the table of the Import Elements window. The version is selected in the table.
- Step 5** Click **OK**. The Soft Properties Manager window is displayed.
- Step 6** Click **Close**. The soft property is imported to the selected managed element or network element and displayed in the Soft Properties Manager window.
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