



Using the Subscriber Manager GUI Tool

Published: August 23, 2013, OL-29110-05

Introduction

This chapter describes how to use the Subscriber Manager (SM) graphical user interface (GUI) tool to configure subscribers in the Cisco Service Control SM database.

The SM GUI tool is especially useful when the Cisco Service Control SM holds a static list of subscribers. It is not applicable when Cisco SCA BB is operating in subscriberless mode (a mode in which control and analysis functions are available only at a global platform resolution) or in anonymous subscriber mode (a mode in which entities defined as IP addresses or VLANs are treated as subscribers). This chapter consists of these sections:

- [Using the SM GUI Tool, page 11-2](#)
- [Working with Subscriber CSV Files, page 11-5](#)
- [Managing Subscribers, page 11-7](#)

Using the SM GUI Tool

The SM GUI tool allows you to manage subscribers on a Cisco Service Control SM. The Cisco Service Control SM functions as middleware software that bridges between the OSS and the Cisco Service Control Engine (Cisco SCE) platforms. Cisco SCE platforms use the subscriber information to provide subscriber-aware functionality, per-subscriber reporting, and policy enforcement. Subscriber information is stored in the Cisco Service Control SM database and can be distributed between multiple platforms according to actual subscriber placement.

You can use the SM GUI tool to import and export subscriber files, and to perform operations on individual subscribers, such as:

- Add and delete a subscriber
- Edit parameters and show data of an existing subscriber
- Add and remove subscriber mappings
- Import subscribers from a CSV file
- Export subscribers to a CSV file
- Find subscriber or subscribers in a certain domain (filter)

**Note**

To access a Cisco Service Control SM from the SM GUI tool, you must first add the Cisco Service Control SM to the Site Manager tree in the Network Navigator tool (see [“How to Add Subscriber Manager Devices to a Site”](#) section on page 5-4).

The SM GUI tool provides only a subset of the functionality that the SM Command-Line Utility provides. For more information about the Cisco Service Control SM, see the *Cisco Service Control Management Suite Subscriber Manager User Guide*.

Connecting to a Cisco Service Control SM

You can connect to a Cisco Service Control SM:

- From the Network Navigator tool
- From anywhere else in the Console
- From the Subscriber Manager GUI tool

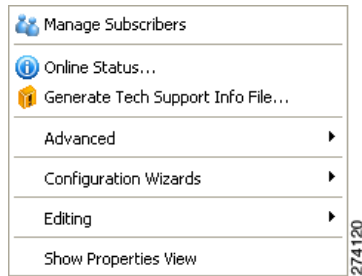
**Note**

The SM GUI tool performs authentication on the Cisco Service Control SM by opening a PRPC connection to port 14374 and attempting to log in using the username and password that you entered in the Password Management dialog box. If a PRPC server with this user is not running on the Cisco Service Control SM, authentication fails. If you have changed the PRPC port on the Cisco Service Control SM, see [“User Authentication”](#) section on page 5-39.

How to Connect to a Cisco Service Control SM from the Network Navigator

- Step 1** In the Site Manager tree in the Network Navigator tab, right-click an SM device.
A popup menu appears (Figure 11-1).

Figure 11-1 SM Device Popup Menu



- Step 2** From the menu, select **Manage Subscribers**.
A Password Management dialog box appears.
- Step 3** Enter the appropriate password. (For more information, see “[Password Management](#)” section on page 5-7).
- Step 4** Click **Connecting**.
The Password Management dialog box closes.
A Connecting to progress bar appears.
The system connects to the Cisco Service Control SM.

How to Connect to a Cisco Service Control Subscriber Manager from the Console



Note If you are already in the Subscriber Manager GUI tool, start at Step 3.


- Step 1** From the Console main menu, choose **Tools > Subscriber Manager**.
The Subscriber Manager GUI tool opens.
A Subscriber Manager is not connected message appears (Figure 11-2).

Figure 11-2 Subscriber Manager is not Connected



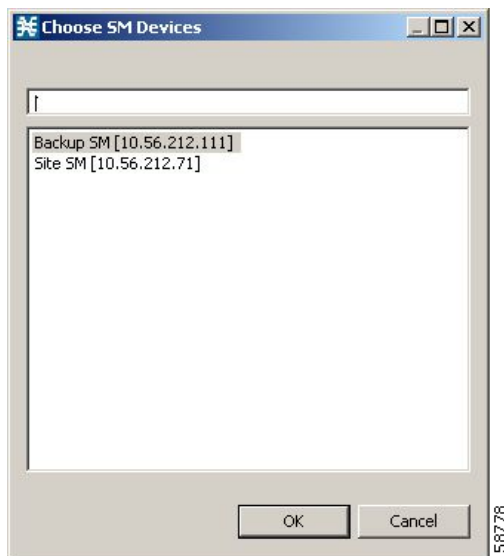
- Step 2** Click **OK**.

The Subscriber Manager is not connected message closes.

Step 3 In the Subscriber Manager GUI toolbar, click the **Connect to an SM** () icon.

If more than one Cisco Service Control SM device is configured in the Network Navigator, the Choose SM Devices dialog box appears (Figure 11-3).

Figure 11-3 Choose SM Devices



Step 4 Select a device and click **OK**.




A Password Management dialog box appears.

Step 5 Enter the appropriate password. (For more information, see “[Password Management](#)” section on page 5-7.)

Step 6 Click **Connecting**.

The Password Management dialog box closes.

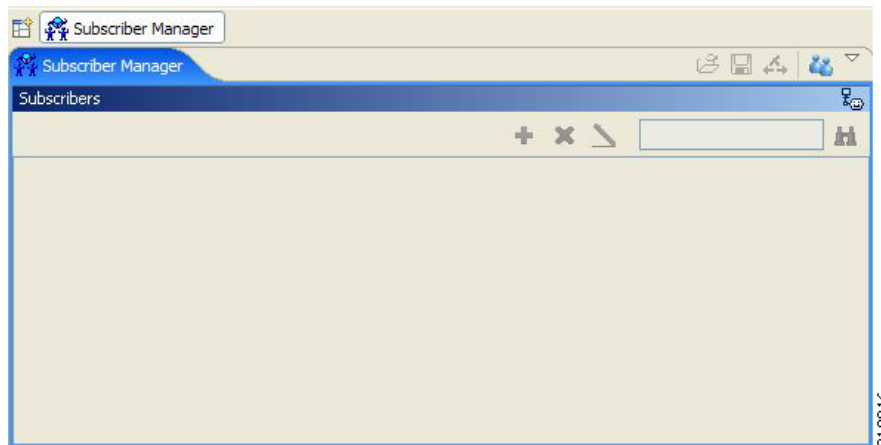
A Connecting to progress bar appears.

The system connects to the Cisco Service Control SM. The **Import subscribers from CSV file** (), the **Export subscribers to CSV file** (), and the **Disconnect from SM** () icons are enabled.

How to Disconnect from the Current Cisco Service Control Subscriber Manager

- Step 1** In the SM GUI toolbar, click the **Disconnect from SM** (↔) icon.
- The Console disconnects from the Cisco Service Control Subscriber Manager, but the SM GUI tool remains open.
- The **Import subscribers from CSV file** (📁), the **Export subscribers to CSV file** (💾), and the **Disconnect from SM** (↔) icons are dimmed.
- The subscriber list is empty (Figure 11-4).

Figure 11-4 Subscriber Manager List



Working with Subscriber CSV Files

Because of the large number of subscribers that must be introduced into the system, it is not feasible to enter subscriber information manually. Usually a RADIUS server (or some similar source) generates the subscriber information. This information is then imported into the Subscriber Manager GUI tool.

You can also export updated subscriber information to a CSV file.

The format of subscriber CSV files is described in the “CSV File Formats” chapter of *Cisco Service Control Application for Broadband Reference Guide*.

- [How to Import Subscriber Information from a CSV File](#), page 11-5
- [How to Export Subscriber Information to a CSV File](#), page 11-7

How to Import Subscriber Information from a CSV File

You can import subscriber data that was exported to a CSV file into the Subscriber Manager GUI tool.

Before you import the subscriber information, confirm that the subaware.pro file in the Cisco Service Control Subscriber Manager is configured to import the required type of subscribers—IPv4 subscribers or IPv4 and IPv6 subscribers. If required, make necessary changes to subaware.pro file. For more details on configuring the subaware.pro file, see the *Cisco Service Control Management Suite Subscriber Manager User Guide*.


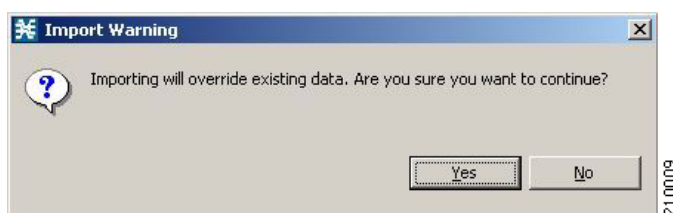
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- Step 1** In the SM GUI toolbar, click the **Import subscribers from CSV file** () icon.
An Import from File dialog box appears.
- Step 2** Browse to the file that is to be imported and click **Open**.
An Import Warning message appears ([Figure 11-5](#)).


Figure 11-5 Import Warning



- Step 3** Click **Yes**.
The Import from File dialog box closes.
The selected file is imported into the SM GUI tool; the imported subscribers are listed in the subscriber list.
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How to Export Subscriber Information to a CSV File

You can export subscriber information to a CSV file (for example, when data in the Cisco Service Control SM database is updated).

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- Step 1** Select the subscribers whose data you want to save (see [“Selecting Subscribers”](#) section on page 11-13).
- Step 2** In the SM toolbar, click the **Export subscribers to CSV file**  icon.
An Export to File dialog box appears.
- Step 3** Browse to the folder in which you want to save the exported file.
- Step 4** In the File name field, enter a file name.
- Step 5** Click **Save**.
The Export to File dialog box closes.
The selected subscribers are saved to the CSV file.
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Managing Subscribers

After importing subscribers into the system, you can maintain and update the database.

You can perform the following operations:

- Add and delete subscribers
- Edit information for existing subscribers
- Add and remove subscriber mappings

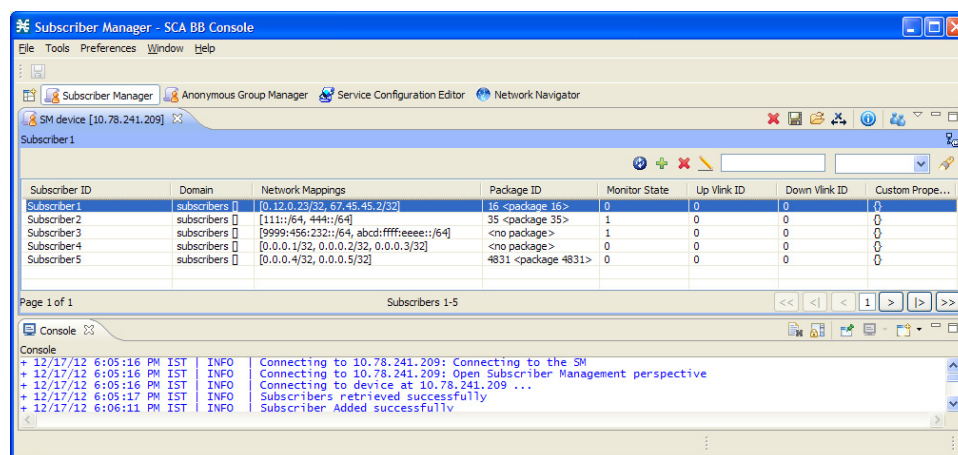
Subscriber Information

In the SM GUI, you can see a list of all the subscribers currently introduced into Cisco SCA BB (Figure 11-6). Use this list to manage individual subscribers or groups of subscribers. Use the Find function to display a subset of the subscribers (see “How to Find a Subscriber or Group of Subscribers” section on page 11-12).

The SM GUI is composed of a console view at the bottom and a device view at the top. The console shows the log messages. The device view has the following columns:

- Subscriber ID—Name of the subscriber in the system.
- Domain—Domain to which the subscriber is assigned. The names of the Cisco SCE platforms that belong to each domain appear in square brackets.
- Network Mappings—IP address, range of IP addresses, or VLAN tag mapped to the subscriber.
- Properties—Various properties assigned to the subscriber (Package ID, Monitor State, Up Vlink ID, Down Vlink ID).
- Custom Properties—Displayed as key value pairs.











Figure 11-6 Subscriber Manager GUI - Subscriber List



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Table 11-1 describes the icons grouped in the toolbar at the upper right corner of the SM GUI.

Table 11-1 SM GUI Icon Descriptions

Icon	Description
	Delete all subscribers (if enabled).
	Export subscribers to CSV file.
	Import subscribers from CSV file.
	Disconnect from SM.
	View online status (opens SM online status window).
	Connect to an SM.
	Refresh the list of subscribers.
	Add subscriber.
	Remove subscriber.
	Edit subscriber.

By right-clicking on a specific subscriber, you can perform various actions, including:

- Edit subscriber data.
- Delete the subscriber.
- Display the online status of the subscriber (Figure 11-7), including:
 - Expiration or aging time (if any)
 - Number of concurrent sessions
 - Reported block actions
 - Number of concurrent active attacks
 - Quota status (if any)
 - Subscriber OS information
- View information on multiple subscriber in multiple windows.

Figure 11-7 Subscriber Manager GUI - Subscriber Online Status

The screenshot shows the Subscriber Manager GUI with a table of subscribers and a detailed view of Subscriber 2's online status.

Subscriber ID	Domain	Network Mappings	Package ID	Monitor State	Up Vlink ID	Down Vlink ID	Custom Properties
Subscriber 1	subscribers	[]	0 <package 0>	0	0	0	[]
Subscriber 2	subscribers	[0.0.0.1/32, 1.1.1.1/32, 2222::/64]	1 <package 1>	0	0	0	[]
Subscriber 3	subscribers	[0.0.0.2/32, 0.0.0.3/32, abcd:ef12::/43, abcd:ef12::/64, ffff:1111:990:8000::/50]	15 <package 15>	0	0	0	[]
subs6	subscribers	[2.2.2.2/32]	<no package>	0	0	0	[]
subs7	subscribers	[3.3.3.3/32]	<no package>	0	0	0	[]

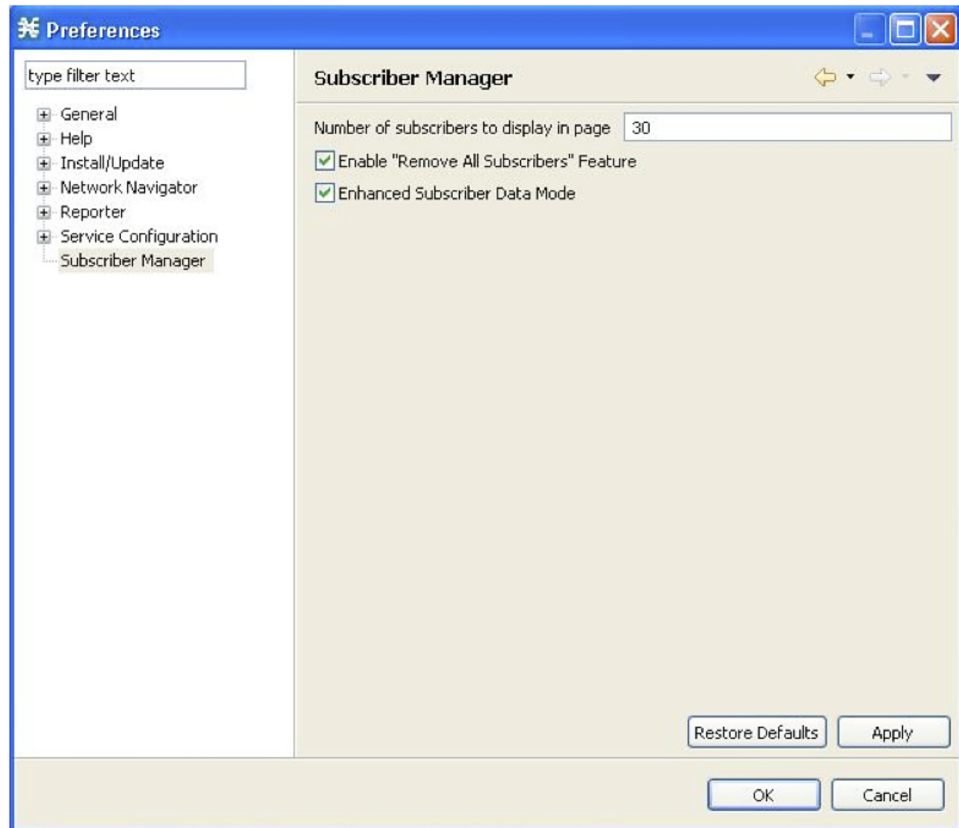
Property	Value
Expiration for Mapping - [0.0.0.1/32]	NA
Expiration for Mapping - [1.1.1.1/32]	NA
Number of concurrent sessions	0
Reported Block Actions	0
Number of concurrent active attacks	0
Quota status	NA

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From the menu bar, you can select and open the Preferences page (Figure 11-8). When the Subscriber Manager is selected in the left pane, you can do the following:

- Specify the number of subscriber records to be listed in the main display table.
- Enable or disable the “Remove All Subscribers” functionality.
- Enable or disable the enhanced subscriber data mode; if enabled, the Up Vlink ID and Down Vlink ID columns are displayed in the table.

Figure 11-8 Subscriber Manager GUI - Preferences Page

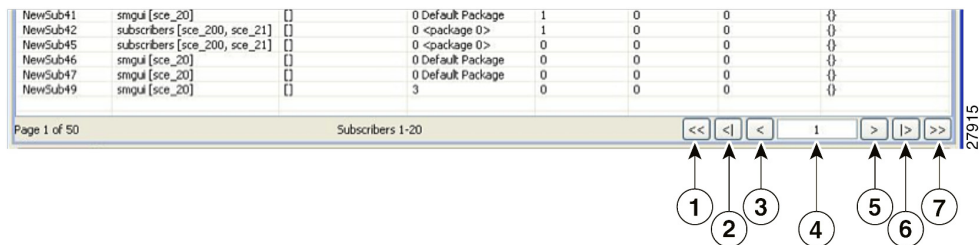


Finding and Selecting Subscribers

The SM GUI tool retrieves subscribers in bulks of 1000 subscribers.

If the number of subscribers are more than that can be displayed in a standard view, then the information is presented in multiple pages. You can navigate to the remaining groups of subscribers using the various pagination buttons (Figure 11-9).

Figure 11-9 Subscriber Manager GUI - Pagination Buttons



- 1. Get previous bulk.
- 2. Get first page.
- 3. Get previous page.
- 4. Enter page number.
- 5. Get next page.
- 6. Get last page.
- 7. Get next bulk.

For ease of use, the SM GUI tool incorporates two standard features:

- Find—Search for a specific subscriber.
- Multiple Select—Select a range of subscribers or a number of individual subscribers.


How to Find a Subscriber or Group of Subscribers

Use the Find feature to find a specific subscriber or a group of subscribers according to a subscriber ID prefix. This feature is useful for editing the parameters of either a specific subscriber or a group of subscribers (see “Editing Subscriber Details” section on page 11-15)

Step 1 In the Find field (Figure 11-10), enter the prefix to be matched.

Figure 11-10 Find Field



Step 2 Click the **Find Subscribers** () icon.

You see a list of only the subscribers that match the specified prefix.

The search criteria is selected in the drop-down list next to the Find field. Search by:

- Prefix
 - Domain name
 - Package ID
-

Selecting Subscribers

You can edit, export, or delete a group of subscribers at one time by selecting subscribers displayed in the subscriber list. The group may be either of the following:

- A range of contiguous subscribers
- A number of noncontiguous subscribers

How to Select a Range of Subscribers

Step 1 Select the first subscriber in the range.

Step 2 Press the **Shift** key while clicking the last subscriber in the range.

All subscribers within the range are selected.

You can combine this function with the search function; search for specific subscribers and then select the entire range.

How to Select a Number of Noncontiguous Subscribers

Step 1 Press the **Ctrl** key while selecting multiple subscribers.

You can combine this function with selecting a range of subscribers; first, select the range of subscribers, and then select additional subscribers.

How to Add a Subscriber

You can add additional individual subscribers to the Cisco Service Control Subscriber Manager. To add large number of subscribers, export their information from a RADIUS (or DHCP) server to a CSV file, and then import the CSV file. For details on importing the CSV files, see [“Working with Subscriber CSV Files” section on page 11-5](#).


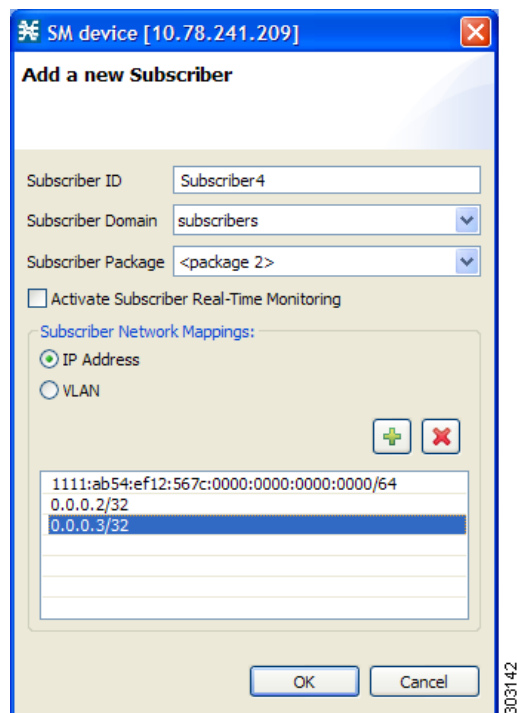
- Step 1** In the SM GUI toolbar, click the **Add Subscriber** () icon.
The Add a New Subscriber dialog box appears ([Figure 11-11](#)).


Figure 11-11 Add a New Subscriber



- Step 2** In the Subscriber ID field, enter text that identifies the subscriber.
- Step 3** From the Subscriber Domain drop-down list, select the appropriate domain for the new subscriber.
- Step 4** From the Subscriber Package drop-down list, select a package to assign to this subscriber.
The contents of the list depend on the selected subscriber domain.
- Step 5** To activate subscriber real-time monitoring, check the **Activate Subscriber Real-time Monitoring** check box. This sets the “monitor” property to 1 and causes the Cisco SCE application to generate Real-Time Subscriber Usage RDRs for this subscriber.
If you are not going to define network mappings for this subscriber, continue at Step 10.
- Step 6** The system supports either IP addresses or VLAN tags as network identification for subscribers. The Cisco Service Control solution supports an IP prefix range of 0 to 32 for IPv4 addresses and 32 to 34 for IPv6 addresses. Select one of the **Subscriber Network Mappings** radio buttons:
- **IP Address**
 - **VLAN**



Note We recommend that you do not assign the same IPv6 address to different subscribers with different prefix values.

- Step 7** Click **Add** () icon to add a network mapping of the type selected.
A new network-mapping entry is added to the subscriber network mappings list, displaying a default value ([Figure 11-11](#)).
- Step 8** Edit the network-mapping entry.
- Step 9** Repeat Steps 7 and 8 for other network mappings.
- Step 10** Click **OK**.
The Add a New Subscriber dialog box closes.
The new subscriber is added to the database and joins the subscriber list displayed in the SM GUI tool.
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Editing Subscriber Details

You can edit parameters for each subscriber.


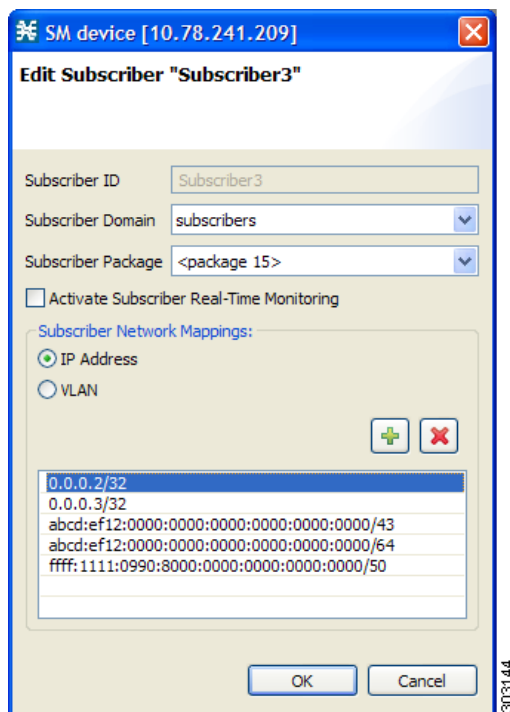
- Step 1** Find and select a subscriber. (See “[How to Find a Subscriber or Group of Subscribers](#)” section on [page 11-12](#).)
- Step 2** In the SM toolbar, click the **Edit Subscriber** () icon.
The Edit Subscriber dialog box appears ([Figure 11-12](#)).



Figure 11-12 Edit Subscriber

**Step 3** Modify subscriber details.

- Edit the entry in the Subscriber ID field.
- From the Subscriber Domain drop-down list, select a subscriber domain.
- From the Subscriber Package drop-down list, select a package to assign to this subscriber.
The contents of the list depend on the selected subscriber domain.
- Check or uncheck the **Activate Subscriber Real-time Monitoring** check box.

If you are not editing the network mappings for this subscriber, continue at Step 5.

Step 4 Modify subscriber network mappings. The Cisco Service Control solution supports an IP prefix range of 0 to 32 for IPv4 addresses and 32 to 34 for IPv6 addresses. To modify the Subscriber Network Mappings:

- a. Click one of the **Subscriber Network Mappings** radio buttons:
 - **IP Address**
 - **VLAN**
- b. To add a new network mapping to the list, click the Add () icon, and edit the network-mapping field that is added to the Subscriber Network Mappings list.
- c. To delete a network mapping from the list, select an entry in the subscriber network mappings list and click the Delete () icon.

Step 5 Click **Apply**.

The Edit Subscriber dialog box closes.

The modified subscriber information is saved to the database and displayed in the subscriber list in the SM GUI tool.

How to Delete a Subscriber from the Database

You can delete subscribers from the database.


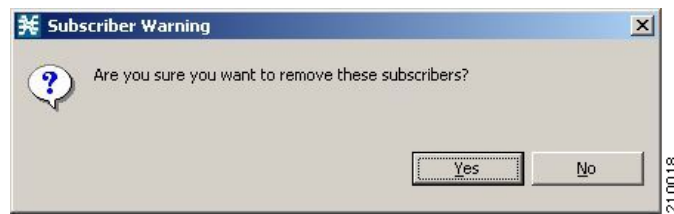
- Step 1** Select a single subscriber or a group of subscribers (see “[Selecting Subscribers](#)” section on page 11-13).
- Step 2** In the SM toolbar, click the **Delete Subscriber** () icon.
- The system asks for confirmation before deleting the selected subscribers ([Figure 11-13](#)).

Figure 11-13 *Subscriber Warning*

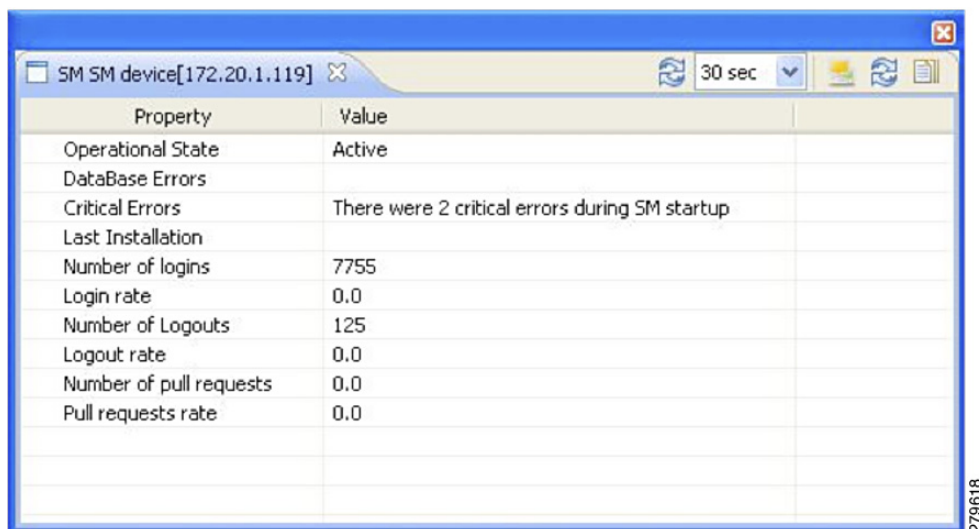


- Step 3** Click **Yes** to confirm.
- The selected subscribers are deleted from the database and removed from the subscriber list displayed in the SM GUI tool.

Monitoring SM Online Status

The SM online status window provides real-time status of the SM operation by displaying the main properties of the SM (Figure 11-14).

Figure 11-14 SM Online Status Window



The screenshot shows a window titled "SM SM device[172.20.1.119]" with a refresh icon and a "30 sec" dropdown menu. The main content is a table with the following data:

Property	Value
Operational State	Active
DataBase Errors	
Critical Errors	There were 2 critical errors during SM startup
Last Installation	
Number of logins	7755
Login rate	0.0
Number of Logouts	125
Logout rate	0.0
Number of pull requests	0.0
Pull requests rate	0.0

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You can open the SM Online Status window by clicking on the **Open** () icon in the main GUI toolbar. Table 11-2 describes the icons grouped in the toolbar at the upper right corner of the SM Online Status window.

Table 11-2 SM Online Status Window Icon Descriptions

Icon	Description
	Autorefresh, the drop-down list shows selectable time interval options (default 30 seconds)
	Copy all properties and values to the clipboard (or right-click a single property to copy)
	Always on top (enable or disable place status window on top of other windows)