



## **Cisco Service Control Application Reporter User Guide**

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**Americas Headquarters**  
Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
<http://www.cisco.com>  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 527-0883

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## Preface

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This preface describes who should read the *Cisco Service Control Application Reporter User Guide*, how it is organized, and its document conventions.

This guide is intended for experienced network administrators who are responsible for generating reports of the daily operation using the Cisco Service Control Application Reporter (SCA Reporter).

## Document Revision History

Cisco Service Control Release	Part Number	Publication Date
Release 3.1.5	OL-8411-05	November, 2007

### Description of Changes

Added the following new features:

- Configuring colors used in charts. See:
  - [How to Set the Colors Used in Charts](#), page 2-12
  - [How to Change the Colors Used in a Chart](#), page 5-11
- Configuring the chart legend globally (see [How to Configure the Legend Displayed in Charts](#), page 2-17)

Cisco Service Control Release	Part Number	Publication Date
Release 3.1.0	OL-8411-04	May, 2007

**Description of Changes**

Added the following new features:

- [Installing the SCA Reporter under Linux, page 2-6](#)
- New Command-Line Interface commands
- [Prescheduled Reports, page 6-1](#)
- [Virtual Links Monitoring Template Group, page D-8](#) and new templates to existing template groups

<b>Cisco Service Control Release</b>	<b>Part Number</b>	<b>Publication Date</b>
Release 3.0.5	OL-8411-03	November, 2006

**Description of Changes**

Editorial changes only

<b>Cisco Service Control Release</b>	<b>Part Number</b>	<b>Publication Date</b>
Release 3.0.3	OL-8411-02	May, 2006

**Description of Changes**

- Updated Online Help
- Added Troubleshooting Section
- Added Glossary

<b>Cisco Service Control Release</b>	<b>Part Number</b>	<b>Publication Date</b>
Release 3.0.0	OL-8411-01	December, 2005



# Organization

The major sections of this guide are as follows:

**Table 1**      **Documentation Organization**

Chapter	Title	Description
Chapter 1	<a href="#">General Overview</a>	Provides a brief overview of the Cisco Service Control solution and describes the components of the system.
Chapter 2	<a href="#">Getting Started</a>	Provides an introduction to the Cisco Service Control Application Reporter (SCA Reporter), explains some basic concepts, and provides instructions on how to install and launch the SCA Reporter. It also provides Basic terminology and a Quick Start section.
Chapter 3	<a href="#">Using the Cisco Service Control Application Reporter</a>	Describes basic and advanced configuration of the SCA Reporter. It also describes how to navigate in the GUI.
Chapter 4	<a href="#">Managing Report Instances</a>	Describes the features of the SCA Reporter, including creating a new report instance and modifying an existing report instance.
Chapter 5	<a href="#">Working with Reports</a>	Describes the available actions for the SCA Reporter, including viewing and adjusting the chart display.
Chapter 6	<a href="#">The SCA Reporter Command-Line Interface</a>	Explains how to use the SCA Reporter Command-Line Interface to generate reports.
Appendix A	<a href="#">Installing and Upgrading SCA Reporter Templates</a>	Describes how to install and upgrade SCA Reporter templates.
Appendix B	<a href="#">Troubleshooting</a>	Describes SCA Reporter error messages and their probable causes and solutions.
Appendix C	<a href="#">The SCA Reporter as a Tool in the SCA BB Console</a>	Describes the SCA Reporter as a tool in the SCA BB Console.
Appendix D	<a href="#">SCA Reporter Templates</a>	Describes the properties of report instances created from the SCA Reporter templates, organized by template groups.

## Related Publications

The following related publications are available for the Cisco Service Control Application Reporter:

- *Cisco Service Control Application for Broadband User Guide*
- *Cisco Service Control Application for Broadband Reference Guide*
- *Cisco Service Control Management Suite Collection Manager User Guide*

To view Cisco documentation or obtain general information about the documentation, refer to the following sources:

- [Obtaining Documentation and Submitting a Service Request, page xi](#)
- The Cisco Information Packet that shipped with your SCE 2000 platform.

## Conventions

This document uses the following conventions:

**Table 3-2**      **Documentation Conventions**

Convention	Description
<b>boldface</b> font	Commands and keywords are in <b>boldface</b> .
<i>italic</i> font	Arguments for which you supply values are in <i>italics</i> .
[ ]	Elements in square brackets are optional.
{x   y   z}	Alternative keywords are grouped in braces and separated by vertical bars.
[x   y   z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string, or the string will include the quotation marks.
screen font	Terminal sessions and information that the system displays are in <i>screen</i> font.
<b>boldface screen</b> font	Information you must enter is in <b>boldface screen</b> font.
<i>italic screen</i> font	Arguments for which you supply values are in <i>italic screen</i> font.
<>	Nonprinting characters, such as passwords, are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

**Note**

Means *reader take note* . Notes contain helpful suggestions or references to materials not covered in this manual.

**Caution**

Means *reader be careful* . In this situation, you might do something that could result in equipment damage or loss of data.

**Warning**

Means *reader be warned* . In this situation, you might do something that could result in bodily injury.

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.





# CHAPTER 1

## General Overview

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This chapter provides a general overview of the Cisco Service Control solution. It introduces the Cisco Service Control concept and the Service Control capabilities.

It also briefly describes the hardware capabilities of the Service Control Engine (SCE) platform and the Cisco specific applications that together compose the total Cisco Service Control solution.

- [Information About the Cisco Service Control Concept, page 1-1](#)
- [Cisco Service Control Capabilities, page 1-2](#)
- [The SCE Platform, page 1-3](#)
- [Information About Management and Collection, page 1-4](#)

## Information About the Cisco Service Control Concept

The Cisco Service Control solution is delivered through a combination of purpose-built hardware and specific software solutions that address various service control challenges faced by service providers. The SCE platform is designed to support classification, analysis, and control of Internet/IP traffic.

Service Control enables service providers to create profitable new revenue streams while capitalizing on their existing infrastructure. With the power of Service Control, service providers have the ability to analyze, charge for, and control IP network traffic at multigigabit wire line speeds. The Cisco Service Control solution also gives service providers the tools they need to identify and target high-margin content-based services and to enable their delivery.

As the downturn in the telecommunications industry has shown, IP service providers' business models need to be reworked to make them profitable. Having spent billions of dollars to build ever larger data links, providers have incurred massive debts and faced rising costs. At the same time, access and bandwidth have become commodities where prices continually fall and profits disappear. Service providers have realized that they must offer value-added services to derive more revenue from the traffic and services running on their networks. However, capturing real profits from IP services requires more than simply running those services over data links; it requires detailed monitoring and precise, real-time control and awareness of services as they are delivered. Cisco provides Service Control solutions that allow the service provider to bridge this gap.

## Service Control for Broadband Service Providers

Service providers of any access technology (DSL, cable, mobile, and so on) targeting residential and business consumers must find new ways to get maximum leverage from their existing infrastructure, while differentiating their offerings with enhanced IP services.

The Cisco Service Control Application for Broadband adds a new layer of service intelligence and control to existing networks that can:

- Report and analyze network traffic at subscriber and aggregate level for capacity planning
- Provide customer-intuitive tiered application services and guarantee application SLAs
- Implement different service levels for different types of customers, content, or applications
- Identify network abusers who are violating the Acceptable Use Policy
- Identify and manage peer-to-peer, NNTP (news) traffic, and spam abusers
- Enforce the Acceptable Use Policy (AUP)
- Integrate Service Control solutions easily with existing network elements and BSS/OSS systems

## Cisco Service Control Capabilities

The core of the Cisco Service Control solution is the purpose-built network hardware device: the Service Control Engine (SCE). The core capabilities of the SCE platform, which support a wide range of applications for delivering Service Control solutions, include:

- Subscriber and application awareness—Application-level drilling into IP traffic for real-time understanding and controlling of usage and content at the granularity of a specific subscriber.
  - Subscriber awareness—The ability to map between IP flows and a specific subscriber in order to maintain the state of each subscriber transmitting traffic through the SCE platform and to enforce the appropriate policy on this subscriber's traffic.
- Application awareness—The ability to understand and analyze traffic up to the application protocol layer (Layer 7).

Subscriber awareness is achieved either through dedicated integrations with subscriber management repositories, such as a DHCP or a Radius server, or via sniffing of Radius or DHCP traffic.

- For application protocols implemented using bundled flows (such as FTP, which is implemented using Control and Data flows), the SCE platform understands the bundling connection between the flows and treats them accordingly.
- Application-layer, stateful, real-time traffic control—The ability to perform advanced control functions, including granular BW metering and shaping, quota management, and redirection, using application-layer stateful real-time traffic transaction processing. This requires highly adaptive protocol and application-level intelligence.
- Programmability—The ability to quickly add new protocols and easily adapt to new services and applications in the ever-changing service provider environment. Programmability is achieved using the Cisco Service Modeling Language (SML).

Programmability allows new services to be deployed quickly and provides an easy upgrade path for network, application, or service growth.

- Robust and flexible back-office integration—The ability to integrate with existing third-party systems at the Service Provider, including provisioning systems, subscriber repositories, billing systems, and OSS systems. The SCE provides a set of open and well-documented APIs that allows a quick and robust integration process.
- Scalable high-performance service engines—The ability to perform all these operations at wire speed.

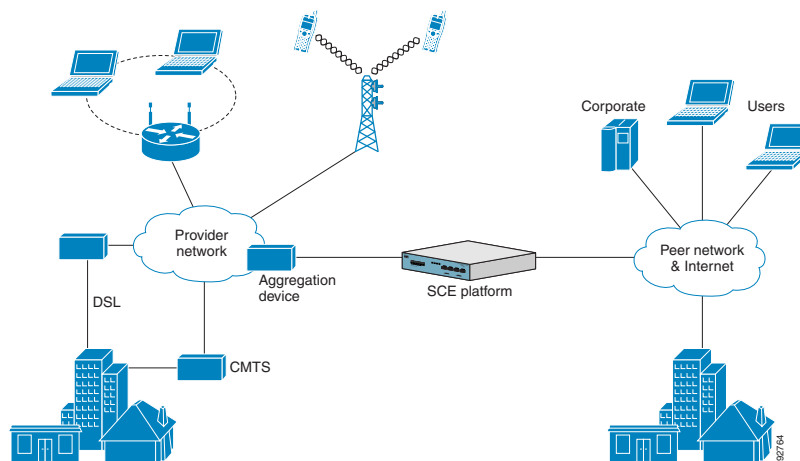
## The SCE Platform

The SCE family of programmable network devices is capable of performing application-layer stateful-flow inspection of IP traffic, and controlling that traffic based on configurable rules. The SCE platform is a purpose-built network device that uses ASIC components and RISC processors to go beyond packet counting and delve deeper into the contents of network traffic. Providing programmable, stateful inspection of bidirectional traffic flows and mapping these flows with user ownership, the SCE platforms provide real-time classification of network usage. This information provides the basis of the SCE platform advanced traffic-control and bandwidth-shaping functionality. Where most bandwidth shaper functionality ends, the SCE platform provides more control and shaping options, including:

- Layer 7 stateful wire-speed packet inspection and classification
- Robust support for over 600 protocols and applications, including:
  - General—HTTP, HTTPS, FTP, TELNET, NNTP, SMTP, POP3, IMAP, WAP, and others
  - P2P file sharing—FastTrack-KazaA, Gnutella, BitTorrent, Winny, Hotline, eDonkey, DirectConnect, Piolet, and others
  - P2P VoIP—Skype, Skinny, DingoTel, and others
  - Streaming and Multimedia—RTSP, SIP, HTTP streaming, RTP/RTCP, and others
- Programmable system core for flexible reporting and bandwidth control
- Transparent network and BSS/OSS integration into existing networks
- Subscriber awareness that relates traffic and usage to specific customers

The following diagram illustrates a common deployment of an SCE platform in a network.

**Figure 1-1 SCE Platform in the Network**



# Information About Management and Collection

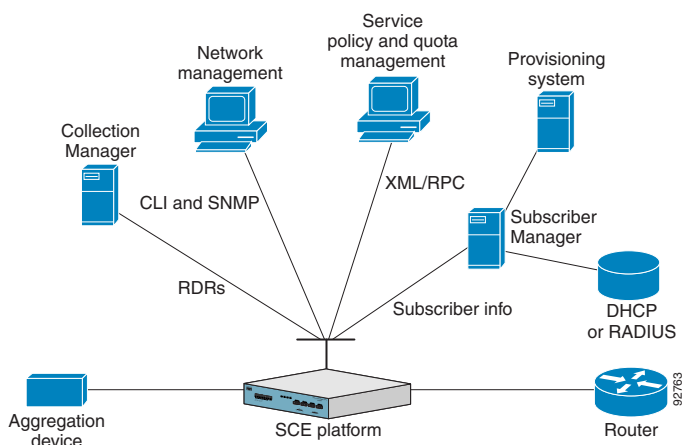
- [Network Management, page 1-4](#)
- [Subscriber Management, page 1-5](#)
- [Service Configuration Management, page 1-5](#)
- [Data Collection, page 1-5](#)

The Cisco Service Control solution includes a complete management infrastructure that provides the following management components to manage all aspects of the solution:

- Network management
- Subscriber management
- Service Control management

These management interfaces are designed to comply with common management standards and to integrate easily with existing OSS infrastructure.

**Figure 1-2 Service Control Management Infrastructure**



## Network Management

Cisco provides complete network FCAPS (Fault, Configuration, Accounting, Performance, Security) Management.

Two interfaces are provided for network management:

- Command-line interface (CLI)—Accessible through the Console port or through a Telnet connection, the CLI is used for configuration and security functions.
- SNMP—Provides fault management (via SNMP traps) and performance monitoring functionality.



## Subscriber Management

Where the Cisco Service Control Application for Broadband (SCA BB) enforces different policies on different subscribers and tracks usage on an individual subscriber basis, the Cisco Service Control Management Suite (SCMS) Subscriber Manager (SM) may be used as middleware software for bridging between the OSS and the SCE platforms. Subscriber information is stored in the SM database and can be distributed between multiple platforms according to actual subscriber placement.

The SM provides subscriber awareness by mapping network IDs to subscriber IDs. It can obtain subscriber information using dedicated integration modules that integrate with AAA devices, such as RADIUS or DHCP servers.

Subscriber information may be obtained in one of two ways:

- **Push Mode**—The SM pushes subscriber information to the SCE platform automatically upon logon of a subscriber.
- **Pull Mode**—The SM sends subscriber information to the SCE platform in response to a query from the SCE platform.

## Service Configuration Management

Service configuration management is the ability to configure the general service definitions of a service control application. A service configuration file containing settings for traffic classification, accounting and reporting, and control is created and applied to an SCE platform. The SCA BB application provides tools to automate the distribution of these configuration files to SCE platforms. This simple, standards-based approach makes it easy to manage multiple devices in a large network.

Service Control provides an easy-to-use GUI to edit and create these files and a complete set of APIs to automate their creation.

## Data Collection

The Cisco Service Control solution generates usage data and statistics from the SCE platform and forwards them as Raw Data Records (RDRs), using a simple TCP-based protocol (RDR-Protocol). The Cisco Service Control Management Suite (SCMS) Collection Manager (CM) software implements the collection system, listening in on RDRs from one or more SCE platforms and processing them on the local machine. The data is then stored for analysis and reporting functions, and for the collection and presentation of data to additional OSS systems such as billing.





# CHAPTER 2

## Getting Started

---

The Cisco Service Control Application Reporter (SCA Reporter) is the Cisco Service Control Application tool that allows you to produce reports based on the traffic analysis performed by the Service Control Engine (SCE) platform. The information is sent from the SCE platform and is stored in a database. The SCA Reporter can query and retrieve information from the database and present the results in a comprehensive range of reports, including global monitoring, subscriber monitoring, P2P, and traffic discovery statistics reports.

- [System Components, page 2-1](#)
- [System Requirements, page 2-2](#)
- [Installing the SCA Reporter under Windows, page 2-2](#)
- [Installing the SCA Reporter under Linux, page 2-6](#)
- [How to Launch the SCA Reporter, page 2-6](#)
- [Configuring the SCA Reporter, page 2-8](#)
- [Accessing Online Help, page 2-18](#)
- [Quick Start, page 2-20](#)

## System Components

The SCA Reporter is a valuable tool for understanding the habits and resource consumption of the applications and subscribers that use your network. It can also be used to judge the efficacy of various rules and the possible impact of their implementation on the network.

The SCA Reporter is available only in a deployment with a database. You can generate reports using any of the following methods:

- Standalone application
- Command-line interface (CLI)—See [The SCA Reporter Command-Line Interface, page 6-1](#)
- Tool of the SCA BB Console—See [The SCA Reporter as a Tool in the SCA BB Console, page C-1](#)

The available reports can be displayed in a variety of chart renderings (for example, stacked-bar or area) or in tabular form. You can adjust the chart display for various presentation options (for example, 3D). You can export both tabular and chart reports to files. You can also modify the reports by changing the values assigned to the properties (for example, time boundaries). You can duplicate, export, and save reports.

You can also generate reports using the SCA Reporter Command-Line Interface (CLI) without using the GUI.

SCA Reporter consists of visual components (known as views). The following are the views and the tasks that you can perform in each view:

- **Templates view**—Select a report template, create a new report instance, and generate a report.
- **Properties view**—View properties of the object in focus and their values. The object in focus can be a template group, a report template, a report instance, or the chart display of a report. You can configure report instance and chart display properties.
- **Report view**—View a graphical representation or tabular display of the data of the report. Each report is displayed in its own report view.
- **Progress view**—Monitor reports executed or exported. You can view progress details in this view, and also choose to generate reports in the background so that you can continue working on other reports.

Generating a report can be divided into five broad steps:

1. Create a report instance from the Templates view.
2. Configure the properties of the report instance in the Properties view.
3. Execute the report instance.
4. View the report in tabular or graphic form in its report view.
5. Adjust the chart display of the report in the Properties view.

You can generate multiple reports simultaneously and later export them. While the reports are executing, you can monitor them and put them in the background by using the Progress view.

## System Requirements

You can install and run the SCA Reporter GUI front end and command-line application on any computer running Windows 98, Windows 2000, Windows NT, or Windows XP.

You can install the SCA Reporter command-line application for Linux on any computer running Red Hat Enterprise Linux 4.

The computer should have a minimum of 512 MB of memory; 1024 MB of memory is highly recommended.

Minimum screen resolution is 1024 by 768 pixels.

## Installing the SCA Reporter under Windows

- [How to Install the SCA Reporter under Windows, page 2-2](#)
- [How to Uninstall the SCA Reporter under Windows, page 2-5](#)

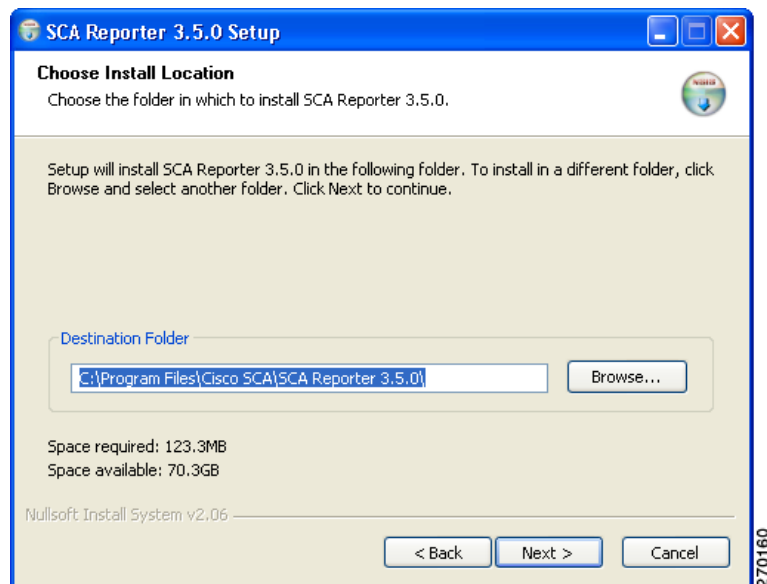
## How to Install the SCA Reporter under Windows

- 
- Step 1** Navigate to the SCA Reporter installation file, *SCA Reporter 3.1.5 Setup.exe*, and double-click it. The Welcome page of the SCA Reporter 3.1.5 Setup wizard appears.



**Step 2** Click **Next**.

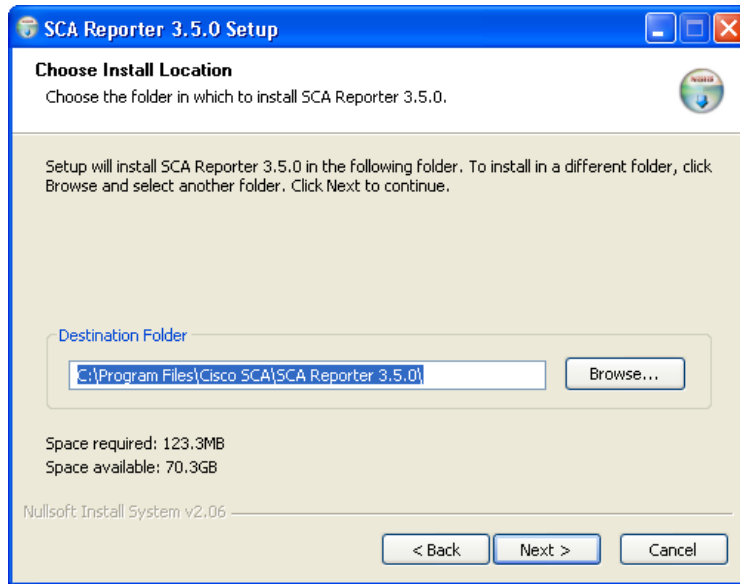
The Install Location page of the Setup wizard opens.



**Step 3** (Optional) Click **Browse** to choose a different destination folder.

**Step 4** Click **Next**.

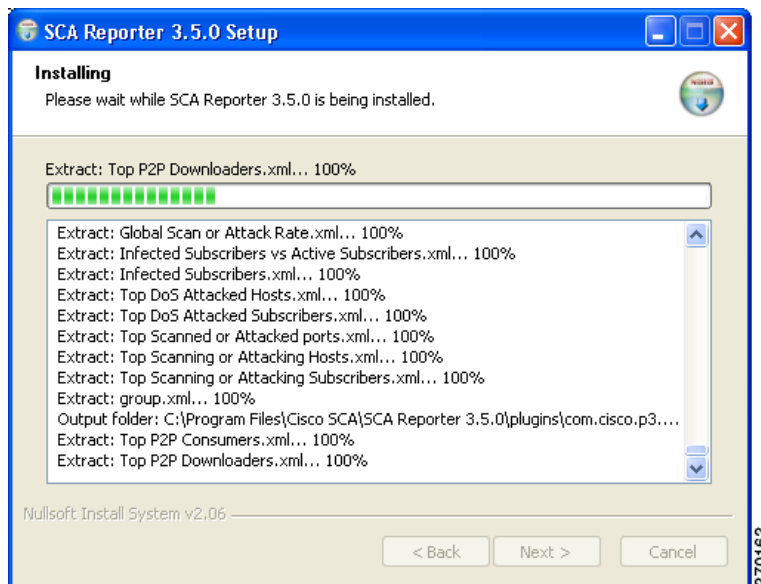
The Start Menu Folder page of the Setup wizard opens.



**Step 5** (Optional) Enter a different Start Menu folder in the Start Menu Folder field.

**Step 6** Click **Install**.

The Installing page of the Setup wizard opens.



**Step 7** Wait until installation is complete.

The Installation Complete page of the Setup wizard opens.

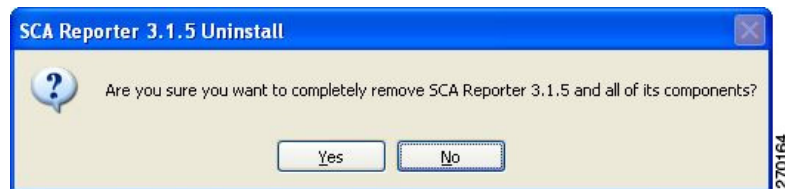


- Step 8** Click **Finish**.
- The SCA Reporter 3.1.5 Setup wizard closes.
- The SCA Reporter is now installed on the machine.
- 

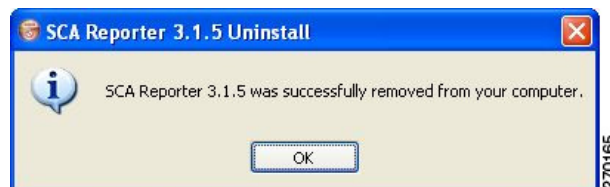
## How to Uninstall the SCA Reporter under Windows

---

- Step 1** Choose **Start > All Programs > Cisco SCA > SCA Reporter 3.1.5 > Uninstall**.



- Step 2** Click **Yes**.



- Step 3** Click **OK**.
- The SCA Reporter is uninstalled from the machine.
-

# Installing the SCA Reporter under Linux

You can install the SCA Reporter under Linux, and then run it from the command line. (See [The SCA Reporter Command-Line Interface, page 6-1](#).)

- [How to Install the SCA Reporter under Linux, page 2-6](#)
- [How to Uninstall the SCA Reporter under Linux, page 2-6](#)

## How to Install the SCA Reporter under Linux

- 
- Step 1** Download the SCA BB installation package (*reporter-cmd-linux.tgz*) from the CCO.
- Step 2** Open the installation package in a selected directory, using the command `tar xpf reporter-cmd-linux.tgz`.
- Step 3** From the installation directory, run the command `reportercmd.sh -setup`.
- 

## How to Uninstall the SCA Reporter under Linux

- 
- Step 1** Delete the installation directory.
- 

## How to Launch the SCA Reporter

You can access the SCA Reporter from the **Start** menu.

- 
- Step 1** Choose **Start > All Programs > Cisco SCA > SCA Reporter 3.1.5 > SCA Reporter 3.1.5**.  
The Cisco Service Control SCA Reporter splash screen appears.

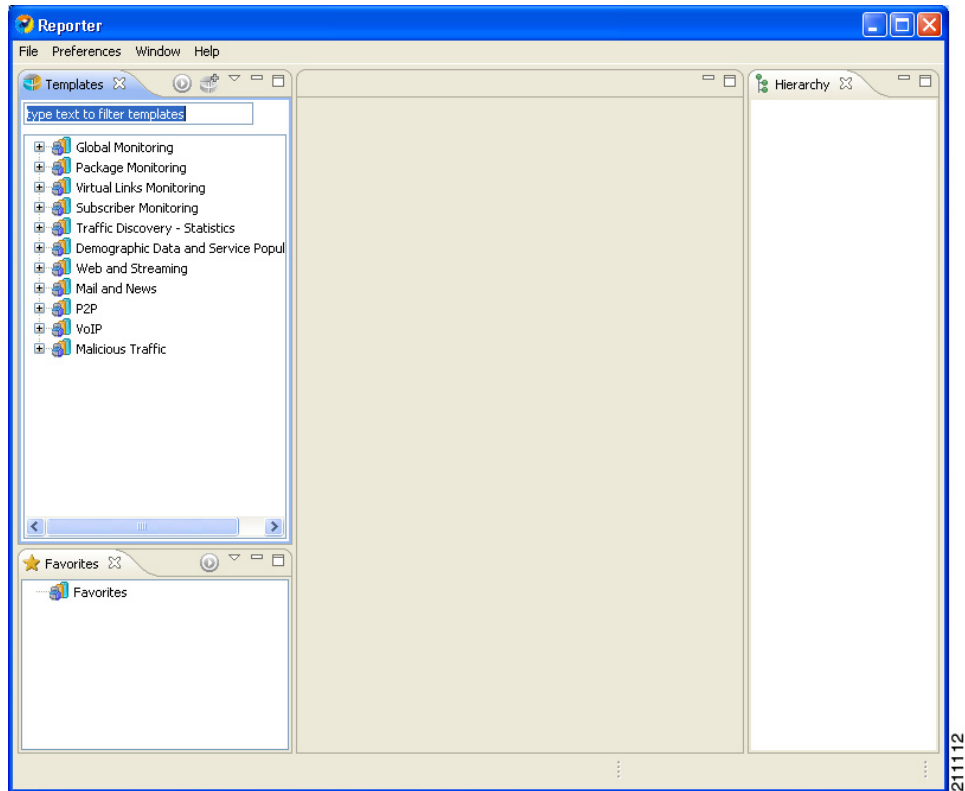




After the SCA Reporter has loaded, the main window of the SCA Reporter appears, displaying the Welcome view.

**Step 2** Close the Welcome view.

The Templates view is displayed.



# Configuring the SCA Reporter

You must create a basic configuration for the SCA Reporter, which includes selecting a database type, connecting to a database, activating the database, and setting the IP address of the Service Control Engine (SCE) platform whose service configuration data is to be used.

In bundled mode, the Cisco Service Control Management Suite (SCMS) Collection Manager (CM) is used with the Sybase Adaptive Server Enterprise (Sybase ASE). The Sybase data management platform supports transaction-intensive enterprise applications. It enables you to store and retrieve information online and can warehouse information as needed. (For more information, see the *Cisco Service Control Management Suite Collection Manager User Guide*.) The CM can also be configured to work with Oracle and MySQL databases.

After a database is activated, you must select the IP address of one of the SCE platforms in the database. The choice is made for each repository, represented by a tab in the Preferences dialog box. All options offered in the Templates view of the SCA Reporter (available packages, services, etc.) are determined by the service configuration currently applied to the configured SCE platform. Each report is generated according to the SCE device to which it is configured. In the example configuration, there is one SCE device connected to the database and one repository preference.

- [Managing Database Connections, page 2-8](#)
- [How to Set the IP Address of an SCE Platform, page 2-11](#)
- [How to Set the Colors Used in Charts, page 2-12](#)
- [How to Configure the Legend Displayed in Charts, page 2-17](#)
- [How to Configure Advanced Options for the SCA Reporter, page 2-18](#)

## Managing Database Connections

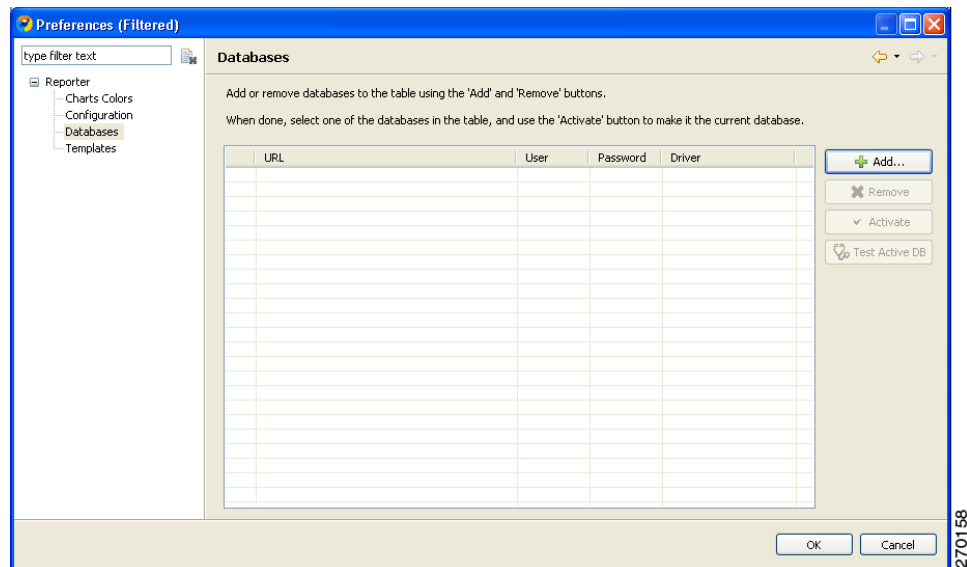
To use the SCA Reporter, you must create and activate a connection to a database containing data generated from an SCE platform.

You can add connections to a number of databases, and then change the active database as required.

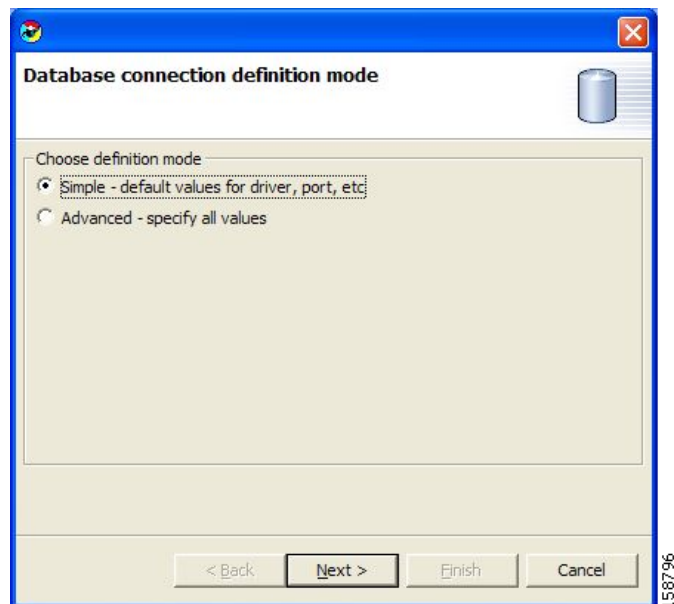
- [How to Add a Database Connection, page 2-8](#)
- [How to Activate a Database Connection, page 2-11](#)

## How to Add a Database Connection

- 
- Step 1** From the main menu, choose **Window > Preferences**.  
The Preferences dialog box appears.
- Step 2** From the Preferences tree, select **Reporter > Databases**.



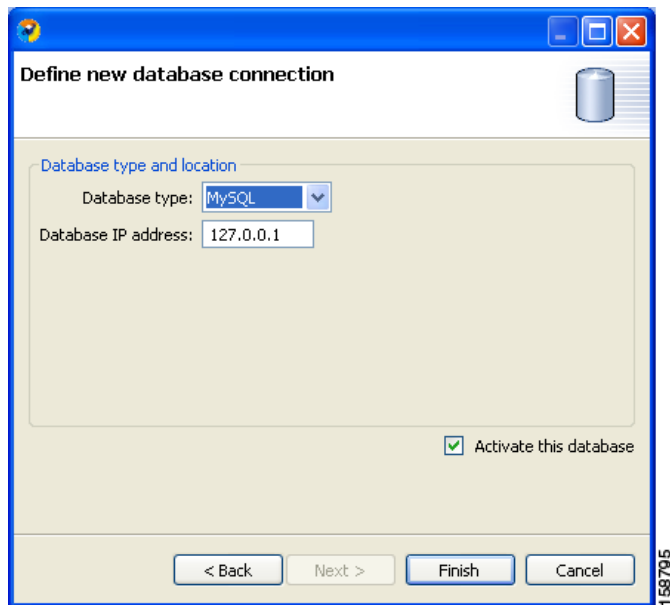
- Step 3** In the Databases pane, click **Add**.  
The Add Database wizard appears.



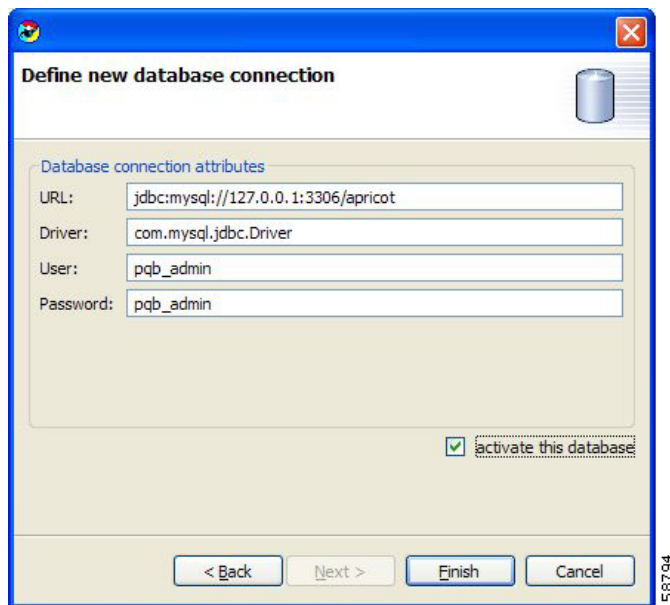
- Step 4** Select one of the **Choose definition mode** radio buttons.
- **Simple**
  - **Advanced**
- Step 5** Click **Next**.

The Define new database connection page of the Add Database wizard opens. The actual display depends on the definition mode you selected in Step 4:

- If you selected Simple definition mode:



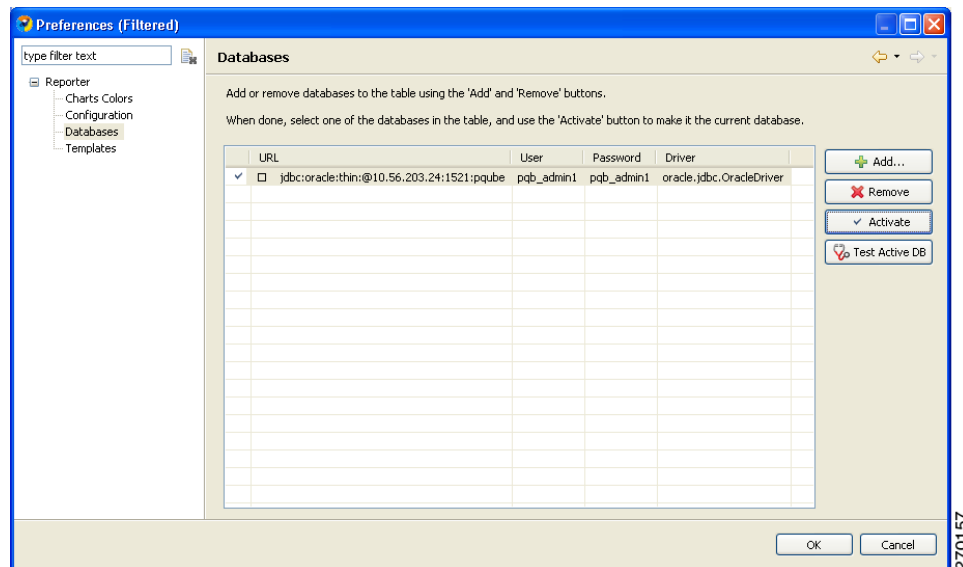
- If you selected Advanced definition mode:



- Step 6** Fill in all the fields.
- Step 7** (Optional) Check the **activate this database** check box.
- Step 8** Click **Finish**.

The Add Database wizard closes.

The definition of the database is added to the list in the Preferences dialog box.



- Step 9** Click **OK**.  
The Preferences dialog box closes.

## How to Activate a Database Connection

- Step 1** From the main menu, choose **Window > Preferences**.  
The Preferences dialog box appears.
- Step 2** From the Preferences tree, select **Reporter > Databases**.  
All defined database connections are listed in the table.  
The currently active database (if any) is shown by a check mark (  ).
- Step 3** Select the database connection you wish to activate.
- Step 4** Click **Activate**.
- Step 5** Click **OK**.  
The Preferences dialog box closes.

## How to Set the IP Address of an SCE Platform



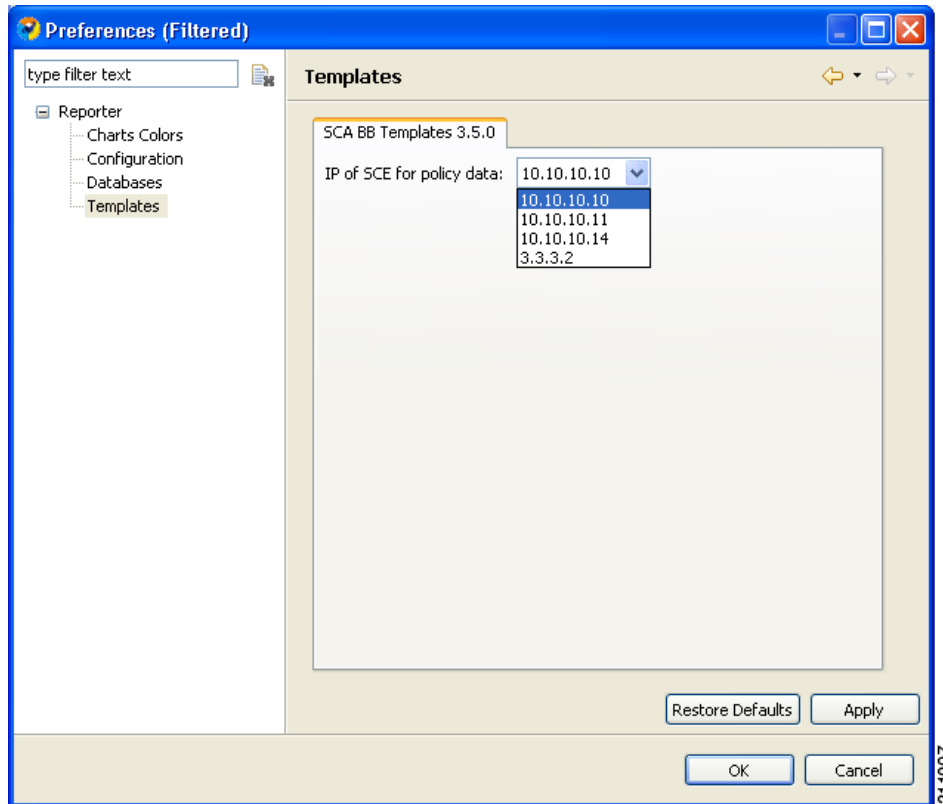
### Note

The Preferences dialog box contains one tab for each repository (set of templates) that is available in the Reporter. In each, you choose one SCE platform. If there is more than one repository, there will be more than one set of template groups in the Templates view.

- Step 1** From the main menu, choose **Window > Preferences**.

The Preferences dialog box appears.

- Step 2** In the Preferences tree, select **Reporter > Templates**.



- Step 3** In the Templates pane, from the **IP of SCE for policy data** drop-down list, select the IP address of the SCE platform whose service configuration data is to be used in reports. This IP address is added to the SCA Reporter templates repository.

- Step 4** Click **Apply**.

The IP address of the SCE platform is set for service configuration data.



**Note** You *must* click **Apply** before you close the dialog box by clicking **OK**.

- Step 5** Click **OK**.

The Preferences dialog box closes.

## How to Set the Colors Used in Charts

Instead of using the default color set for charts that is installed as part of the Reporter installation (the predefined colors are packaged within the SCA BB Templates package), you can define your own color set(s).

This allows you to ensure color persistence between different sessions of the Reporter, including:

- different sessions of the same Reporter installation
- different Reporter installations using data from the same SCE platform, by exporting and importing color files
- different Reporters using data from different SCE platforms
- different versions of the Reporter
- [How to Work with Color Sets, page 2-13](#)
- [How to Change the Color of Single Legend Items, page 2-15](#)

## How to Work with Color Sets

### The Color Set File

Each line of the a color set file defines the color of one legend item.

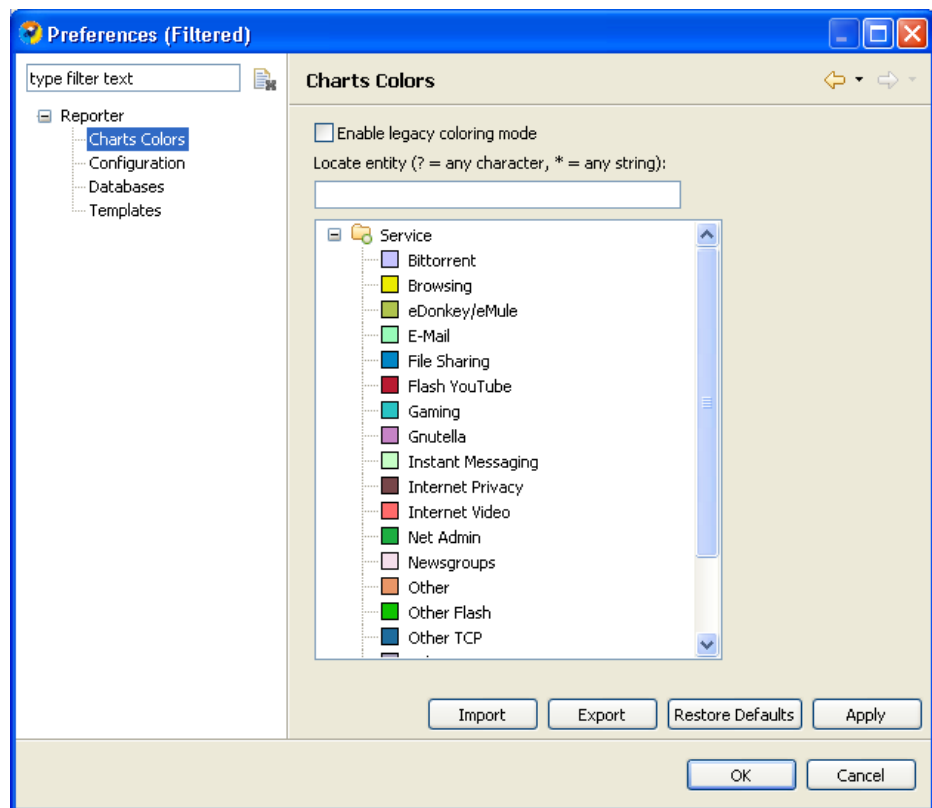
It is recommended that you do not edit the color set file manually.

**Step 1** From the main menu, choose **Window > Preferences**.

The Preferences dialog box appears.

**Step 2** In the Preferences tree, select **Reporter > Charts Colors**.

The Charts Colors preference page opens.



**Step 3** Select an action to perform.

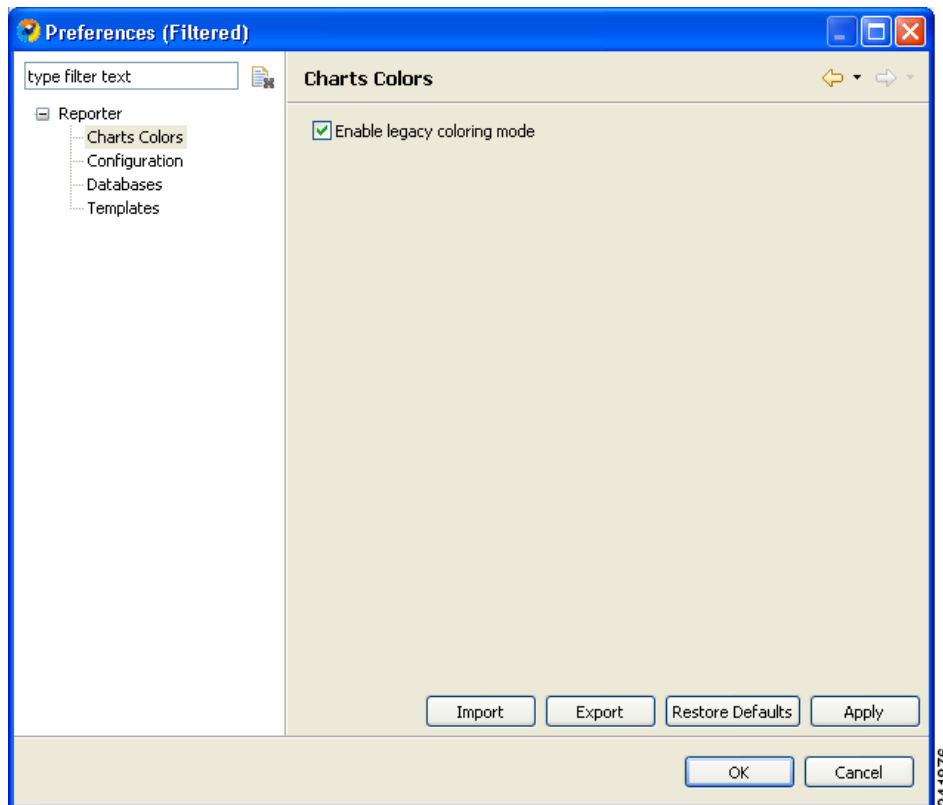
- To import a color set from a file, click **Import**.

An Open dialog box appears. Browse to the required file and click **Open**. The file is imported and overwrites the existing color set.

- To export the current color set to a file, click **Export**.

A Save As dialog box appears. Browse to the required directory, enter a file name in the File name field, and click **Save**. The color set is exported.

- To Restore the default color set (the predefined colors delivered with the SCA BB Templates package), click **Restore Defaults**.
- To enable the color allocation method used prior to release 3.1.5, check the **Enable legacy coloring mode** check box.

**Note**

Before applying Import, Restore Defaults, or Enable legacy color mode, a warning is displayed.



**Step 4** Click **OK**.

The Preferences dialog box closes.



## How to Change the Color of Single Legend Items

- Step 1** From the main menu, choose **Window > Preferences**.  
The Preferences dialog box appears.
- Step 2** In the Preferences tree, select **Reporter > Charts Colors**.  
The Charts Colors preference page opens.
- Step 3** Select a legend item (in the following screen capture, a service) from the color tree.

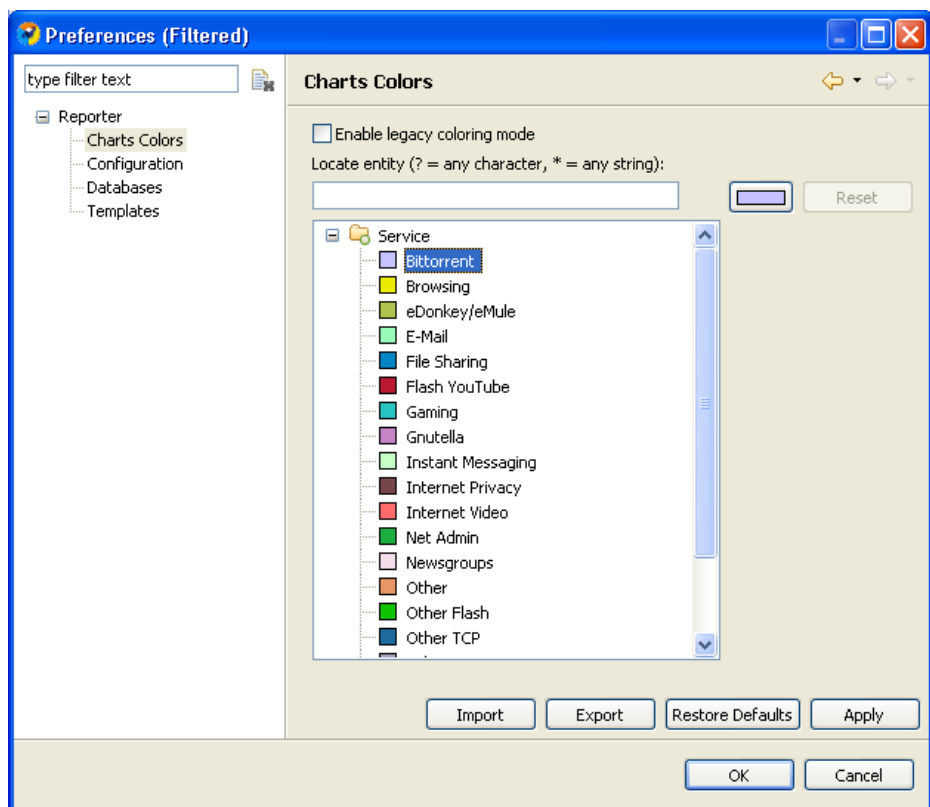


**Note**

Possible categories of legend items are Direction, Hostname, Host IP, Protocol, MOS, Range, Codec, Port Number, Newsgroup, Protocol, Service, Measure, and Subscriber.

Categories and legend items are only displayed in the Charts Colors pane after colors are allocated to legend items. Colors are allocated to any legend items in the chart the first time a report instance is executed.

The current color of the legend item is displayed in the top right of the Charts Colors pane.



- Step 4** Click on the displayed color.  
A color palette dialog box appears.

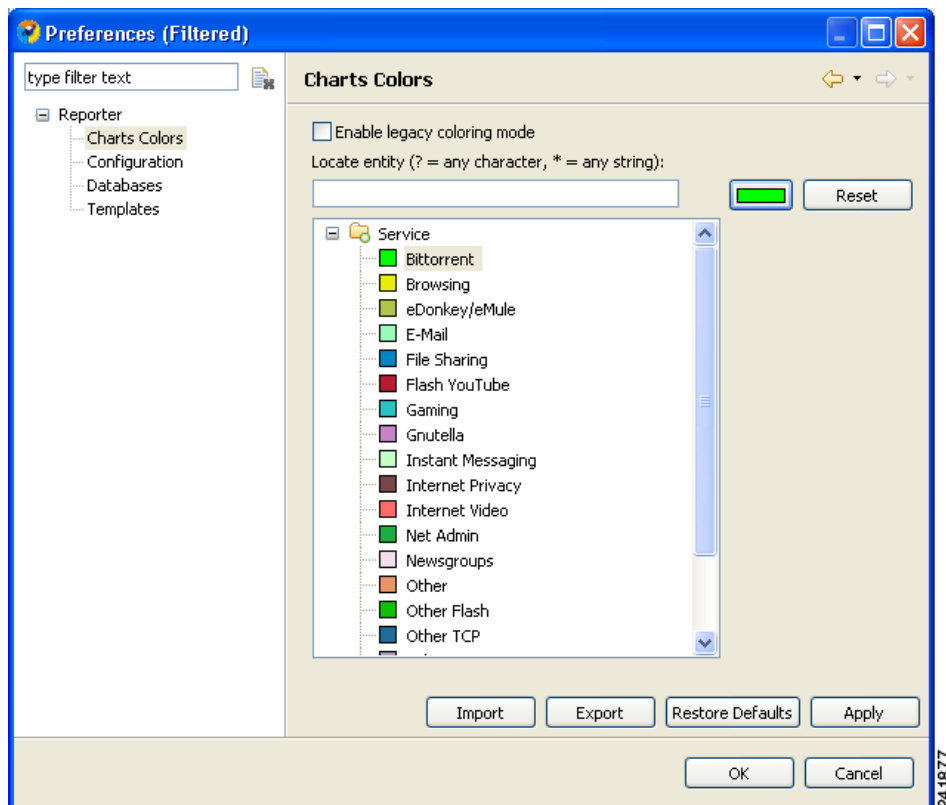


**Step 5** Select a new color for the legend item and click **OK**.

The Color dialog box closes.

The selected color is applied to the legend item.

The Reset button is enabled.



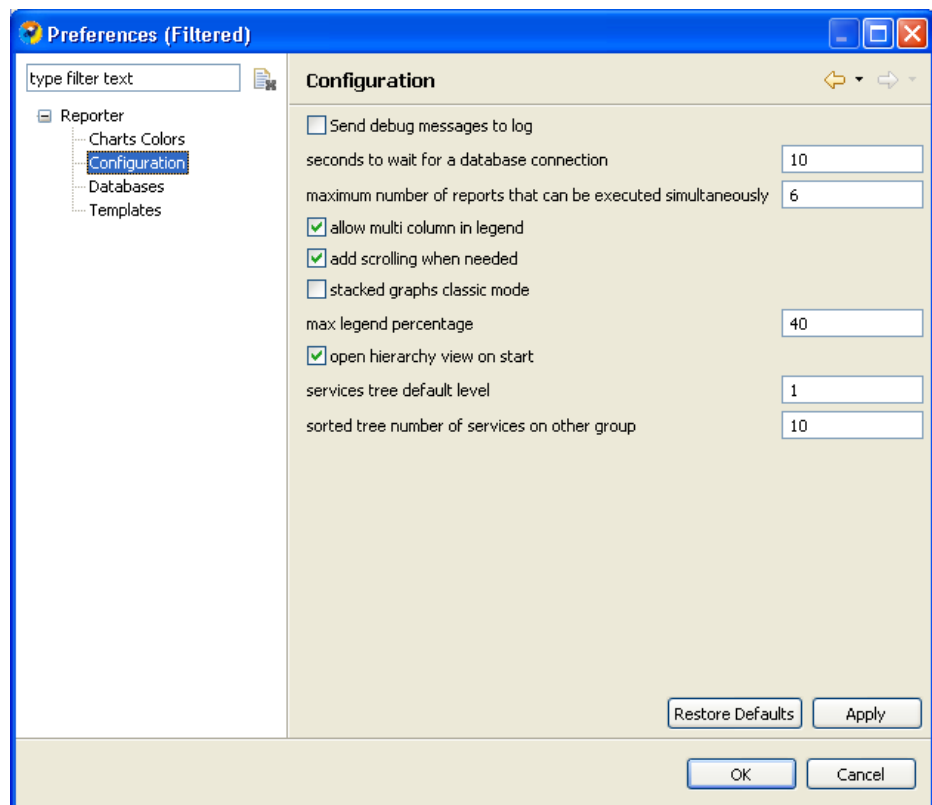
**Note**

The Reset button restores the default color of a single selected legend item.

## How to Configure the Legend Displayed in Charts

You can configure globally the appearance of the legend in charts.

- Step 1** From the main menu, choose **Window > Preferences**.  
The Preferences dialog box appears.
- Step 2** In the Preferences tree, select **Reporter > Configuration**.



- Step 3** (Optional) Uncheck the **Show item check box in legend** check box.
- Step 4** (Optional) Uncheck the **Allow multi column in legend** check box.
- Step 5** (Optional) In the Max legend percentage field, enter a new value.
- Step 6** Click **OK**.

The new settings are saved.

The Preferences dialog box closes.

## How to Configure Advanced Options for the SCA Reporter

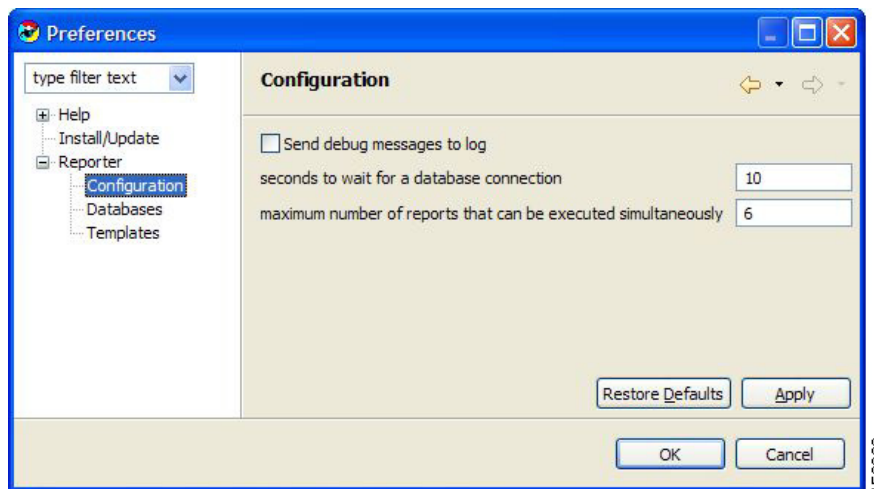
You can configure the following advanced options of the SCA Reporter:

- Whether to log debug messages
- The time to wait for a database connection
- The maximum number of report instances that can be executed simultaneously

**Step 1** From the main menu, choose **Window > Preferences**.

The Preferences dialog box appears.

**Step 2** In the Preferences tree, select **Reporter > Configuration**.



**Step 3** To log debug messages, check the **Send debug messages to log** check box.

Logging debug messages can cause the log file to grow rapidly.

**Step 4** In the Seconds to wait for a database connection field, enter a new value.

**Step 5** In the Maximum number of reports that can be executed simultaneously field, enter a new value.

**Step 6** Click **OK**.

The new settings are saved.

The Preferences dialog box closes.

## Accessing Online Help

- [How to Access Online Help, page 2-19](#)
- [How to Search Online Help, page 2-19](#)

## How to Access Online Help

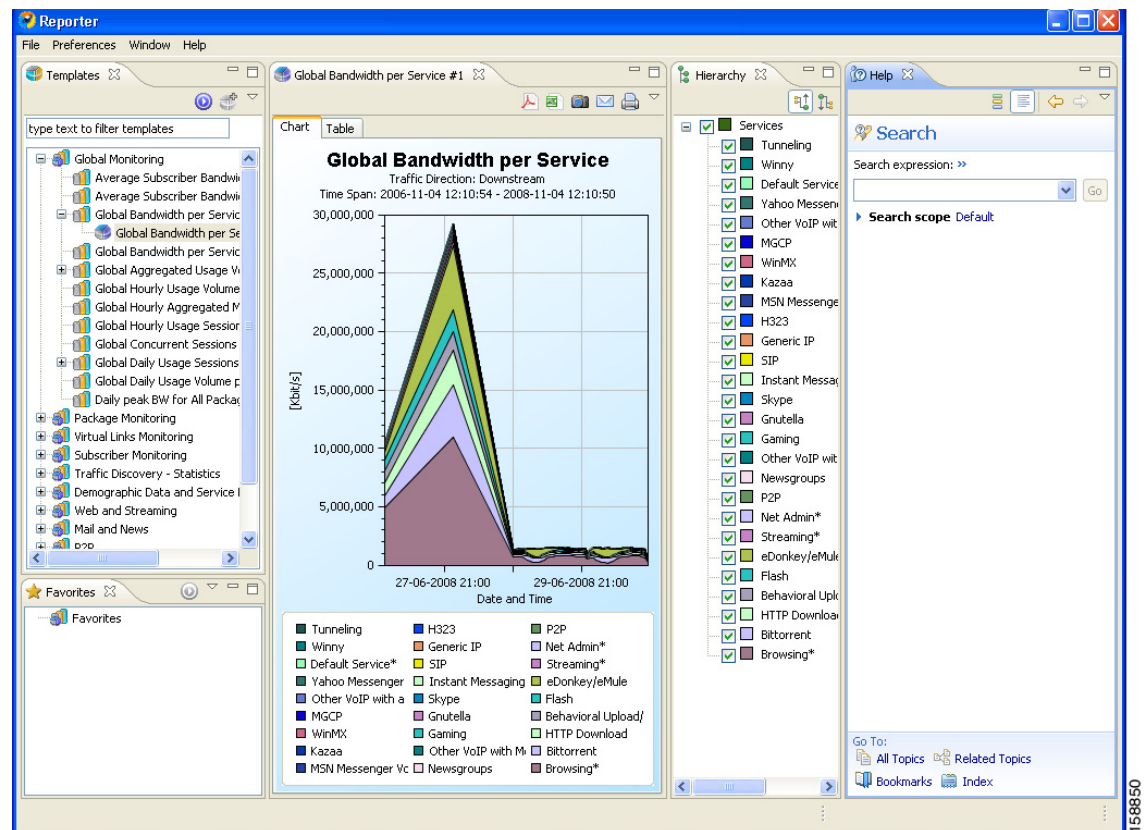
You can access relevant parts of this user guide from the SCA Reporter.

- Step 1** From the **Help** menu, choose **Help Contents**.  
Online help opens in a separate window.

## How to Search Online Help

You can also search online help from inside the SCA Reporter.

- Step 1** From the **Help** menu, choose **Search**.  
The Help view opens in the Reporter window.



- Step 2** Enter a word, phrase, or more complex search expression in the **Search expression** field.  
The Go button is enabled.



**Note**

Click **>>** (**Expand**) for an explanation of how to construct search expressions.

**Step 3** Click **Go**.

Help topics containing your search expression are listed under Local Help.

**Step 4** Click a help topic to view its contents.



---

**Note** You can bookmark topics for later reference.

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**Step 5** By clicking the appropriate link at the bottom of the Help view, you can switch to:

- All topics
  - Related topics
  - Bookmarks
- 

## Quick Start

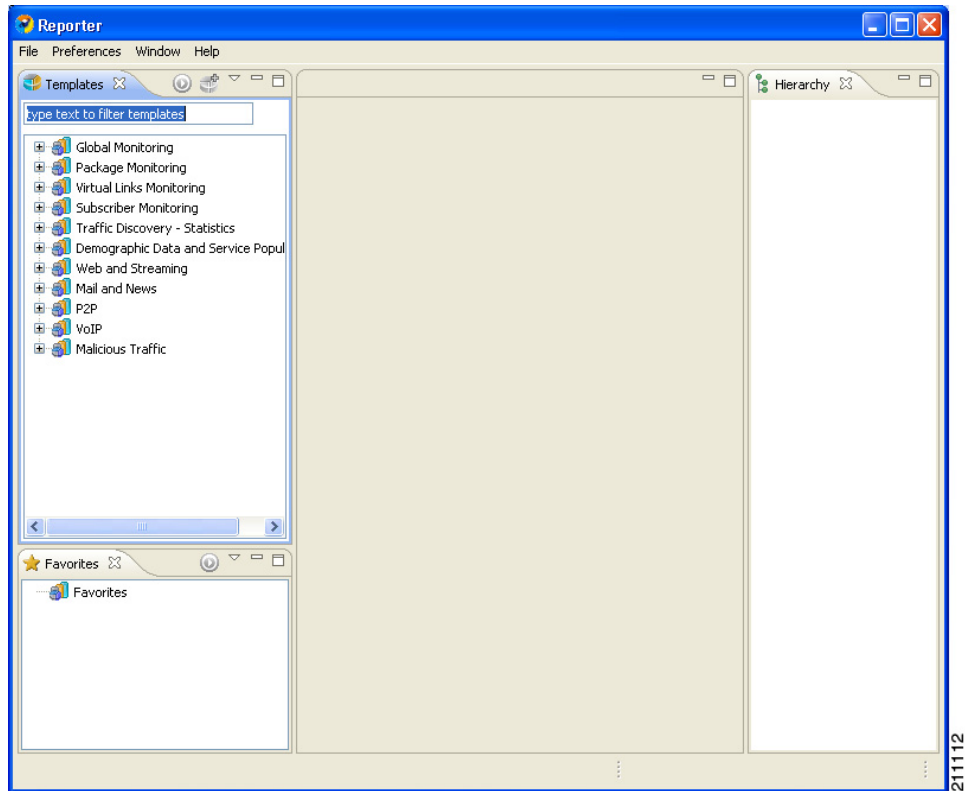
This Quick Start section will help you get started with the SCA Reporter. You will configure the Reporter, create a report instance and generate a report, and then work with the report.

- [How to Create a First Report, page 2-20](#)
- [How to Work with a First Report, page 2-24](#)

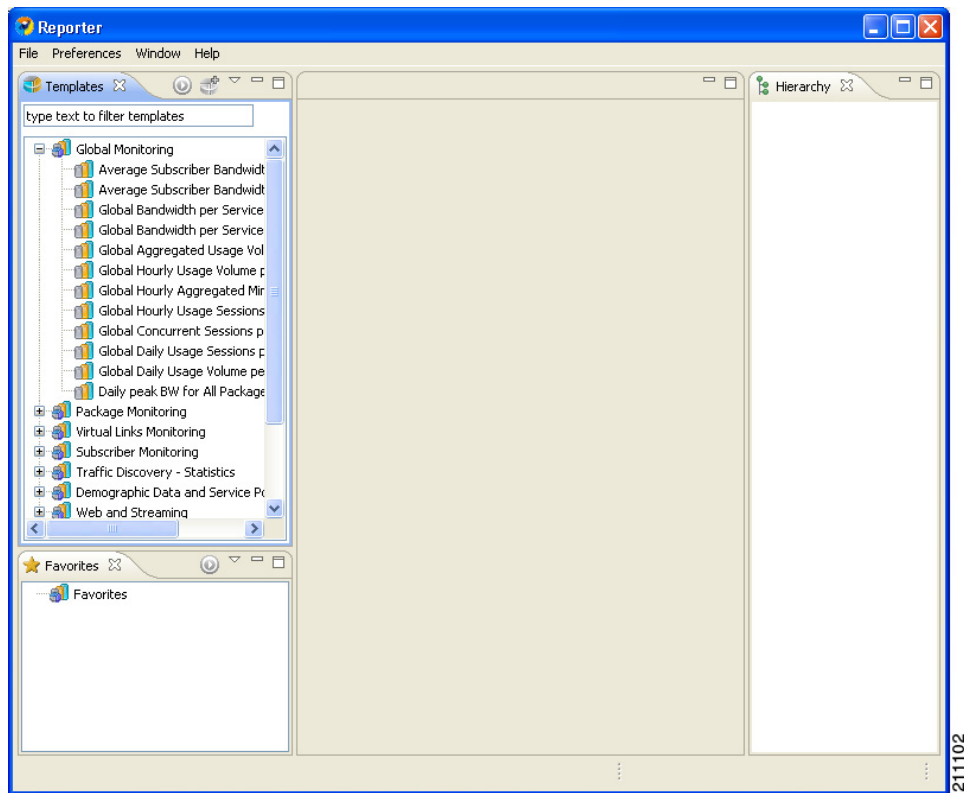
## How to Create a First Report

---

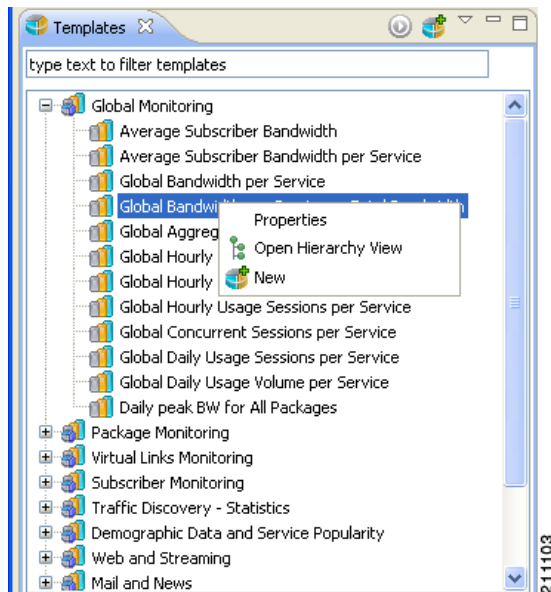
**Step 1** Launch the SCA Reporter (choose **Start > All Programs > Cisco SCA > SCA Reporter 3.1.5 > SCA Reporter 3.1.5**).



- Step 2** Add, configure, and activate a database connection (see [Managing Database Connections](#), page 2-8).
- Step 3** Set the IP address of the SCE platform (see [How to Set the IP Address of an SCE Platform](#), page 2-11).
- Step 4** Confirm that there is an active database and that the system is configured correctly. (From the main menu, choose **Help > Check Conditions**.)
- Step 5** In the Templates view, expand the node of one of the template groups.

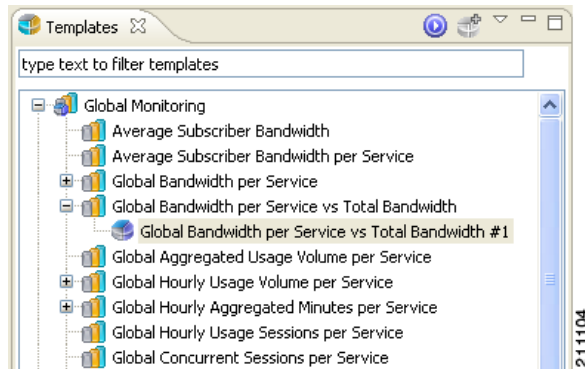


- Step 6** Right-click a report template.  
A popup menu appears.



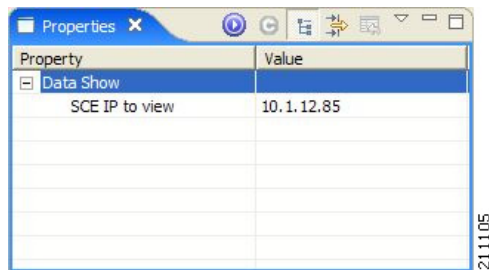
- Step 7** From the menu, select **New**.  
A report instance is added below the report template.






The report instance has the same name as the report template with the addition of “#1”. You can rename the report instance.

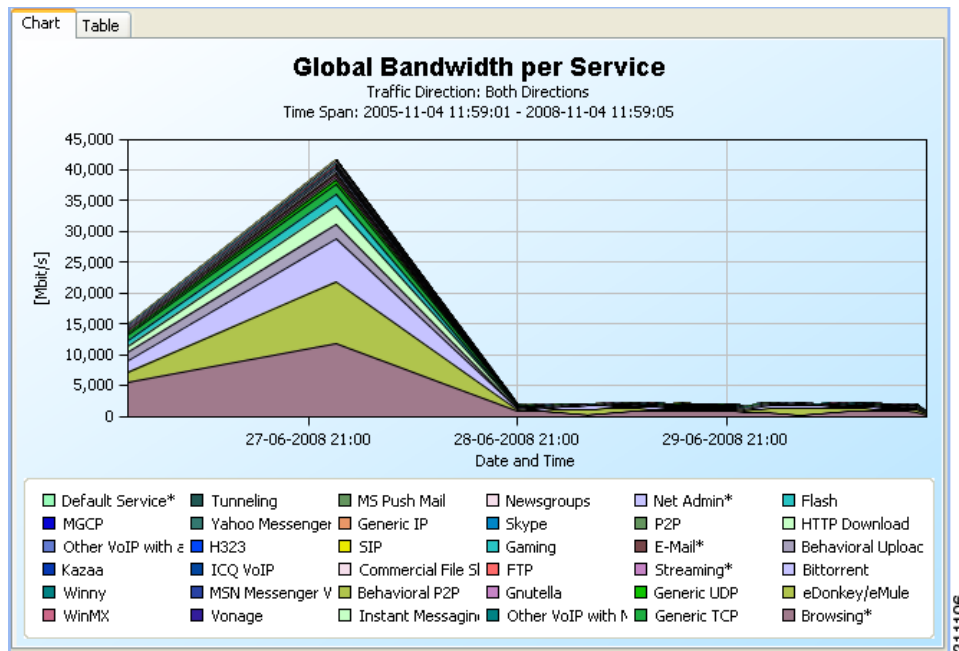
The Properties view opens in the bottom right of the SCA Reporter window, displaying the basic report instance properties.



**Step 8** If any property has the value  (**not set**), assign it a value.

**Step 9** Click  (**Execute**) to generate the report.

A report view, with the name of the report instance, opens in the top right of the SCA Reporter window, displaying a chart of the report.

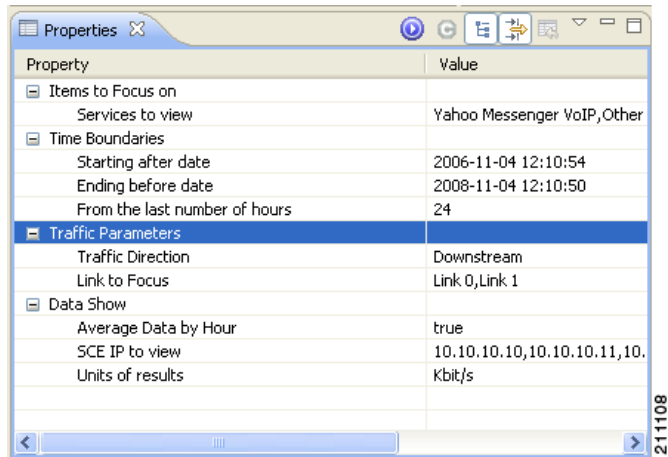
**Step 10** View your report.

The chart display properties are shown in the Properties view.

Property	Value
<b>Legend</b>	
Add Scroll	true
Allow multiple column	true
Legend visibility	true
<b>Look</b>	
3D	false
Allow zoom and pan on Y	true
Chart rendering	STACKED_AREA

## How to Work with a First Report

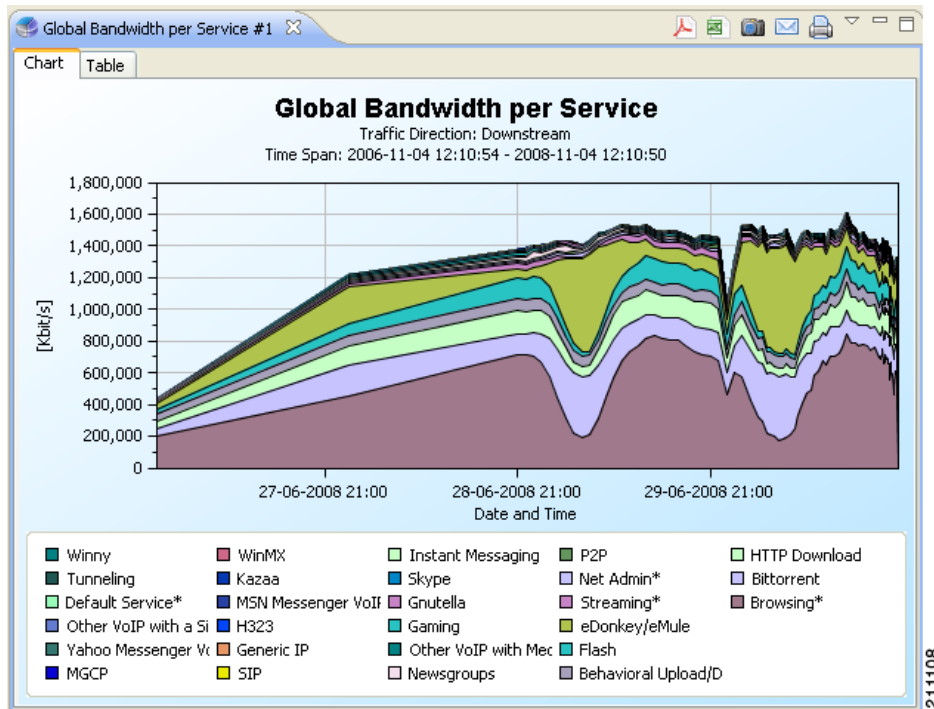
- Step 1** Create a report, as described in the previous procedure.
- Step 2** Adjust the chart display by modifying the chart display properties in the Properties view. (See [Adjusting the Chart Display, page 5-8.](#))
- Step 3** In the report view, from the drop-down menu above the view, select **Go To Report**.  
The Properties view displays the report instance properties.
- Step 4** Display all the report instance properties by clicking (Show Advanced Properties).



**Step 5** Modify one or more properties. (See [How to Modify an Existing Report Instance](#), page 4-3.)

**Step 6** Click  (**Execute**) to regenerate the report.

The modified report is displayed in the report view.



(In the illustrated example, the **Select services to view** property was modified, and **Browsing**, **Generic**, and **P2P** were checked.





## CHAPTER 3

# Using the Cisco Service Control Application Reporter

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This chapter explains how to use the Cisco Service Control Application Reporter (SCA Reporter) GUI, which includes navigating and configuring.

## Navigating in the Reporter: Views

You can navigate to template groups, report templates, and report instances in the Templates view. When you select an item in the Templates view, the Properties view shows its properties.

When you generate a report, a report view opens and the Properties view shows the chart display properties of the report. To view the report instance properties, select the report instance in the Templates view. If necessary, you can locate the report instance that generated the report by choosing the drop-down menu item **Go to report**.

Each report view has the name of the report instance that generated the view. For example, a report may be named **Global Bandwidth per Service #1**. You can rename the report instance in the Templates view.

By default, each report view shows the chart of the report. You can view the raw data by clicking the Table tab.

- [Viewing Menu Items, page 3-1](#)
- [Configuring Properties, page 3-2](#)
- [Properties View, page 3-2](#)

## Viewing Menu Items

The GUI has a drop-down menu for each view, which displays all available actions for that view. Some commonly used actions have icons for easy navigation.

The GUI also has a popup menu for each view. Right-click the tab of a view, and select an option to personalize the layout of the SCA Reporter window. Some of the available actions are:





- **Detached**—Detach a view and move it over the SCA Reporter window
- **Move**—Move a view or a tab group
- **Size**—Change the size of a pane

## Configuring Properties

Before generating a report, you can modify the values of the report instance properties. The new values are saved and applied the next time the report is generated.





You can also modify the values of chart display properties. For chart display properties, the value is applied at once.

Types of properties include:

- No Value—When no value is assigned, **(not set)** is displayed. Mandatory properties that have no default value display as  **(not set)**.
- Free Text—You can enter any text string.
- Boolean—The value toggles between True and False.
- Date—Click the  icon to open a Choose Date and Time dialog box.
- Single Choice—Click the  icon to open a drop-down menu.
- Multiple Choice—Click the  icon to open a dialog box where more than one value can be checked.

The icons of the Multiple Choice dialog box are described in the following table.

**Table 3-1** Multiple Choice Dialog Box Options

Icon	Option	Description
	Select All	Select all values.
	Invert Selection	Uncheck the checked boxes and check the unchecked.
	Select None	Uncheck all boxes.
	Cancel	Exit the Multiple Choice dialog box without saving.
	OK	Save and exit the Multiple Choice dialog box.





### Note


Some properties are mutually exclusive. The properties **From the last number of hours** and **Starting after date and time** cannot both be implemented, even if both are selected.

Thus, if you want to define the time frame to begin at a specified time, select **Starting after date**. Even if **From the last number of hours** is also chosen, the report time frame will be according to the date and time values.

## Properties View

The Properties view always shows the properties of the item that is selected in the view in focus. You can control how the properties are displayed by clicking on one of the following buttons:

-  (**Show Categories**)—To view the properties with or without their categories
-  (**Show Advanced Properties**)—To view all properties or only basic properties

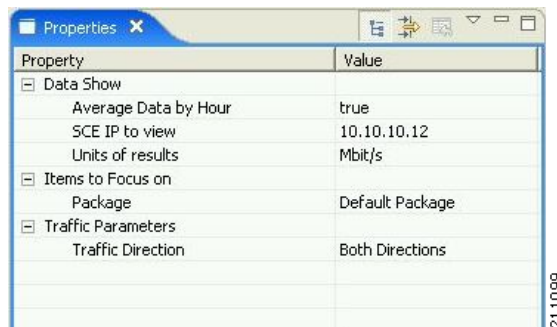
-  **(Restore Default Value)**—To reset a selected property to its default value:
  - When a property is optional, it is unset.
  - When a property is mandatory and has a default value, it is reset to the default value.
  - When a property is mandatory and does not have a default value, the value is not changed.

To change the value of a property, select the property and reconfigure it (see [How to Configure the Properties of a Report Instance, page 4-3](#) and [Configuring the Properties of a Chart Display, page 5-8](#)). Then re-execute the report instance so that the new report will appear with the new configuration.


The following example uses the “Package Bandwidth per Service” report template.

## How to Change the Display of Properties in the Properties View

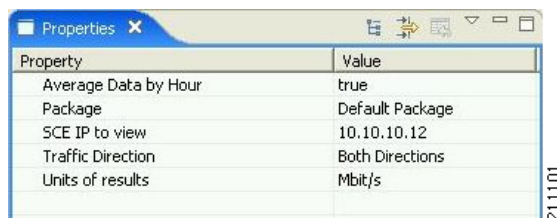
- Step 1** In the Templates view, select a report template and create a report instance. The Properties view displays the report instance properties.




By default, the property categories are displayed and advanced properties are not displayed.

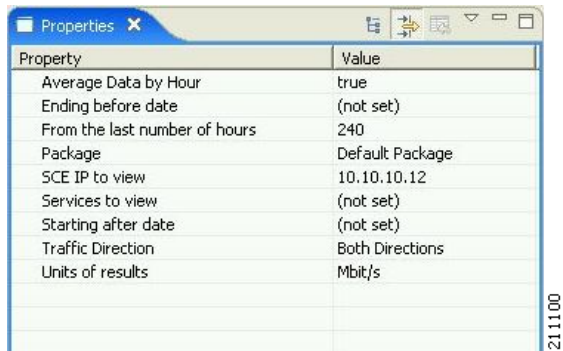
- Step 2** Click  **(Show Categories)**.

The display of property categories is toggled off.




- Step 3** Click  **(Show Advanced Properties)**.

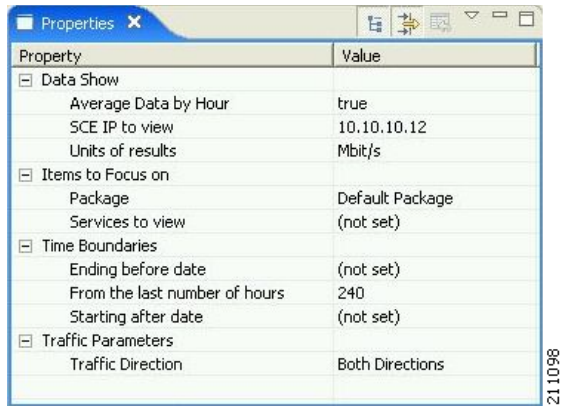
All properties are displayed.



Property	Value
Average Data by Hour	true
Ending before date	(not set)
From the last number of hours	240
Package	Default Package
SCE IP to view	10.10.10.12
Services to view	(not set)
Starting after date	(not set)
Traffic Direction	Both Directions
Units of results	Mbit/s

**Step 4** Click  (**Show Categories**).

The display of property categories is toggled on.



Property	Value
<input checked="" type="checkbox"/> Data Show	
Average Data by Hour	true
SCE IP to view	10.10.10.12
Units of results	Mbit/s
<input checked="" type="checkbox"/> Items to Focus on	
Package	Default Package
Services to view	(not set)
<input checked="" type="checkbox"/> Time Boundaries	
Ending before date	(not set)
From the last number of hours	240
Starting after date	(not set)
<input checked="" type="checkbox"/> Traffic Parameters	
Traffic Direction	Both Directions





## CHAPTER 4

# Managing Report Instances

---

The Cisco Service Control Application Reporter (SCA Reporter) installation includes report templates for a wide variety of reports, such as:

- Global, per package, or per subscriber hourly or daily usage volume per service
- Top server/clients/protocols/web hosts/e-mail senders/newsgroups
- Top P2P consumers/uploaders/downloaders/protocols
- Global, package, or subscriber bandwidth per service

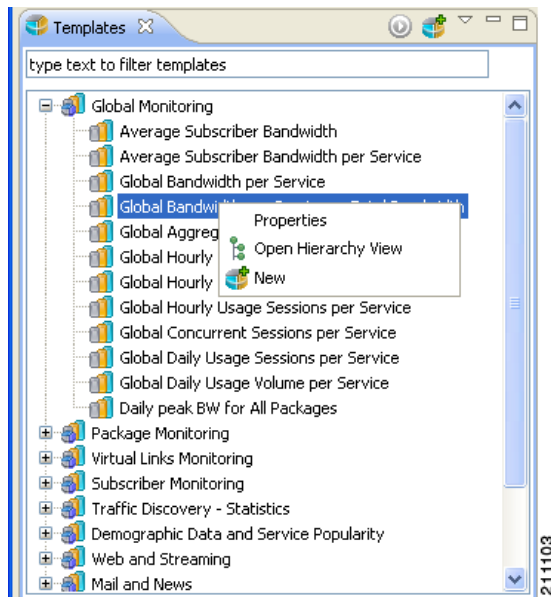
Each report instance is based on a report template. You can create, select, duplicate, and delete report instances in the Templates view of the SCA Reporter. When you select a report instance, its properties are displayed in the Properties view; you can specify values for the various report properties. For example, if you want to see global bandwidth per service, you can create a new report instance from the Templates view. The Properties view allows you to specify the desired service(s), traffic direction, and time frame (either start/end time or previous number of hours).

The exact procedure for defining a report instance depends on the report template selected. The example in this chapter is intended as a general guide to the process of creating and defining a new report instance.

- [How to Create a New Report Instance, page 4-1](#)
- [How to Modify an Existing Report Instance, page 4-3](#)
- [How to Configure the Properties of a Report Instance, page 4-3](#)
- [How to Duplicate an Existing Report Instance, page 4-4](#)
- [How to Rename an Existing Report Instance, page 4-5](#)
- [How to Delete a Report Instance, page 4-5](#)

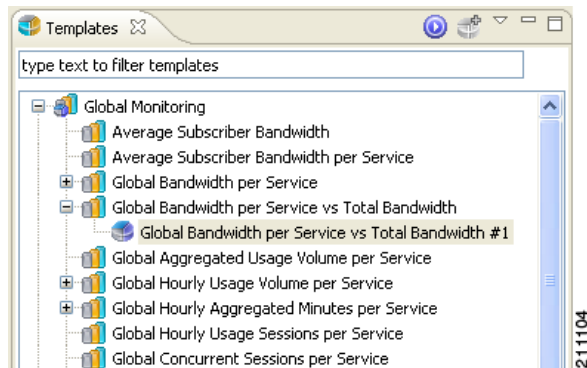
## How to Create a New Report Instance

- 
- Step 1** In the Templates view, right-click a report instance (for example, **Global Monitoring > Global Hourly Aggregated Minutes per Service**).
- A popup menu appears.



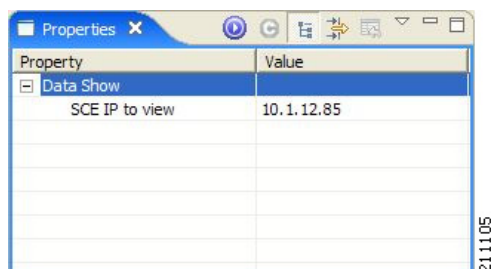
**Step 2** From the menu, select **New**.


A report instance is added below the report template.



The report instance has the name **Global Hourly Aggregated Minutes per Service #1**. (If you create another report instance from this report template, it will be named **Global Hourly Aggregated Minutes per Service #2**, and so on. You can rename report instances.)

The Properties view opens in the bottom right of the SCA Reporter window, displaying the basic report instance properties.



You can display all report instance properties by clicking  (Show Advanced Properties).

## How to Modify an Existing Report Instance


- Step 1** Select a report instance.  
Do one of the following:
- Select an existing report view and, from the drop-down menu above the view, select **Go to report**.
  - Select a report instance from the Templates view.
- The Properties view displays the report instance properties.
- Step 2** Edit a property by clicking on the row of the property and making changes.  
The change is saved. The new value is used the next time the report instance is executed.


## How to Configure the Properties of a Report Instance

The following is an example of assigning values to report instance properties.


- Step 1** In the Templates view, choose (or create) a report instance.  
The report instance is selected in the Templates view, and the Properties view displays the report instance properties.

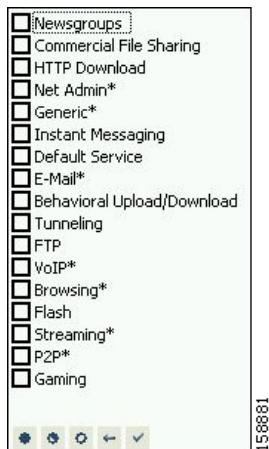


**Note** If the property that you wish to modify is not displayed, click  (Show Advanced Properties).

- Step 2** Click in the **Traffic Direction** property row and then click the  icon that appears.  
A drop-down menu of property values appears, for example:


Upstream Volume	210003
Downstream Volume	
Both Directions Volume	

- Step 3** Select a value.
- Step 4** Click in the **Services to View** property row and then click the  icon that appears.  
A checklist of property values appears.



**Step 5** Check the services you want to view.

**Step 6** Click  (OK).

**Step 7** Click in the **Ending Before Date** property row and then click the  icon that appears. A choose date and time dialog box appears.



**Step 8** Select a date and time and click **OK**.

**Step 9** Click  (**Execute**).

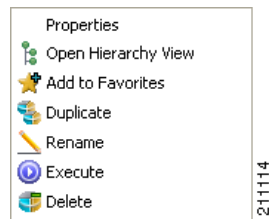
The report is generated with the configured values.

## How to Duplicate an Existing Report Instance

Duplicating an existing report instance is a useful way to create a new report instance similar to an existing report instance. It is faster to duplicate a report instance and then modify the duplicate, rather than to define the new report instance from scratch.

**Step 1** In the Templates view, right-click a report instance.

A popup menu appears.



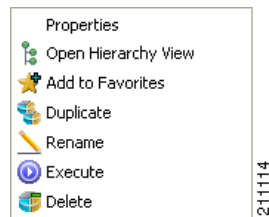
- Step 2** From the menu, select **Duplicate**.  
The report instance is duplicated.
- 

## How to Rename an Existing Report Instance

You can rename an existing report instance. This is useful when the same report is generated on a regular basis. You can include the date or other identifying information in the name of the report.

---

- Step 1** In the Templates view, right-click a report instance.  
A popup menu appears.



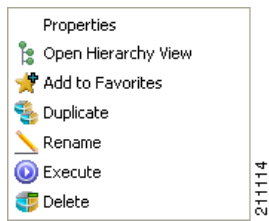
- Step 2** From the menu, select **Rename**.  
The report instance is highlighted and you can edit its name.
- Step 3** Enter a new name and press **Enter**.  
The report instance is renamed and listed with the new name.
- 

## How to Delete a Report Instance

You can delete report instances.

---

- Step 1** In the Templates view, right-click a report instance (or select several instances, by holding down the **Ctrl** key while selecting the report instances, and then right-click).  
A popup menu appears.



- Step 2** From the menu, select **Delete**.  
The selected report instances are deleted.
-



# CHAPTER 5

## Working with Reports

---

After you have created and defined a report instance, you can generate reports from the report instance.

You can:

- Display reports in chart or tabular form
- Adjust the chart display
- Export the chart display and the report data
- [Information About Report Actions, page 5-1](#)
- [How to Generate Reports, page 5-4](#)
- [How to View Reports, page 5-6](#)
- [Adjusting the Chart Display, page 5-8](#)
- [How to Export Reports, page 5-16](#)

## Information About Report Actions

The views found on the SCA Reporter display menu items. Some commonly used actions have icons for easy navigation.

The actions and their icons are described in the following table.

**Table 5-1**      **Actions and Icons**



Action	Icon	Description	Comments
Home		Opens the Welcome view.	
Menu		Displays all the available actions for the view.	Common to all views.

Table 5-1 Actions and Icons (continued)















Action	Icon	Description	Comments
View Filter	—	Filters display of template groups in the Templates view.	Display either all template groups or only groups that can be used when the service configuration that generated the data is running in asymmetric routing classification mode.
Debug		Displays template code.	In the Templates view—Used to debug the structure of a report template.
Execute		Generates the selected report.	In the Properties view and the Templates view.
New or Report (from Legend)		Creates a new report instance.	In the Templates view—When you select a report template, the icon is new.  In each report view—When you right-click a legend item, the Subset of Template Groups and Templates dialog box appears. Choose a template and click <b>OK</b> . The report instance is created (modified).
Refresh		Collapses open nodes in the Templates view so that only the template groups are displayed.	In the Templates view.
Show Cmd		Opens a window displaying the CLI command for the report instance.	In the Templates view—The CLI commands are placed on the clipboard. You can paste them into a vanilla text editor, edit them, and then execute them from a command file shell or a command prompt.
Delete		Deletes the report instance.	In the Templates view.



Table 5-1 Actions and Icons (continued)

Action	Icon	Description	Comments
Duplicate		Creates a copy of the report instance.	In the Templates view.
Rename		Highlights the report instance so that you can rename it.	In the Templates view.
Show Categories		Toggles between displaying properties with and without categories.	In the Properties view.
Show Advanced Properties		Toggles between displaying basic properties and displaying all properties.	In the Properties view.
Restore Default Value		Restores property default value.	In the Properties view—Default values can be a value or <b>(not set)</b> . Mandatory properties are not reset to <b>(not set)</b> .
Go to report	—	Navigates from the selected report view to the associated report instance in the Templates view.	In each report view.
Export raw data	—	Opens a browse dialog box.	In each report view.
Show List		Lists generated reports that for which no report view is open.	Above the report views—To display a report, click the icon and choose from the report names in the drop-down list.  The number in the icon indicates how many reports are not in view.
Preferences	—	Opens a dialog box that allows you to choose whether to show system tasks or not.  Sleeping (waiting) tasks are shown in either case.	In the Progress view—The  icon is displayed while system tasks are running.
Remove All Finished Tasks		Removes all completed tasks.	In the Progress view.

## How to Generate Reports

You can generate a report from an existing, defined report instance. Report instances are found in the Templates view. You can duplicate, modify, rename, or delete the report instances (see [Managing Report Instances, page 4-1](#)). You can generate multiple reports; you can put the generate process in the background while working on other reports.

Some types of reports cannot be generated using data collected from an SCE platform running in asymmetric routing classification mode.

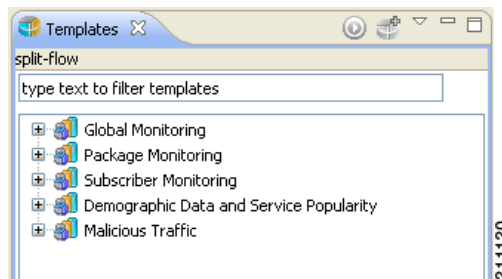
You can define and generate reports using the SCA Reporter Command-Line Interface (CLI). You can also use the CLI to pre-schedule reports. (See [The SCA Reporter Command-Line Interface, page 6-1](#).)

- [How to View Report Types that can be Generated in Asymmetric Routing Classification Mode, page 5-4](#)
- [How to Generate a Report When a Report Instance is Selected, page 5-4](#)
- [How to Generate Multiple Reports, page 5-5](#)

## How to View Report Types that can be Generated in Asymmetric Routing Classification Mode

**Step 1** In the Templates view, from the drop-down menu, select **View Filter >split-flow**.

Template groups whose report instances cannot be executed for asymmetric routing classification mode data are hidden.



## How to Generate a Report When a Report Instance is Selected

**Step 1** In the Templates view, select a report instance.

The Properties view displays the report instance properties.

**Step 2** Click  (**Execute**).

The report is generated and is displayed in a new report view.

The Properties view displays the chart display properties.

## How to Generate Multiple Reports



### Note

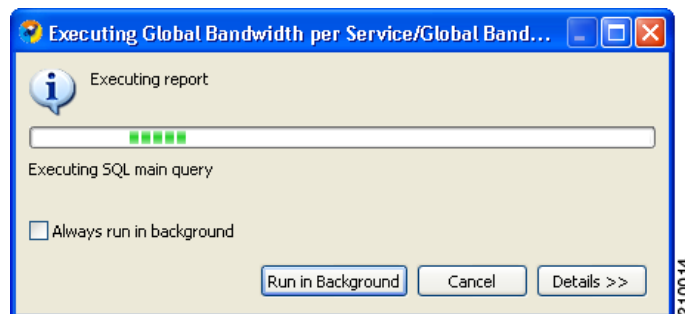
The maximum number of reports that can be generated simultaneously is configurable. If you select more report instances than this maximum values, the generation of some of the reports will be queued.

**Step 1** From the Templates view, select the report instances while pressing **Ctrl**.

The selected report instances are highlighted.

**Step 2** Click  (**Execute**).

A Progress dialog box appears while reports are being generated.

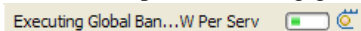


**Step 3** Select a further action to take.

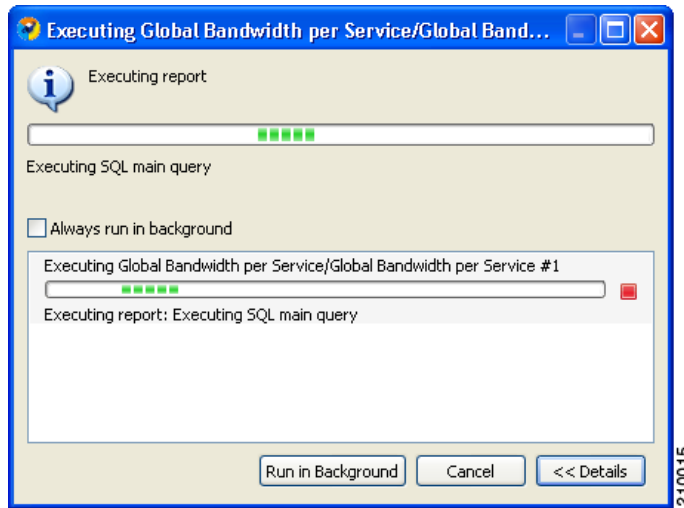
Do one of the following:

- Wait until the system task status at the bottom right corner of the SCA Reporter indicates that report generation is complete.

While the reports are being generated, the system task status shows:



- Click **Details**.  
The status of all reports that are being generated is displayed.

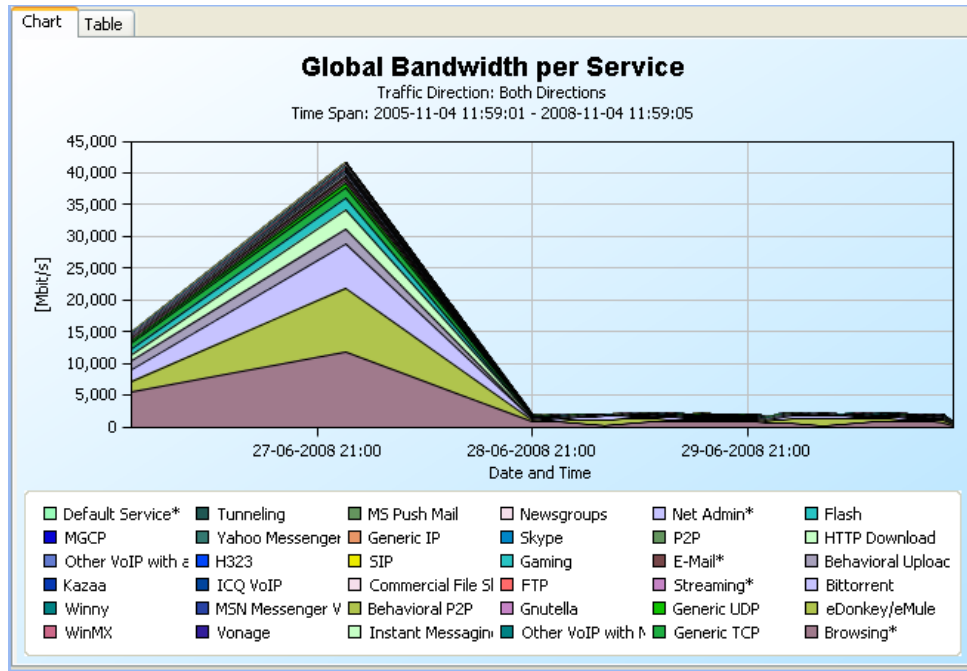


- Click **Run in Background**.  
Report generation continues running in the background. When it finishes, each report is displayed in a separate report view.
- Click **Cancel**.  
You can cancel a running report generation. It can take the Database Server a short time to acknowledge a cancel request, but you can move the cancelled report to the background and continue your work uninterrupted.

## How to View Reports

You can view a report as a chart or as a table.

- 
- Step 1** To select the desired display, click the appropriate tab located at the bottom-left of the report view.



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The table is useful for locating specific information.

TIMESLOT	BANDWIDTH	SERVICE
Fri, 27 Jun 2008 00:00:00	0	Default Service*
Fri, 27 Jun 2008 00:00:00	0	MGCP
Fri, 27 Jun 2008 00:00:00	0	Other VoIP with a Signaling Channel
Fri, 27 Jun 2008 00:00:00	0	Kazaa
Fri, 27 Jun 2008 00:00:00	0	Winny
Fri, 27 Jun 2008 00:00:00	0	WinMX
Fri, 27 Jun 2008 00:00:00	0	Tunneling
Fri, 27 Jun 2008 00:00:00	0	Yahoo Messenger VoIP
Fri, 27 Jun 2008 00:00:00	1	H323
Fri, 27 Jun 2008 00:00:00	1	ICQ VoIP
Fri, 27 Jun 2008 00:00:00	1	MSN Messenger VoIP
Fri, 27 Jun 2008 00:00:00	2	Vonage
Fri, 27 Jun 2008 00:00:00	4	MS Push Mail
Fri, 27 Jun 2008 00:00:00	5	Generic IP
Fri, 27 Jun 2008 00:00:00	10	SIP
Fri, 27 Jun 2008 00:00:00	16	Commercial File Sharing
Fri, 27 Jun 2008 00:00:00	40	Behavioral P2P
Fri, 27 Jun 2008 00:00:00	69	Instant Messaging
Fri, 27 Jun 2008 00:00:00	79	Newsgroups
Fri, 27 Jun 2008 00:00:00	85	Skype
Fri, 27 Jun 2008 00:00:00	86	Gaming
Fri, 27 Jun 2008 00:00:00	89	FTP
Fri, 27 Jun 2008 00:00:00	91	Gnutella
Fri, 27 Jun 2008 00:00:00	115	Other VoIP with Media Channel Only
Fri, 27 Jun 2008 00:00:00	137	Net Admin*
Fri, 27 Jun 2008 00:00:00	151	P2P
Fri, 27 Jun 2008 00:00:00	169	E-Mail*
Fri, 27 Jun 2008 00:00:00	221	Streaming*
Fri, 27 Jun 2008 00:00:00	296	Generic UDP

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## Adjusting the Chart Display

You can change the appearance and type of any report chart by modifying chart display properties, such as three-dimensional display settings, chart rendering, and chart colors. You can also change the appearance of a report in the following ways:

- Drag the legend to a different spot in the report.
- Hide the legend.
- Hide items from the legend; the corresponding items in the graph will be removed from view.
- Zoom in or out—drag the graph so that the desired section is in focus.
- [Configuring the Properties of a Chart Display, page 5-8](#)
- [Changing the Appearance of the Chart, page 5-10](#)
- [Zooming, page 5-12](#)
- [Hiding Variables, page 5-13](#)
- [Managing the Chart Legend, page 5-15](#)

## Configuring the Properties of a Chart Display

You configure chart display properties in the Properties view. As you make changes, the chart display is updated. There are also adjustments that are made directly in the report view (see [Adjusting the Chart Display, page 5-8](#)).



### Note

Changes to chart display properties are not saved in the report instance. When you next execute the report instance, the report will be generated with default chart display properties.

The following table lists chart display properties and their descriptions:

**Table 5-2** *Chart Display Properties*

Property	Type	Default	Values	Comments
<b>Look</b>				
3D	Boolean	True	True, False	Toggles between the two values.
Chart rendering	Single choice	Depends on report template	See list following this table	The chart can be displayed in many graphical formats.
Legend visibility	Boolean	True	True, False	Toggles between the two values.
<b>Look/3D</b>				

**Table 5-2** *Chart Display Properties (continued)*

Property	Type	Default	Values	Comments
Oblique	Boolean	True	True, False	Only displayed when <b>3D</b> is <b>True</b> .  If <b>True</b> , there is always 90 degrees between the x and y axes when the chart is rotated.
Settings	Sliding scale	See table following this table	See table following this table	Only displayed when <b>3D</b> is <b>True</b> .  Opens the 3D properties dialog box with sliding scales for eight graphical properties.

Possible values for the **Chart Rendering** property:

**Table 5-3** *Chart Rendering Values*

<ul style="list-style-type: none"> <li>• BAR</li> <li>• STACKED_BAR</li> <li>• STACKED100_BAR</li> <li>• SUPERIMPOSED_BAR</li> <li>• AREA</li> <li>• STACKED_AREA</li> </ul>	<ul style="list-style-type: none"> <li>• STACKED100_AREA</li> <li>• POLYLINE</li> <li>• STACKED_POLYLINE</li> <li>• STACKED100_POLYLINE</li> <li>• SCATTER</li> </ul>	<ul style="list-style-type: none"> <li>• STAIR</li> <li>• STACKED_STAIR</li> <li>• STACKED100_STAIR</li> <li>• SUMMED_STAIR</li> <li>• PIE</li> </ul>
--	---	---

**Table 5-4** *Chart Properties Set in the 3D Properties Dialog Box*

Property	Values	Default
Rotation	-90 ... 90	35
Elevation	-90 ... 90	45
Depth	0 ... 100	20
Depth Gap	0 ... 100	0
Zoom	0 ... 200	100
Ambient Light	0 ... 100	10
Light Latitude	-90... 90	0
Light Longitude	-90... 90	0

## Changing the Appearance of the Chart

You can change the chart type of the report, adjust the graphical display of the chart, and change the colors used in the chart.

- [How to Change the Chart Type, page 5-10](#)
- [How to Modify the Graphical Display, page 5-10](#)
- [How to Change the Colors Used in a Chart, page 5-11](#)

### How to Change the Chart Type

**Step 1** Generate a report.

A report view opens displaying the report, and the Properties view displays the chart display properties.

**Step 2** In the Properties view, select the **Chart Rendering** row, and click the browse button to open a drop-down list.



**Step 3** From the drop-down list, choose the type of chart that you want to display.

The report is updated when you click anywhere else in the Properties view.

### How to Modify the Graphical Display

**Step 1** Generate a report.

A report view opens displaying the report, and the Properties view displays the chart display properties.

**Step 2** To display the chart in two dimensions, click the 3D property.

The value of the **3D** property toggles from **True** to **False** and the **Look/3D** category is removed from the Properties view.

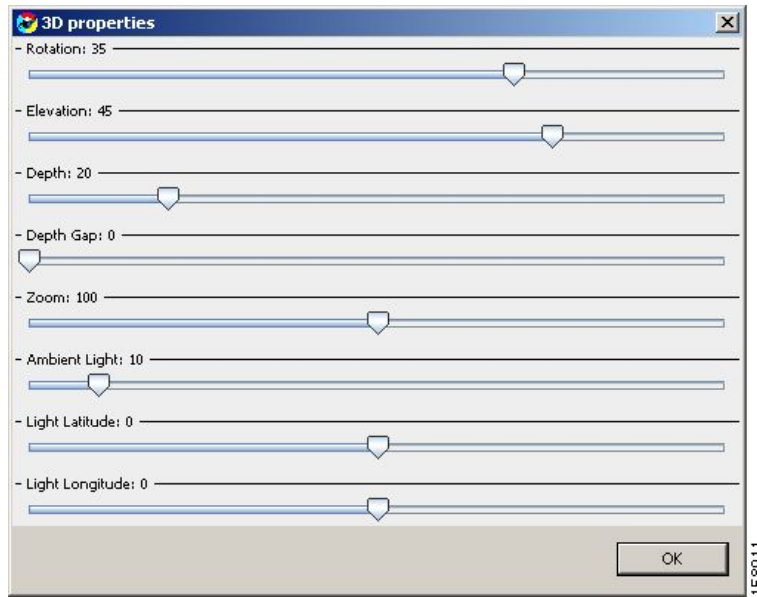
**Step 3** Click the 3D property again.

The chart displays in three dimensions, and the **Look/3D** category reappears.

**Step 4** Select the **Settings** property.

The 3D properties dialog box appears.





**Step 5** Change the three-dimensional properties using the sliding scales.

**Step 6** The chart display changes as you change the properties.

**Step 7** Click **OK**.

The new values are assigned to the Settings property.

## How to Change the Colors Used in a Chart

You can change the default color applied to a legend item in a chart. You may want to do this if, for instance, legend items that are adjacent in the chart have similar colors.



**Note**

If legacy coloring is enabled (see [How to Set the Colors Used in Charts, page 2-12](#)), this option is not available.



**Note**

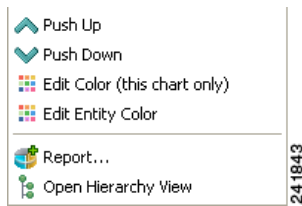
You can create and apply your own color sets globally. See [How to Set the Colors Used in Charts, page 2-12](#).

**Step 1** Generate a report.

A report view opens displaying the report.

**Step 2** Right-click an item in the legend.

A popup menu appears.



- Step 3** From the menu, select either **Edit Color (this chart only)** or **Edit Entity Color**. The former option changes the color temporarily for this chart only, the latter makes the change persistent for all current and future charts.

A color palette opens.



- Step 4** Select a new color from the palette.

- Step 5** Close the palette.

The new color is applied in the chart to the selected variable.

If you selected Edit Entity Color at Step 3, the new color is applied to all open charts, except those using temporary colors.

## Zooming

- [How to Zoom in on a Two-Dimensional Chart, page 5-12](#)
- [How to Drag a Zoomed-In Chart, page 5-13](#)
- [How to Zoom Out of a Zoomed-In Chart, page 5-13](#)

### How to Zoom in on a Two-Dimensional Chart

You can zoom in or out of two-dimensional charts.

While you are zoomed-in, you can drag the chart to view different sections.

- 
- Step 1** Generate a report.  
A report view opens displaying the report, and the Properties view displays the chart display properties.
- Step 2** To display the chart in two dimensions, click the **3D** property.  
The value of the **3D** property toggles from **True** to **False** and the **Look/3D** category is removed from the Properties view.
- Step 3** Mark off a rectangle by dragging the mouse over the chart.  
The cursor changes to a plus icon.
- Step 4** Release the mouse button, and the view zooms in.
- 

## How to Drag a Zoomed-In Chart

- 
- Step 1** Generate a report and display the chart in two dimensions.
- Step 2** Zoom in to the top part of the chart.
- Step 3** To move the chart down, right-click it while dragging the chart.  
The chart moves up, and the bottom of the chart appears.
- 

## How to Zoom Out of a Zoomed-In Chart

- 
- Step 1** Mark off a rectangle by dragging the mouse over the chart while pressing the **Shift** key.  
The cursor changes to a minus icon.
- Step 2** Release the mouse button, and the view zooms out.
- 

## Hiding Variables

You can hide variables that are part of the report, so that they do not display in the chart.



### Note

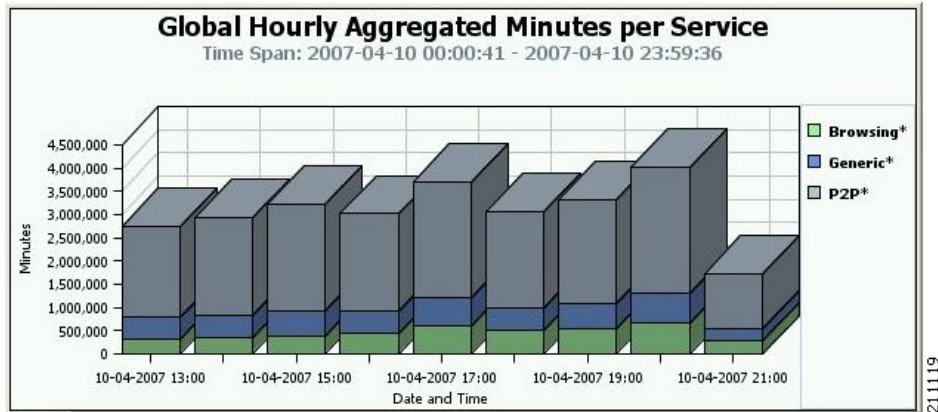
You can also select which variables will be included in the report by modifying the report instance. (See [How to Modify an Existing Report Instance, page 4-3.](#))

- [How to Hide Variables in the Chart, page 5-13](#)
- [How to Redisplay a Hidden Variable, page 5-14](#)

## How to Hide Variables in the Chart

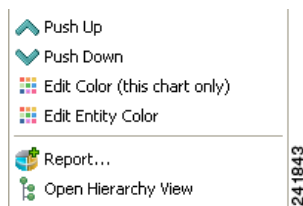
- 
- Step 1** Generate a report.  
A report view opens displaying the report.

## Adjusting the Chart Display



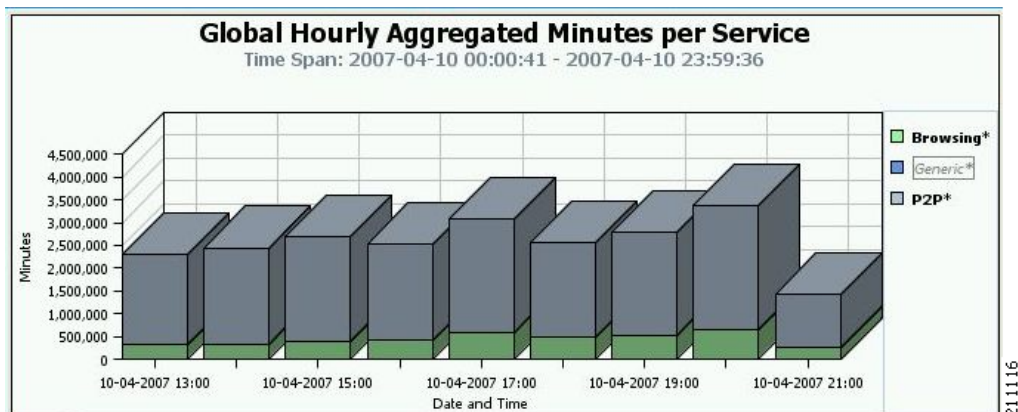
**Step 2** Right-click a variable in the legend.

A popup menu appears.



**Step 3** From the menu, select **Hide**.

The variable is dimmed out in the legend and removed from the chart.



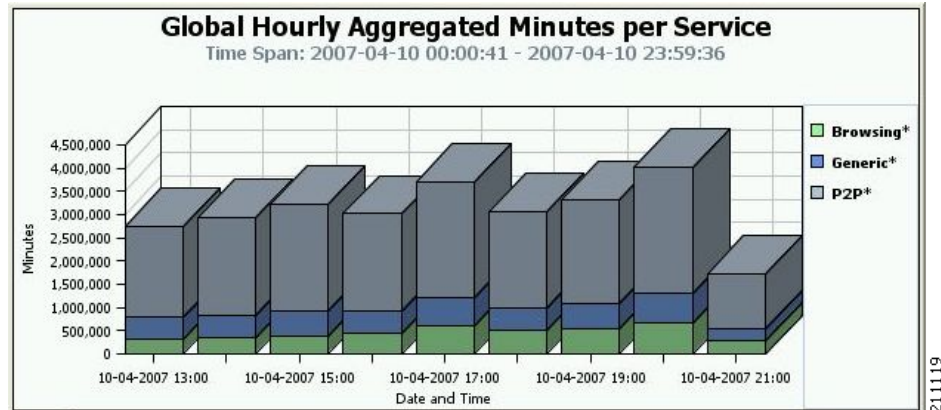
## How to Redisplay a Hidden Variable

**Step 1** Right-click a dimmed variable in the legend.

A popup menu appears.

**Step 2** From the menu, select **Show**.

The variable is restored in the legend and displayed from the chart.



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## Managing the Chart Legend

You can move the chart legend from its default position, or you can remove it from the chart display.



### Note

You can also globally configure how the legend is displayed. See [How to Configure the Legend Displayed in Charts](#), page 2-17.

- [How to Move the Chart Legend](#), page 5-15
- [How to Hide the Chart Legend](#), page 5-15

## How to Move the Chart Legend

- 
- Step 1** Generate a report.  
A report view opens displaying the report.
- Step 2** Right-click the legend of the chart and drag it to the required position.  
The legend moves to the new position.
- 

## How to Hide the Chart Legend

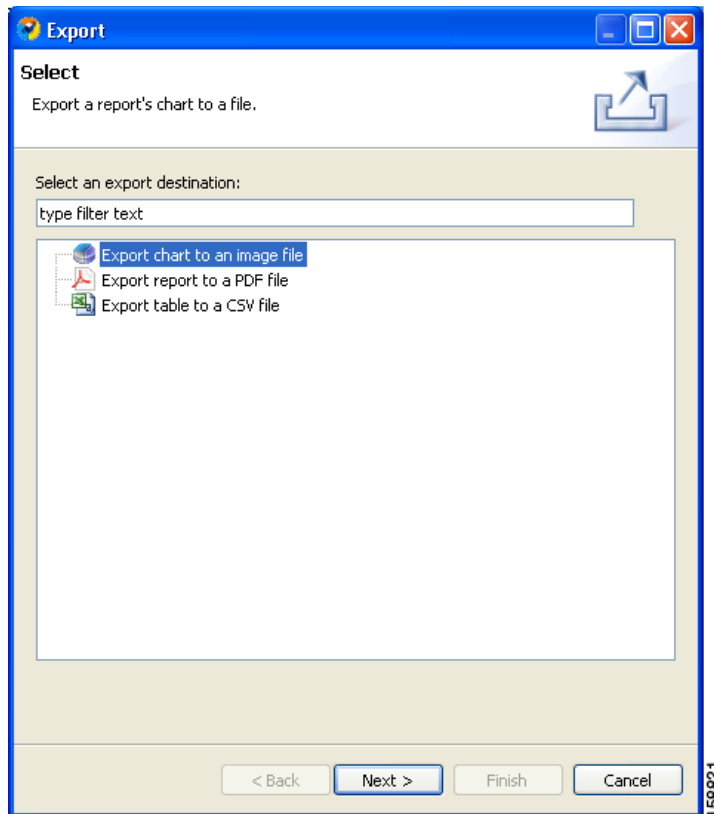
- 
- Step 1** Generate a report.  
The Properties view displays the chart display properties.
- Step 2** To hide the chart legend, click the **Legend visibility** property.  
The value of the **Legend visibility** property toggles from **True** to **False** and the chart legend is removed from the chart.
-

# How to Export Reports

You can export reports to most graphic formats, and you can export tables to CSV or Quoted CSV formats, which you can open as spreadsheets. You can export multiple reports in one export operation.

**Step 1** After executing one or more report instances, select **File >Export**.

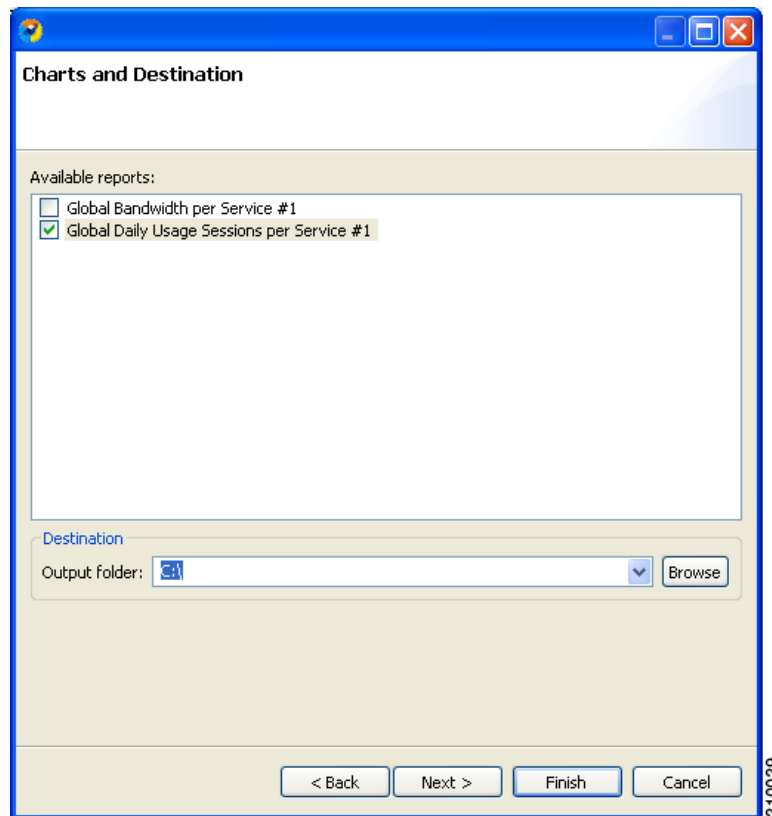
The Export wizard appears.



**Step 2** Select **Chart** or **Table**.

**Step 3** Click **Next**.

The Tables and Destination page of the Export wizard opens.



**Step 4** Check one or more of the Available reports.

**Step 5** (Optional) To change the Output folder, click **Browse**.

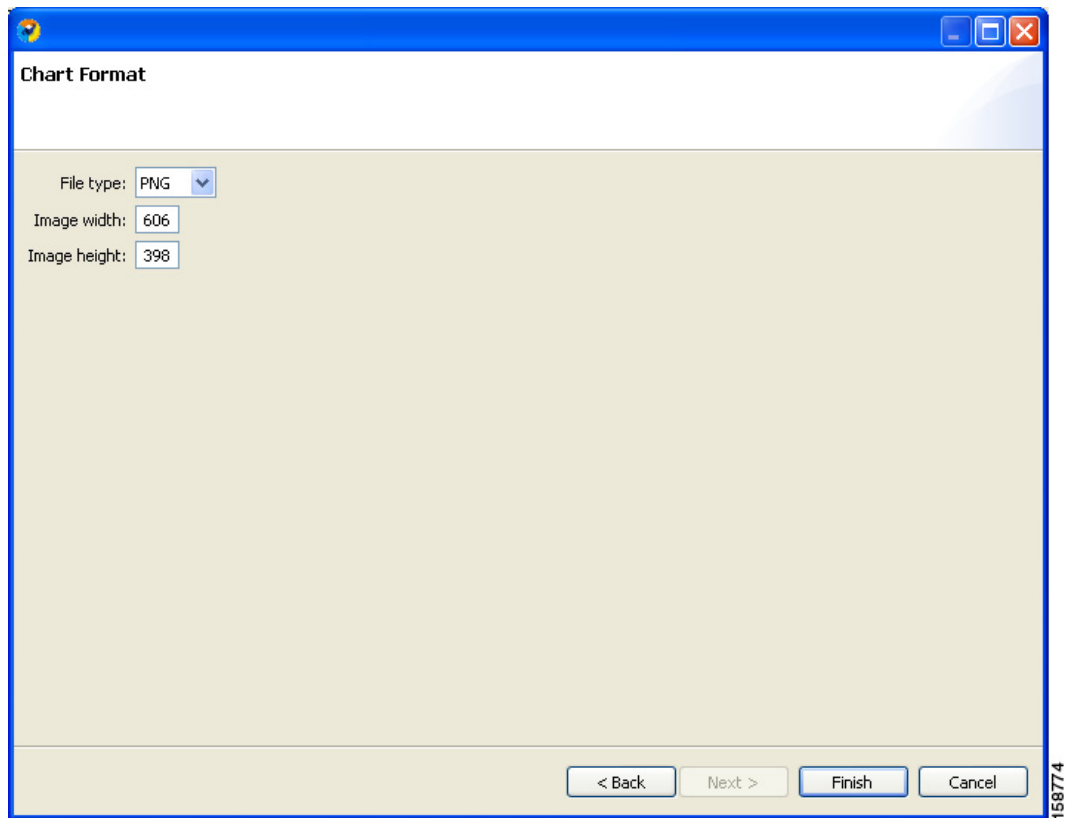
**Step 6** Click **Next**.

The Format page of the Export wizard opens. (The display depends on whether you chose Chart or Table in Step 2.)

**Step 7** Enter required information.

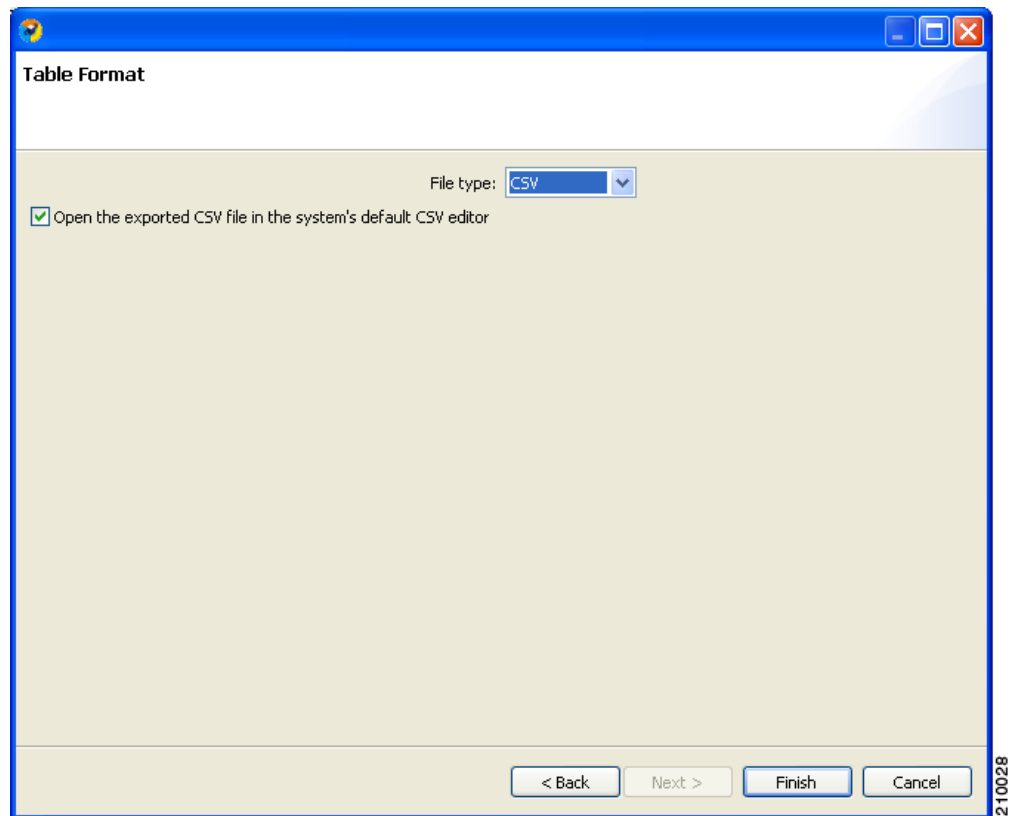
Do one of the following:

- (For Chart)



- From the File type drop-down list, choose a file type.
- In the Image width and Image height fields, enter values in pixels.
- (For Table)





- From the File type drop-down list, choose a file type.

**Step 8** Click **Finish**.

Each report selected is saved in a separate file.

---





## CHAPTER 6

# The SCA Reporter Command-Line Interface

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This chapter describes the various ways of using the Cisco Service Control Application Reporter (SCA Reporter) Command-Line Interface (CLI) for executing the SCA Reporter features, including the syntax, switches, and options of the application.

- [Command-Line Interface Overview, page 6-1](#)
- [Prescheduled Reports, page 6-1](#)
- [Syntax and Usage, page 6-2](#)

## Command-Line Interface Overview

The SCA Reporter Command-Line Interface (CLI) is a command-line application that complements the functionality of the SCA Reporter GUI. You can integrate the CLI, which provides capabilities and flexibility beyond that of its SCA Reporter GUI counterpart, into third-party applications to generate usage-based and statistics-based output.

The CLI includes the following features:

- Runs under Windows or Linux
- Runs predefined report instances or uses report templates
- Allows prescheduling of periodic generation of reports

## Prescheduled Reports

You can use the Reporter CLI to produce selected reports periodically. You must configure an external scheduling utility (for example, cron, PyCron, or Windows scheduler) to do this. You can use either an existing report instance or a report template, as explained in the sections below.

The following is an example of a cron line to produce a “Global Bandwidth per Service” report every hour:

```
20 * * * * reportercmd -report "Global Bandwidth per Service #1" -params \  
"numhours=24;units=Mbit/s;avgdata=true;trafficdir=Both Directions" \ -format jpeg -o  
GBpS1.jpeg
```

## Syntax and Usage

You can execute the SCA Reporter as a command-line version that accepts input passed as parameters. In the Templates view, you can create a CLI command, either from a report instance or from a report template. The database information and the SCE platform IP parameters are included in the created CLI command, in addition to configured parameters.

When you create the command, it is automatically copied to the clipboard so that you can paste it into a command file shell or a command prompt and then execute it after making any necessary changes. You must add the file name in which to save the data and the format in which to save it; these parameters are not included when the command is created.

Not all parameters that exist in the original report instance are included in the params switch. When a parameter is not specifically listed in the CLI invocation:

- If the command is based on a report instance, the value is taken from the report instance.
- If the command is based on a report template, the default value is used. (You must define the values of mandatory parameters that do not have default values.)
- [Command-Line Usage, page 6-2](#)
- [Command-Line Switches, page 6-2](#)
- [Command-Line Options, page 6-3](#)
- [How to Generate Reporter Commands for a Report Instance, page 6-4](#)
- [How to Generate Reporter Commands for a Report Template, page 6-5](#)

## Command-Line Usage

You can invoke the SCA Reporter application using a command such as:

```
reportercmd -report "Global Bandwidth per Service #1" -dbdriver "com.mysql.jdbc.Driver"
-dburl "jdbc:mysql://127.0.0.1:3306/apricot" -dbuser "pqb_admin" -dbpassword "pqb_admin"
-policysce "10.1.12.85" -params "numhours=240000000;seip=10.1.12.85;avgdata=true;link=Link
0,Link 1;traficdir=Both Directions;services=Messaging Service,Generic UDP Service,Generic
TCP Service,News Service,FTP Service,Browsing Service,Default Service" -o "myfile" -format
"jpeg"
```

You can generate a string to serve as the basis for a CLI command from the SCA Reporter. The generated command does not include the `-o` and `-format` parameters, which must be added to the command. You can also modify other parameters.

## Command-Line Switches

The following switches can be included in the command line when invoking the SCA Reporter application:

- **-report**
  - **-dbdriver**
  - **-dburl**
  - **-dbuser**
  - **-dbpassword**
  - **-policysce**

- **-params**
- **-o**
- **-format**
- **-show**
- **-template**
  - **-dbdriver**
  - **-dburl**
  - **-dbuser**
  - **-dbpassword**
  - **-policysce**
  - **-params**
  - **-o**
  - **-format**
  - **-show**
- **-help**
- **-list**

## Command-Line Options

The following table describes the options of the command line for invoking the SCA Reporter application:

**Table 6-1** Command-Line Options for SCA Reporter Application

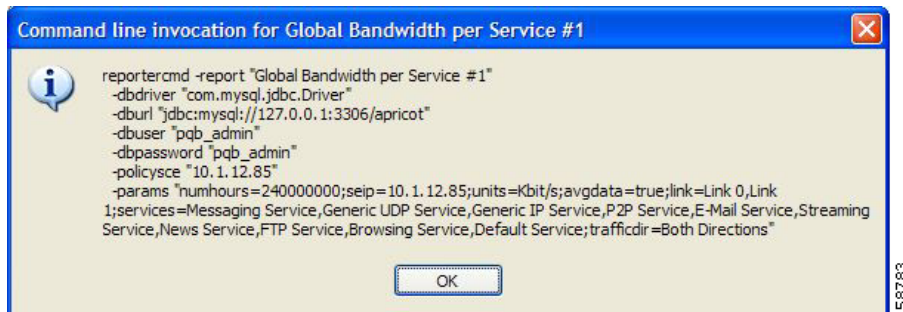
Option	Action by SCA Reporter	Comments
<b>-report</b> " <i>report-name</i> "	Generates a report using the specified name of a report instance.	Use this parameter when generating a report from an existing report instance.
<b>-template</b> " <i>template-name</i> "	Generates a report using the specified name of a report template.	Use this parameter when generating a report from a template.
<b>-dbdriver</b> " <i>db-driver</i> "	The driver for the database.	The same database that is configured in the SCA Reporter.
<b>-dburl</b> " <i>db-url</i> "	The URL of the database.	
<b>-dbuser</b> " <i>db-user</i> "	The user of the database.	
<b>-dbpassword</b> " <i>db-password</i> "	The password for the database.	
<b>-policysce</b> " <i>IP of SCE for policy data</i> "	The IP address of the SCE platform whose service configuration data will be used in the report.	The IP address of the SCE platform that is configured in the SCA Reporter.

Table 6-1 Command-Line Options for SCA Reporter Application (continued)

Option	Action by SCA Reporter	Comments
<b>-params</b> " <i>param1=value1;...</i> "	Parameters from the Properties view.	When a particular parameter is not listed, the default value is used.
<b>-o</b> " <i>filename</i> "	The name of the file to which to direct output.	If the file name already exists, the original file is overwritten.
<b>-format</b> " <i>fileformat</i> "	Specifies whether to output the report as a chart or as a table. The <i>fileformat</i> parameter can take one of the following values: <ul style="list-style-type: none"> <li>• jpeg</li> <li>• csv</li> </ul>	
<b>-show</b>	Shows the structure (including parameters) of a report or template instead of executing it.	
<b>-help</b>		
<b>-list</b>	Outputs a list of all template groups and report templates.	

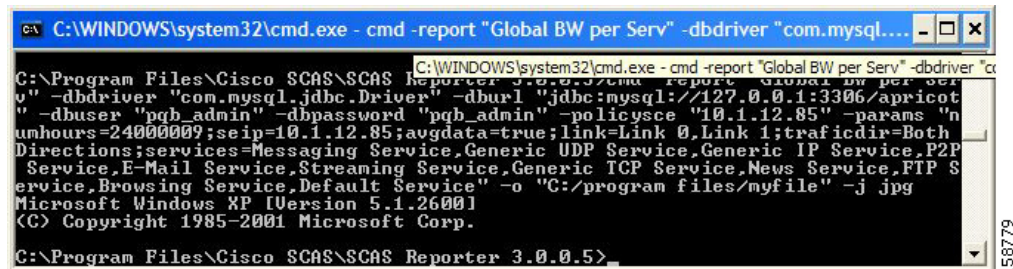
## How to Generate Reporter Commands for a Report Instance

- Step 1** Select a report instance from the Templates view.
- Step 2** From the drop-down menu in the tab, select **Show Cmd**.  
A Command line invocation dialog box appears, displaying the generated command.



- Step 3** Click **OK**.  
The command, with all the switches and parameters, is placed on the clipboard.
- Step 4** Open a file or command prompt.  
Do one of the following:
- Open a file from which to execute the command from a shell and save the file in the Reporter directory.
  - Open a command prompt from which to execute the CLI command and change the directory to the Reporter directory.

- Step 5** Paste the clipboard contents.  
The command is pasted in the file or in the command line.
- Step 6** Add the mandatory flags.
- `-o "filename"`
  - `-format "fileformat"`
- Step 7** (Optional) Change parameters. For example, you may want to change the numhours parameter.



```

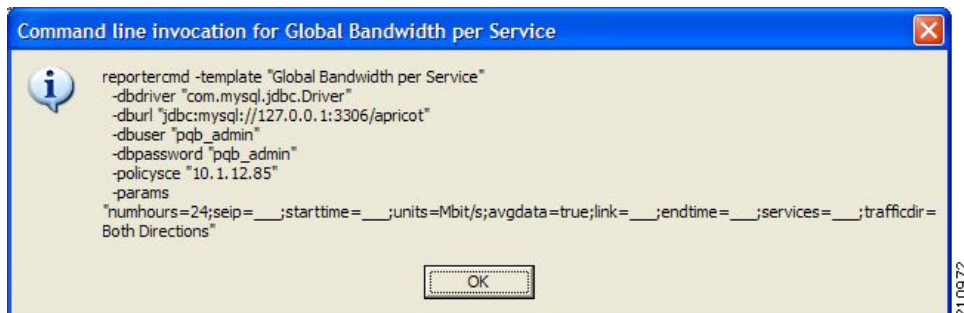
C:\WINDOWS\system32\cmd.exe - cmd -report "Global BW per Serv" -dbdriver "com.mysql.jdbc.Driver" -dburl "jdbc:mysql://127.0.0.1:3306/apricot" -dbuser "pqb_admin" -dbpassword "pqb_admin" -policysce "10.1.12.85" -params "numhours=24000009;seip=10.1.12.85;avgdata=true;link=Link 0,Link 1;trafficdir=Both Directions;services=Messaging Service,Generic UDP Service,Generic IP Service,P2P Service,E-Mail Service,Streaming Service,Generic TCP Service,News Service,FTP Service,Browsing Service,Default Service" -o "C:/program files/myfile" -j jpg
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Program Files\Cisco SCAS\SCAS Reporter 3.0.0.5>

```

- Step 8** Execute the command.  
The exported file is saved in the defined directory with a time stamp appended to the name of the report instance.

## How to Generate Reporter Commands for a Report Template

- Step 1** Select a report instance from the Templates view.
- Step 2** From the drop-down menu in the tab, select **Show Cmd.**



```

Command line invocation for Global Bandwidth per Service
reportercmd -template "Global Bandwidth per Service"
-dbdriver "com.mysql.jdbc.Driver"
-dburl "jdbc:mysql://127.0.0.1:3306/apricot"
-dbuser "pqb_admin"
-dbpassword "pqb_admin"
-policysce "10.1.12.85"
-params
"numhours=24;seip=____;starttime=____;units=Mbit/s;avgdata=true;link=____;endtime=____;services=____;trafficdir=Both Directions"
OK

```

The command, with all the switches and parameters, is placed on the clipboard.

Parameters that have default values are given the default value. Mandatory parameters that do not have default values are indicated by a value of \_\_\_\_ (underscore).

- Step 3** Click **OK**.  
The command, with all the switches and parameters, is placed on the clipboard.
- Step 4** Continue at Step 5 of the previous procedure.







## APPENDIX **A**

# Installing and Upgrading SCA Reporter Templates

---

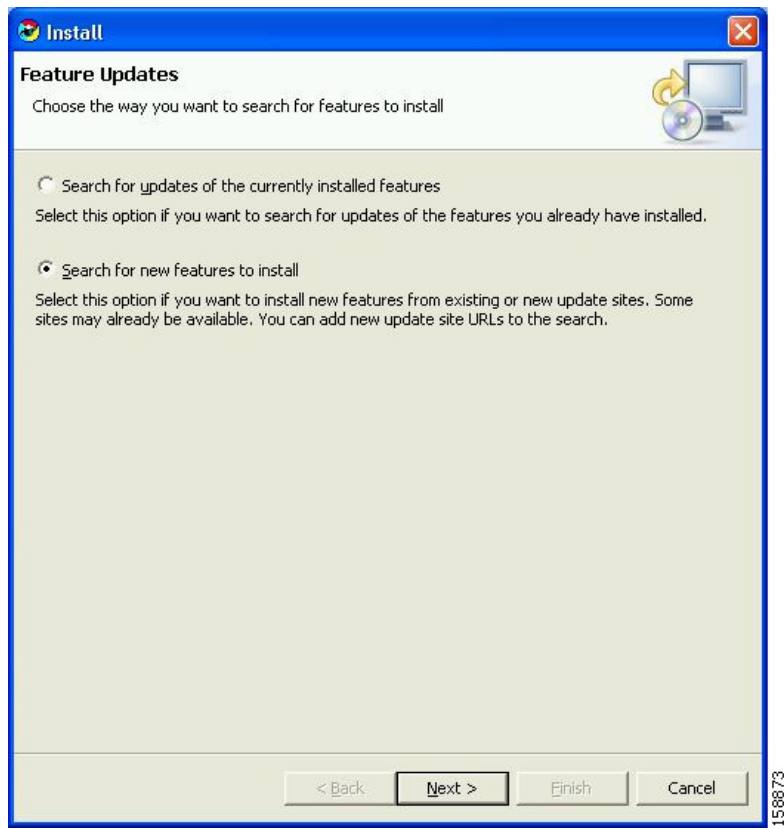
This appendix describes the how to install and upgrade Cisco Service Control Application Reporter (SCA Reporter) report templates.

- [How to Install Report Templates, page A-1](#)
- [How to Upgrade Report Templates, page A-7](#)

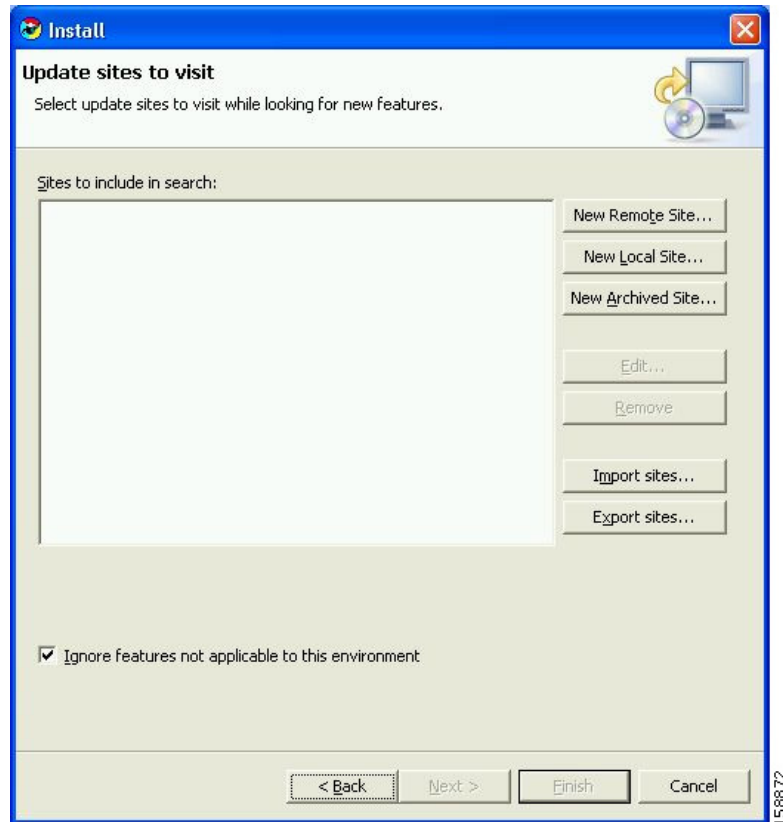
## How to Install Report Templates

---

**Step 1** From the main menu, choose **Help > Find and Install**.



**Step 2** Check the **Search for new feature to install** radio button and click **Next**.



**Step 3** Click **New Local Site**.

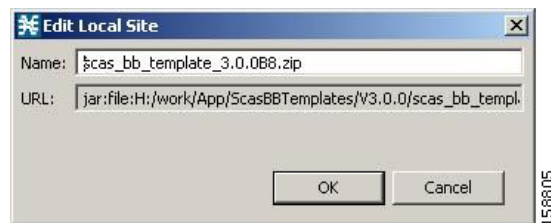
The Select Local Site Archive dialog box appears.

**Step 4** Browse to the archive file and select it.

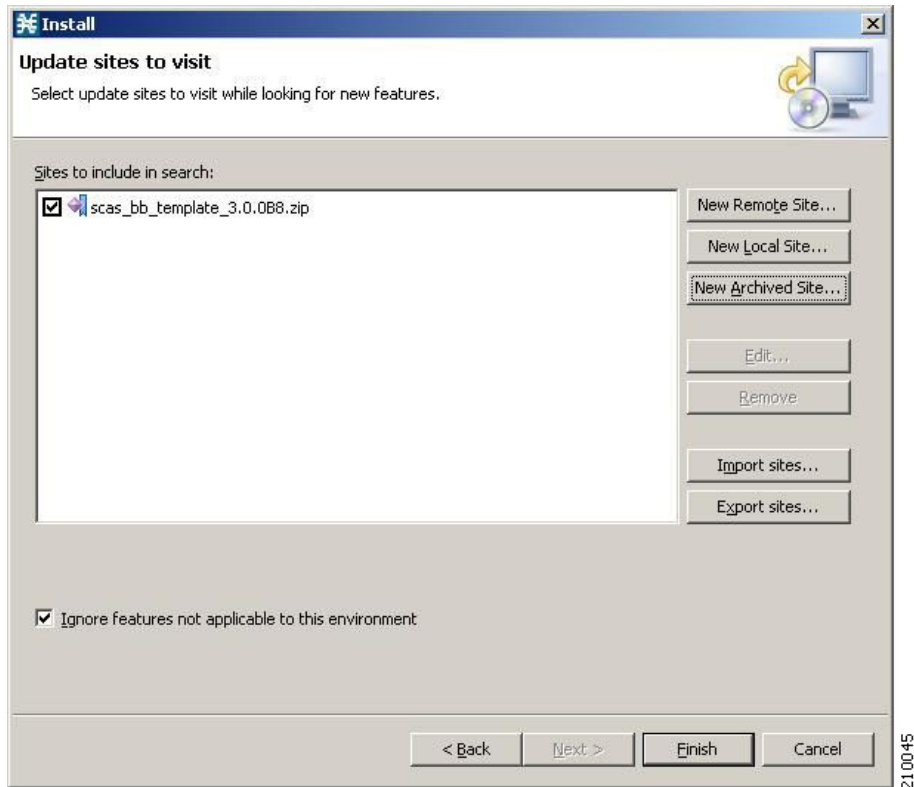
The file is named **SCAS\_bb\_template\_.<version>B<build>.zip**. For example, the file may be named **SCAS\_bb\_template\_3.1.5B8.zip**.

**Step 5** Click **Open**.

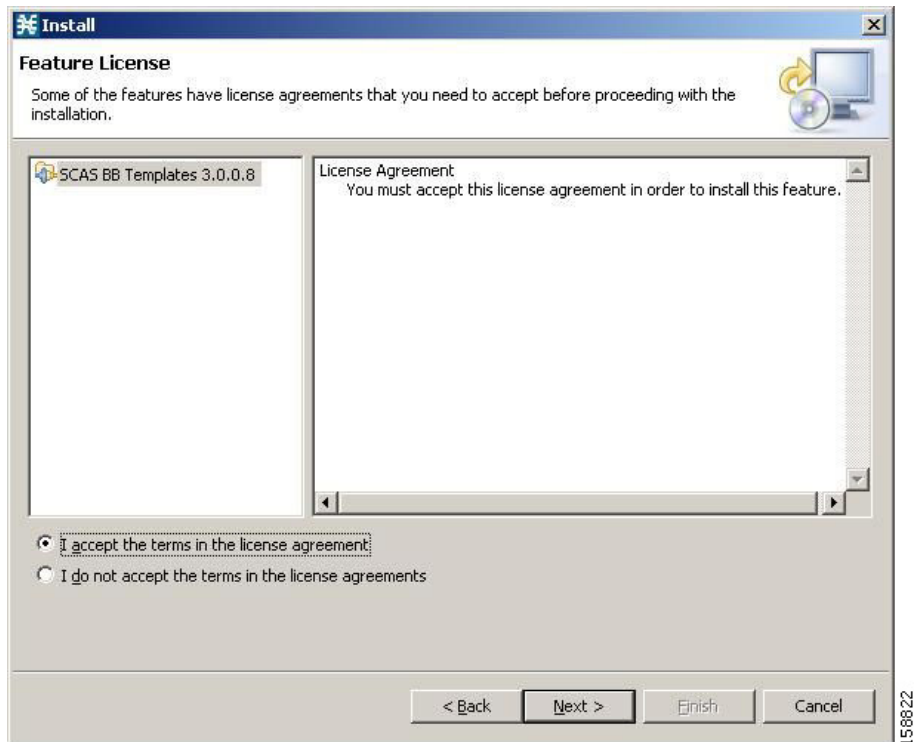
The Edit Local Site dialog box appears displaying the file name and its location and contents.



**Step 6** Click **OK**.



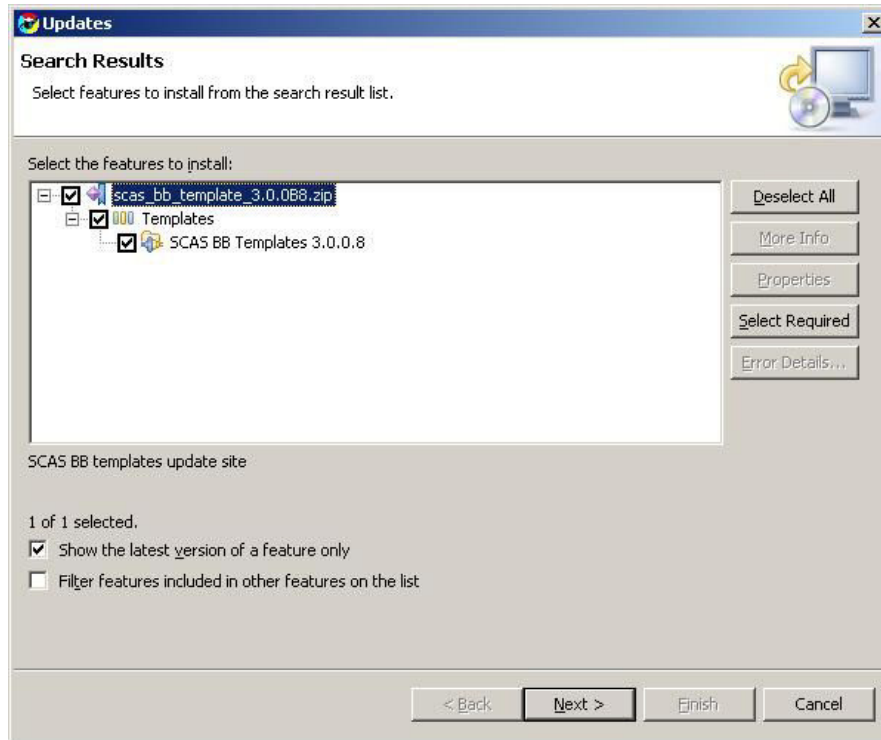
**Step 7** Click **Finish**.



**Step 8** Accept the agreement and click **Next**.

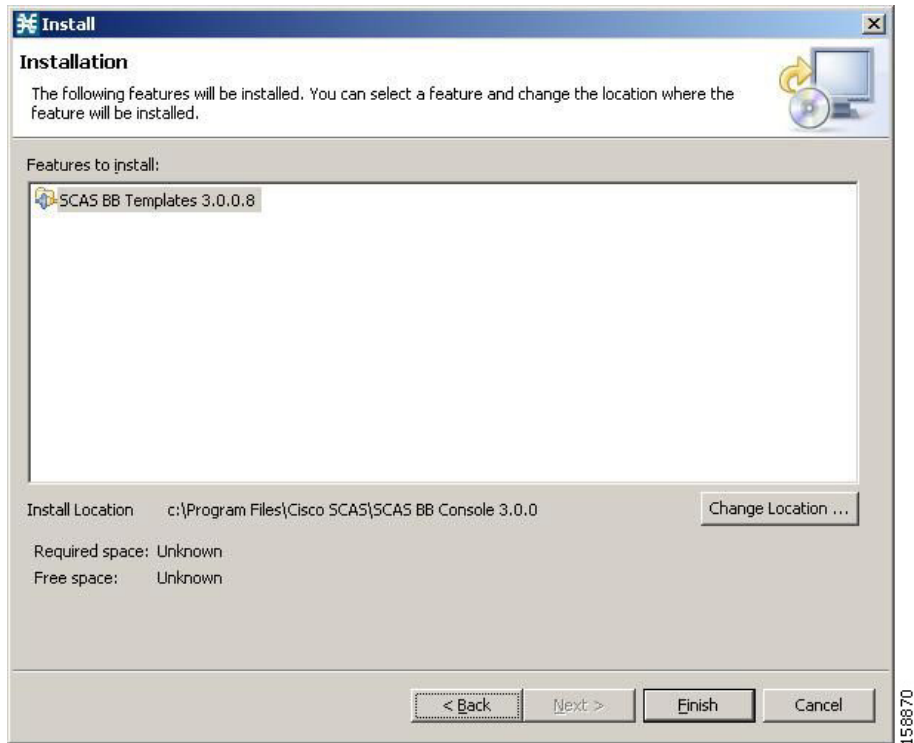
The Updates dialog box appears with the installed features available for the site.

**Step 9** Select the required feature, which should be named **SCAS BB Templates<version.<build>**. For example, the file may be named **SCAS BB Template 3.1.5.8**.

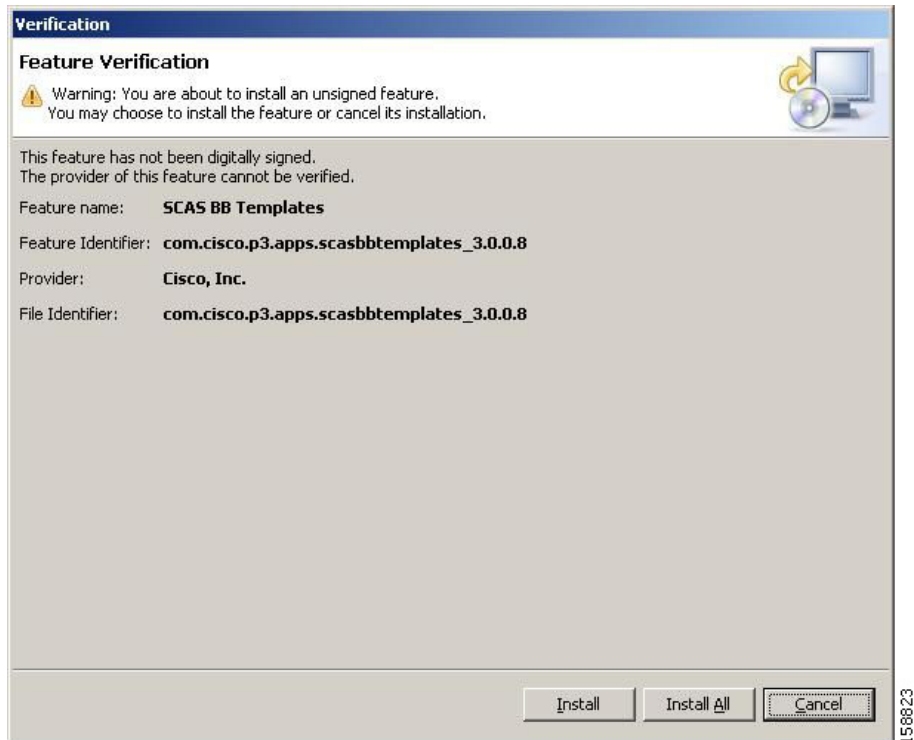


**Step 10** (Optional) To install the feature in a different location, click **Change Location** and browse to the required location.

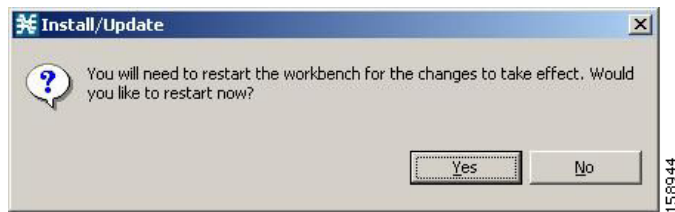
## How to Install Report Templates



**Step 11** Click **Finish**.



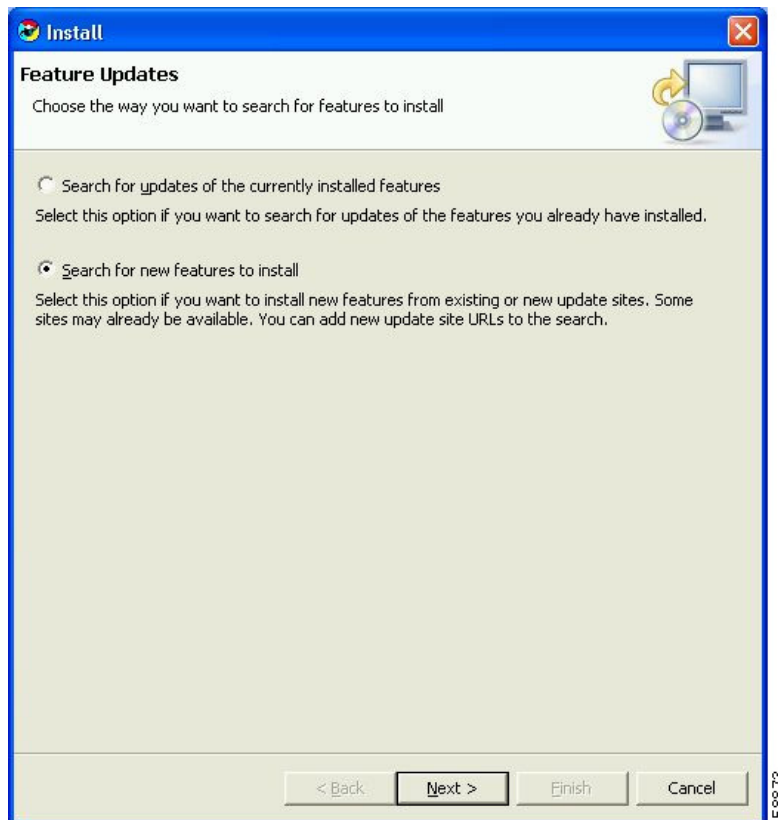
**Step 12** Click **Install** or **Install All**.



- Step 13** Click **Yes** , and wait for the application to come up.  
The computer restarts.  
The new report templates are installed.

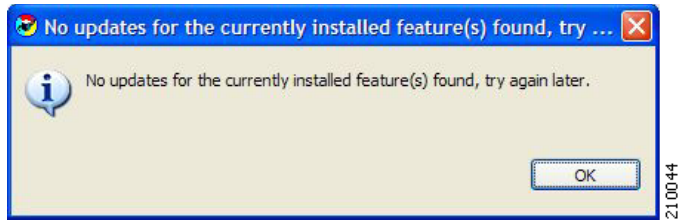
## How to Upgrade Report Templates

- Step 1** From the main menu, choose **Help > Find and Install**.  
The Install/Update dialog box appears.



- Step 2** Check the **Search for updates of the currently installed features** radio button.
- Step 3** Click **Finish**.  
One of the following occurs:

- There are no updates.



- There are updates.  
The wizard appears (see [How to Install Report Templates, page A-1](#)).
-





# APPENDIX **B**

## Troubleshooting

---

If you encounter a problem while using the Cisco Service Control Application Reporter (SCA Reporter), use the information in this appendix to help isolate its cause. The procedures in this appendix assume that you are troubleshooting the initial system startup, and that the GUI is in the original factory configuration. If you have changed any default settings, the recommendations in this appendix might not apply.

- [Using the Troubleshooting Appendix, page B-1](#)
- [General, page B-1](#)
- [General Setup Errors, page B-2](#)
- [Command-Line Interface, page B-2](#)
- [Parameter Definition Errors, page B-2](#)
- [How to Check System Conditions, page B-3](#)
- [How to View the Error Log, page B-4](#)
- [How to View the Installed Version of the Report Templates, page B-4](#)

## Using the Troubleshooting Appendix

This appendix describes the subsystems available for more efficient problem solving. If, after applying the solutions in this appendix, you are still unable to solve your problem, contact a customer service representative for assistance. Please provide the representative with the following information:

- Type of software and release number
- Brief description of your problem
- Brief explanation of the steps you have taken to isolate and resolve the problem
- Maintenance agreement or warranty information

## General

Searching the Help menu allows you to learn more about the SCA Reporter while you are working. You can get assistance with the following functions from the Help Menu:

- Creating a Basic Configuration
- Accessing Online Help

- Checking System Conditions
- Managing Configuration
- Installing and Upgrading Templates
- Viewing Plug-in Details

You can also access Online Help while working in the SCA Reporter (see [Accessing Online Help, page 2-18](#)).

## General Setup Errors

Check the following if the GUI does not open:

- Ensure you have enough memory.
- Uninstall an old release before installing a new release.
- The database is installed and populated.
- The IP address of the computer is not connected to another device.

## Command-Line Interface

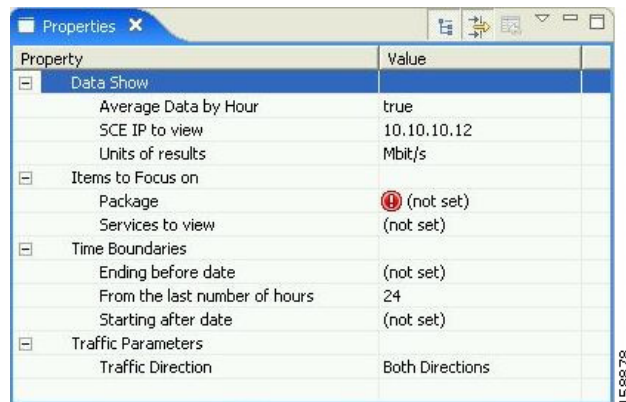
To assist you in using and troubleshooting the SCA Reporter Command-Line Interface (CLI), refer to the following sections of the *Cisco Service Control Engine (SCE) CLI Command Reference*:

- CLI Help Features
- Navigational and Shortcut Features
- Managing Command Output

## Parameter Definition Errors

In this example, a mandatory property is not set.

**Figure B-1** Properties



Property	Value
Data Show	
Average Data by Hour	true
SCE IP to view	10.10.10.12
Units of results	Mbit/s
Items to Focus on	
Package	(not set)
Services to view	(not set)
Time Boundaries	
Ending before date	(not set)
From the last number of hours	24
Starting after date	(not set)
Traffic Parameters	
Traffic Direction	Both Directions

When the report instance is executed, an error message appears.

**Figure B-2 Report Error**

Click **Details** to view more specifics on the error.

**Figure B-3 Report Error Details**

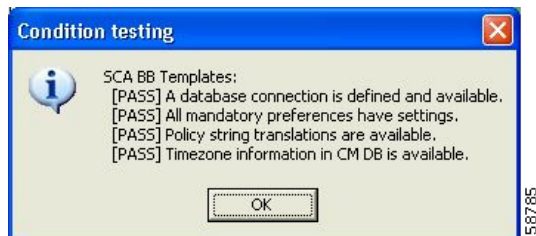
## How to Check System Conditions

You can check that:

- The database connection is defined correctly and that the connection is active
- The system is configured correctly

**Step 1** From the main menu, choose **Help > Check Conditions**.

A Condition testing message appears.



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

---

## How to View the Error Log

To configure debug message logging, see [Configuring the SCA Reporter, page 2-8](#). When this mode is activated, you can view the error log.

---

**Step 1** From the main menu, choose **Help > About SCA Reporter**.

The About SCA Reporter dialog box appears.

**Step 2** Click **Configuration Details**.

**Step 3** Click **View Error Log**.

---

## How to View the Installed Version of the Report Templates

Where the database structure has changed, but the repository was not updated, there may be Template Repository Errors (see [Installing and Upgrading SCA Reporter Templates, page A-1](#)).



**Note**

The files used for installing and upgrading may need to be updated before the installation.

---

---

**Step 1** From the main menu, choose **Help > About SCA Reporter**.

The About SCA Reporter dialog box appears.

**Step 2** Click **Plug-in Details**.

The About SCA Reporter Plug-ins dialog box appears.

**Step 3** Verify that the version of SCA BB Templates is correct.

**Step 4** Click **OK**.

The About SCA Reporter Plug-ins dialog box closes.

**Step 5** Click **OK**.

The About SCA Reporter dialog box closes.

---



## APPENDIX **C**

# The SCA Reporter as a Tool in the SCA BB Console

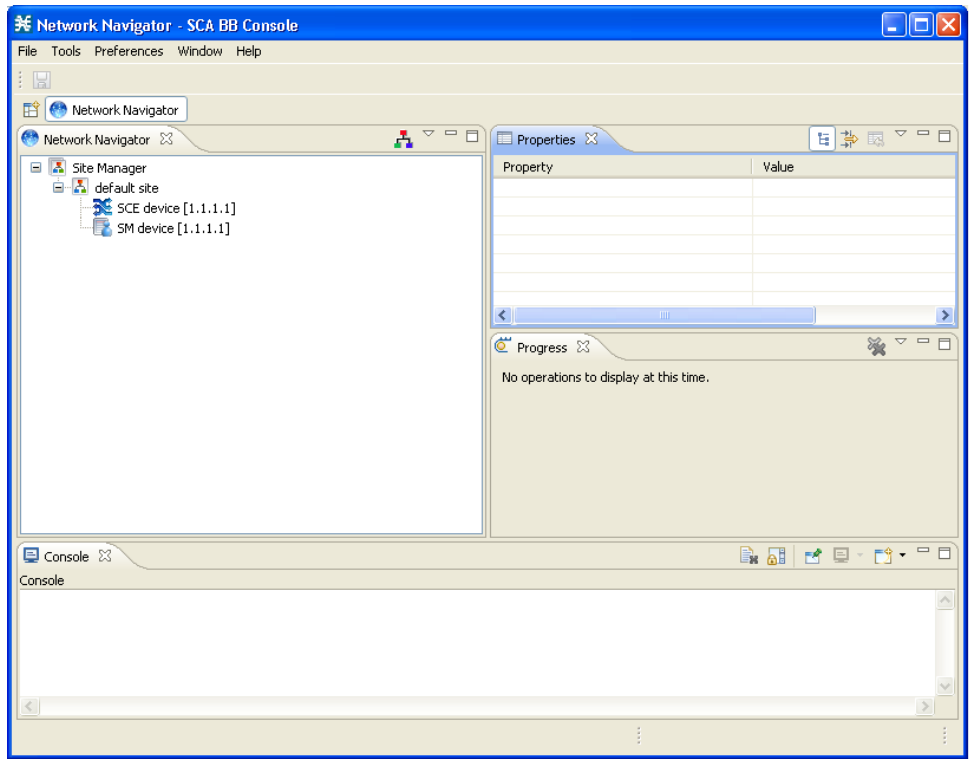
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This appendix describes the Cisco Service Control Application Reporter (SCA Reporter) as a tool in the SCA BB Console. For more information about the SCA BB Console, see the *Cisco Service Control Application for Broadband User Guide*.

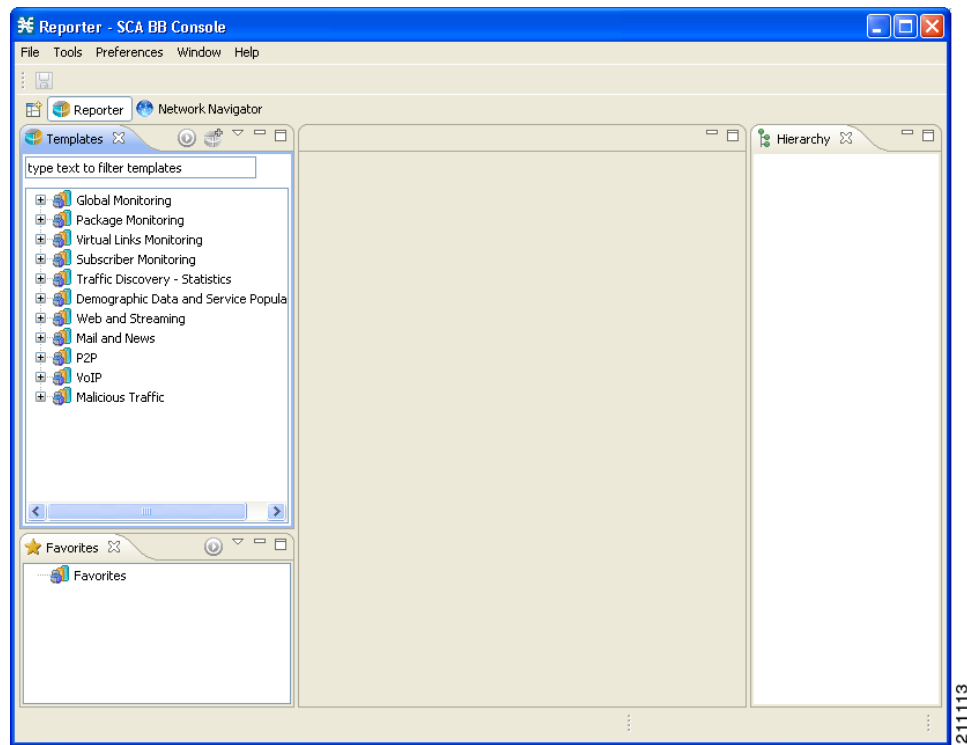
## How to Use the SCA Reporter Tool in the SCA BB Console

The SCA Reporter can be run as a tool in the SCA BB Console.

- 
- Step 1** Choose **Start > All Programs > Cisco SCA > SCA BB Console 3.1.5 > SCA BB Console 3.1.5**.  
The SCA BB Console opens.

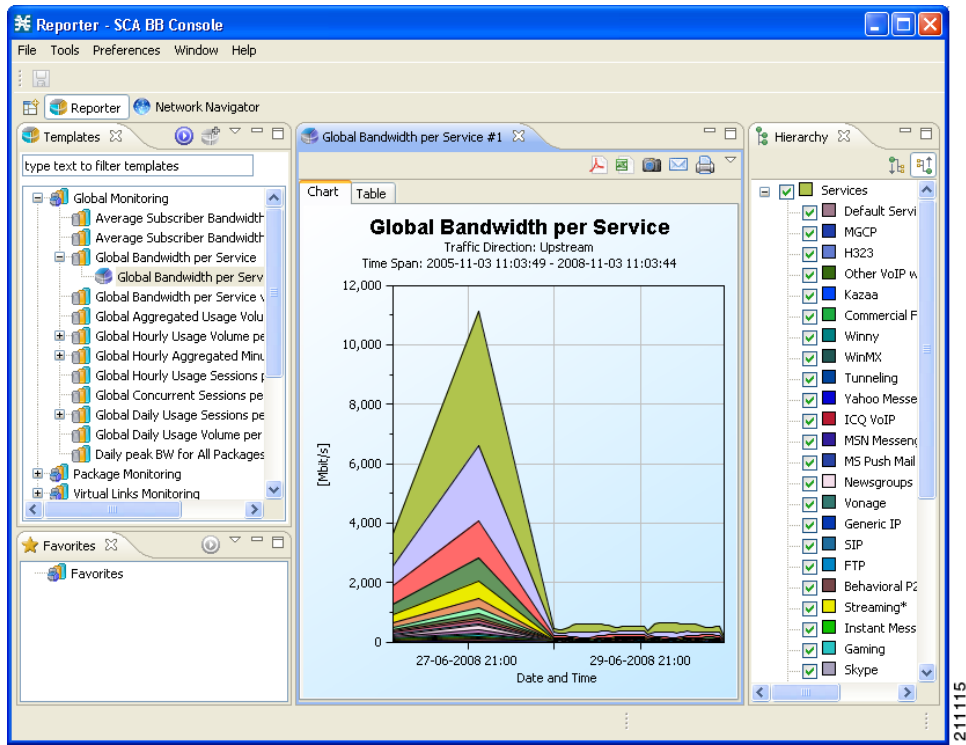


- Step 2** Configure and activate a database connection. (See [Managing Database Connections](#), page 2-8.)
- Step 3** From the Console main menu, choose **Tools > Reporter**.  
The Reporter tool opens.



**Step 4** You use the Reporter tool in the same way that you use the SCA Reporter as a standalone, as described in this manual.

How to Use the SCA Reporter Tool in the SCA BB Console



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## APPENDIX **D**

# SCA Reporter Templates

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This appendix describes the Cisco Service Control Application Reporter (SCA Reporter) report templates.




- [Information About Report Templates, page D-1](#)
- [Global Monitoring Template Group, page D-7](#)
- [Package Monitoring Template Group, page D-7](#)
- [Virtual Links Monitoring Template Group, page D-8](#)
- [Subscriber Monitoring Template Group, page D-9](#)
- [Traffic Discovery - Statistics Template Group, page D-9](#)
- [Demographic Data and Service Popularity Reports Template Group, page D-10](#)
- [Web and Streaming Reports Template Group, page D-11](#)
- [Mail and News Reports Template Group, page D-11](#)
- [P2P Reports Template Group, page D-12](#)
- [VoIP Reports Template Group, page D-12](#)
- [Malicious Traffic Template Group, page D-13](#)

## Information About Report Templates

The SCA Reporter installation includes report templates that you use to generate report instances. The templates are grouped by common themes. Each report template allows you to create new report instances. Default filter values are assigned to the properties, some of which are common to all the instances in a given group. You can impose additional constraints by configuring the properties.



### Note

The default filters are the values that are initially applied to the properties. Before generating a report, you can reconfigure its properties. In order to reset properties to their default values, select properties and click  (**Restore Default Value.** . Some mandatory properties have the default value  (**not set**); these properties must be assigned a value before a report can be generated. Optional properties may be assigned a value of (**not set**). To view all properties, click  (**Show Advanced Properties.** .

You generate a report instance by selecting a report template from the list of available groups in the Templates view.

There are two main categories of reports:

- Monitoring reports—Show how network resources are used for selected services at various granularities (global, package, subscriber)
- Traffic Discovery reports—Provide statistical information about network activity and help identify the characteristics of the traffic traversing the network
- [Report Instance Properties, page D-2](#)
- [Information About Monitoring Reports, page D-4](#)
- [Information About Traffic Discovery Reports, page D-6](#)

## Report Instance Properties

The following table lists properties that appear in report templates that belong to more than one template group. (Properties of report instances that belong to only one template group are listed with the description of the group.)

**Table D-1 Common Properties of Report Instances**

Property	Field Type	Default	Comments
<b>Items to Focus on</b>			
One of the following is included in most report templates:			
• Services to view	Multiple Choice	(not set)	When not set, all services are selected.
• Select services to view	Multiple Choice	(not set)	When not set, all services are selected.
• Focus on the service	Single Choice	(not set)	When not set, all services are selected.
One of the following two properties is included in many report templates:			
• Packages to View	Multiple Choice	(not set)	When not set, all packages are selected.
• Package	Single Choice	❗ (not set)	Mandatory property.
Name of subscriber to focus on	Free Text	(not set)	Mandatory property for Subscriber template group report instances. IP address (decimal format) or subscriber name.
Time Frames to focus	Multiple Choice	(not set)	When not set, all four time frames are selected.
<b>Time Boundaries</b> —See note following table.			
Starting after date	Time/Date	(not set)	
Ending before date	Time/Date	(not set)	When not set, the report is bound to the current time.

**Table D-1 Common Properties of Report Instances (continued)**

Property	Field Type	Default	Comments
<ul style="list-style-type: none"> <li>From the last number of hours</li> </ul>	Free Text	24	Ignored when the Starting After Date and Ending Before Date properties are both set.
<ul style="list-style-type: none"> <li>From the last number of Days</li> </ul>	Free Text	7	
Specific Time	Date/Time	🚫 (not set)	<p>Mandatory property.</p> <p>Appears in three report instance types instead of the other three time boundary properties.</p> <p>The selected time is rounded to the nearest hour/day.</p>
<b>Traffic Parameters</b>			
Link to Focus	Multiple Choice	(not set)	List of available links to focus.
One of the following is included in many report templates:			
<ul style="list-style-type: none"> <li>Traffic Direction</li> </ul>	Single Choice	Depends on report template	<p>Depends on report template:</p> <ul style="list-style-type: none"> <li>Direction only</li> <li>Direction and metric</li> </ul>
<ul style="list-style-type: none"> <li>Metric to order</li> </ul>	Single Choice	Depends on report template	<p>Depends on report template and metric:</p> <ul style="list-style-type: none"> <li>Metric only</li> <li>Metric and direction</li> </ul>
<b>Data Show</b>			
Pick BW Over	Single Choice	1 Hour	
SCE IP to view	Single Choice	At installation: 🚫 (not set) Thereafter: most recent assigned value	<p>Mandatory property.</p> <p>IP address of specific Service Control Engine (SCE) platform.</p>
Units of results	Single Choice	Depends on report template	
Limit number of results	Free Text	10	

Table D-1 Common Properties of Report Instances (continued)

Property	Field Type	Default	Comments
Average Data by Hour	Boolean	True	If this option is selected, a single, average value is calculated for each hour of the report. This option is recommended when generating the report for 24 or more hours.
Show other Consumption	Boolean	False	
Aggregation Period	Single Choice	Hourly	
Subscriber Id	Free Text	(not set)	Pattern that represent group of subscribers.

- All report instances include the **SCE IP to view** property, which enables filtering to a specific SCE platform. This property is mandatory and *persistent*. Persistent means that the current value is used for all subsequent reports until the value is changed.
- Time Boundaries properties occur in all report instances except for Top Subscribers, Top Talkers, and Relative Consumption of Top Subscribers. These properties are:
  - Starting After Date
  - Ending Before Date
  - From the Last Number of Hours/Days
- The property **From the last number of hours/days** is set to a default value in all report instances. When all three Time Boundaries properties are set, the **From the last number of hours/days** property is ignored. When the property **Ending before date** is not set, the report is bound to the current time.

## Information About Monitoring Reports

Monitoring reports provide information about the distribution and consumption of network resources. This information helps you understand how the network is used at different granularities (such as for the entire link, for traffic generated by all subscribers in a particular package usage counter, or for traffic generated by a particular subscriber). These reports are critical for tuning the Service Control solution's configuration according to changing network patterns.

Monitoring reports are created from Link Usage, Package Usage, and Real-Time Subscriber Usage Raw Data Records (RDRs). These RDRs (that are generated by the SCE platform) provide periodic usage information (at the various granularities) that is processed according to the selected report template to provide the final report.

Monitoring reports typically show a specific metric for a set of service usage counters at a selected granularity, such as bandwidth for P2P and Browsing service usage counters at a link granularity, or volume for the Streaming service usage counter for subscribers in the Gold package usage counter.

You select the service usage counters on which to report via the SCA Reporter. The available service usage counters are those defined in the service configuration of the SCE platform from which the reports are generated.

- [Granularity, page D-5](#)
- [Metrics, page D-5](#)

## Granularity

A report instance's granularity controls which traffic the generated report addresses. Three granularities are supported:

- **Global**—Provides visibility into all traffic processed by the SCE platforms being reported on. Use global granularity to view the global distribution of network resources (for example, total P2P bandwidth for the last 24 hours).
- **Package**—Reports on traffic mapped to subscribers in a particular package usage counter. Use package granularity to monitor how subscribers assigned to a particular package usage counter (for example, the total volume of streaming traffic for all subscribers assigned to the Gold package usage counter in the last ten days) use network resources. See the “Using the Service Configuration Editor: Traffic Control” chapter of the *Cisco Service Control Application for Broadband User Guide* for a description of how to define different packages in the system.

To generate package usage counter reports, subscribers must be defined (in any of the subscriber modes) and assigned to a particular package. See the “Using the Subscriber Manager GUI Tool” chapter of the *Cisco Service Control Application for Broadband User Guide* for a description of how to manage subscribers.

- **Subscriber**—Provides insight into the activity of a single subscriber defined in the Service Control solution. Use subscriber granularity to view how a particular subscriber is using network resources (for example, the number of P2P sessions generated by a particular subscriber for each hour during the last 12 hours). Subscriber reports are available for those subscribers flagged for real-time reporting. (For a description of managing real-time subscriber reporting, see the “Using the Service Configuration Editor: Traffic Accounting and Reporting” chapter of the *Cisco Service Control Application for Broadband User Guide*..)

Each report template generates reports in a specific granularity. Each type of report is accessible from the corresponding report template group:

- Global report templates are accessible from the [Global Monitoring Template Group, page D-7](#).
- Package report templates are accessible from the [Package Monitoring Template Group, page D-7](#).
- Subscriber report templates are accessible from the [Subscriber Monitoring Template Group, page D-9](#).

## Metrics

A metric is the statistic being reported on. The following metrics are available:

- **Bandwidth**—The total bandwidth consumed by the selected services. By default, a bandwidth report is displayed as a stacked-area chart, where each area indicates the bandwidth used by a particular service.

When generating a bandwidth report, you can select the direction: upstream, downstream, or both.

You can also display an hourly average of bandwidth. This is recommended when you are generating a report for many hours. In this case a single data point per hour is usually sufficient: it reduces the quantity of data displayed, improving performance and the visualization of the data.

- **Volume**—The total volume (in kilobytes or megabytes) for a specific period of time, for the selected service usage counters. As opposed to the bandwidth metric, which provides normalized volume over time, volume reports give the total volume consumed, grouped by specific time durations. By default, a volume report is displayed as a stacked-bar chart, where each bar/series indicates the volume of a particular service usage counter.

Volume reports give the accumulated usage either for specific durations of time (hours or days), or for the entire duration of the report. For example: a Global Hourly Usage Volume report displays a bar that accounts for the total volume consumed by each service usage counter during each hour of the selected time frame, and a Global Aggregated Usage Volume per Service report accounts for all volume of each service usage counter for the entire time frame of the report.

- **Sessions**—The number of sessions. A session is a single network transaction (for example, RTSP stream or P2P file download). By default, a sessions report is displayed as a stacked-bar chart, where each bar/series indicates the total number of sessions of a particular service usage counter.

Like volume reports, sessions reports can be grouped into specific durations (hours or days), in order to account for the total number of sessions in a particular hour/day consumed by a particular service usage counter.

## Information About Traffic Discovery Reports

Traffic discovery reports provide raw statistics for analyzing network activities. They are useful for obtaining information about the general activity in the IP network, and they are the key for defining the system's service configuration.

Traffic discovery reports are based on the information in Transaction RDRs.

Traffic Discovery reports generate histograms and distribution charts that are grouped by a selected *criterion* and sorted by the selected order parameter. For example: a Top Protocols report is sorted by Total Volume, and a Top Web-hosts report is sorted by Hit-Count.

- [Criteria, page D-6](#)
- [Order Property, page D-6](#)

### Criteria

Each report template focuses on a particular criterion based on Layers 3 to 7, such as:

- Top Servers IP addresses
- Top Server Port numbers
- Top HTTP web-hosts
- Top NNTP news-groups

### Order Property

The Metric to order property indicates the value by which the report will be sorted. Possible values are:

- Upstream Volume
- Downstream Volume

- Both Directions Volume—Total upstream and downstream volume
- Hit-Count—Number of transactions

You can limit each report to a specific number of results, which allows you to focus on the top areas of activity (according to the selected value).

## Global Monitoring Template Group

The Global Monitoring group of report templates allows you to view statistics about the traffic bandwidth or volume that was consumed. The bandwidth/volume consumption can be displayed per service for the entire link.

The Global Monitoring group includes the following report templates:

- Global Bandwidth per Service—Shows the distribution of bandwidth among the different services defined in the system for all traffic, regardless of subscriber or package
- Global Aggregated Usage Volume per Service—Shows the total volume of traffic (upstream and downstream) for each service usage counter (for all traffic, regardless of subscriber or package)
- Global Hourly Usage Volume per Service—Shows the distribution of volume among the different service usage counters defined in the system, grouped by hour
- Global Hourly Aggregated Minutes per Service—Shows the total number of minutes used for each service usage counter defined in the system, grouped by hour
- Global Hourly Usage Sessions per Service—Shows the distribution of sessions among the different service usage counters defined in the system, grouped by hour
- Global Concurrent Session per Service—Shows the distribution of concurrent sessions among the different service usage counters defined in the system
- Global Daily Usage Sessions per Service—Shows the distribution of sessions among the different service usage counters defined in the system, grouped by day
- Global Daily Usage Volume per Service—Shows the distribution of volume among the different service usage counters defined in the system, grouped by day
- Daily Peak BW for All Packages

## Package Monitoring Template Group

The Package Monitoring group of report templates allows you to view statistics of bandwidth or volume of traffic used by a package. The reports are provided per service usage counter for the total volume used by the package. The volume consumption can be displayed per service for the package.

The Package Monitoring group includes the following report templates:

- Package Bandwidth per Service—Shows the distribution of bandwidth among the different service usage counters defined in the system for all subscribers belonging to a particular package
- Package Aggregated Usage Volume per Service—Shows the total volume of traffic (upstream and downstream) for each service usage counter (for subscribers in a specific package)
- Package Hourly Usage Volume per Service—Shows the distribution of volume among the different service usage counters defined in the system, for the traffic of subscribers in a specific package usage counter, grouped by hour

- Package Hourly Aggregated Minutes per Service—Shows the total number of minutes used for each service usage counter for a specific package usage counter defined in the system, grouped by hour
- Package Hourly Usage Sessions per Service—Shows the distribution of sessions among the different service usage counters defined in the system, for the traffic of subscribers in a specific package, grouped by hour
- Package Concurrent Session per Service—Shows the distribution of concurrent sessions among the different service usage counters for a specific package usage counter defined in the system
- Package Daily Usage Sessions per Service—Shows the distribution of sessions among the different service usage counters defined in the system, for the traffic of subscribers in a specific package usage counter, grouped by day
- Package Daily Usage Volume per Service—Shows the distribution of volume among the different service usage counters defined in the system, for the traffic of subscribers in a specific package usage counter, grouped by day
- Daily Peak BW for Each Package

## Virtual Links Monitoring Template Group

The Virtual Links Monitoring group of report templates allows you to view statistics of bandwidth or volume of traffic used by a virtual link. The reports are provided per service usage counter for the total volume used by the virtual link. The volume consumption can be displayed per service for the virtual link.

These reports cannot be generated using data collected from an SCE platform running in asymmetric routing classification mode.

**Table D-2** Properties of Virtual Links Monitoring Group Templates only

Property	Field Type	Default	Comments
<b>Items to Focus on</b>			
Select VLink ID	Free Text	(not set)	
Select VLink direction	Single Choice	(not set)	
Select VLink names	Multiple Choice	(not set)	

The Virtual Links Monitoring group includes the following report templates:

- VLink Bandwidth per Service—Shows the distribution of bandwidth among the different service usage counters defined in the system for all subscribers
- VLink Aggregated Usage Volume per Service—Shows the total volume of traffic (upstream and downstream) for each service usage counter
- VLink Hourly Usage Volume per Service—Shows the distribution of volume among the different service usage counters defined in the system, grouped by hour
- VLink Daily Usage Volume per Service—Shows the distribution of volume among the different service usage counters defined in the system, grouped by day
- Daily Peak BW for all VLinks



## Subscriber Monitoring Template Group

The Subscriber Monitoring group of report templates allows you to view statistics about the bandwidth or volume of traffic used by the subscriber. The reports are provided per service usage counter for the total volume consumed by the subscriber. A Top Subscribers report identifies the subscribers that consume the largest traffic volume. Subscriber bandwidth and volume reports can be generated for those subscribers configured for real-time monitoring. See “Selecting Subscribers for Real-Time Usage Monitoring” in the “Additional Management Tools and Interfaces” chapter of the *Cisco Service Control Application for Broadband User Guide* for a description of how to configure real-time subscribers.

The Subscriber Monitoring group includes the following report templates:

- Top Subscribers—Shows a list of the top subscriber volume consumption in a specific hour/day
- Subscriber Bandwidth per Service—Shows the distribution of bandwidth among the different service usage counters defined in the system for a particular subscriber
- Subscriber Aggregated Usage Volume per Service—Shows the most popular service usage counter for a particular subscriber
- Subscriber Hourly Usage Volume per Service—Shows the hourly distribution of volume among the different service usage counters defined in the system for a particular subscriber
- Subscriber Hourly Aggregated Minutes per Service—Shows the total number of minutes used for each service usage counter for a specific package usage counter defined in the system, grouped by hour
- Subscriber Hourly Usage Sessions per Service—Shows the hourly distribution of sessions among the different service usage counters defined in the system for a particular subscriber
- Subscriber Daily Usage Sessions per Service—Shows the daily distribution of sessions among the different service usage counters defined in the system for a particular subscriber
- Subscriber Daily Usage Volume per Service—Shows the daily distribution of volume among the different service usage counters defined in the system for a particular subscriber
- Daily Peak BW for Specific Subscriber

## Traffic Discovery - Statistics Template Group

The Traffic Discovery - Statistics group of report templates allows you to view statistics compiled from the source and destination IP addresses and ports of the system traffic.

These reports cannot be generated using data collected from an SCE platform running in asymmetric routing classification mode.



### Note

The reports in this group are not per subscriber; they supply general port and IP address information.

**Table D-3** Property of Traffic Discovery - Statistics Group Templates only

Property	Field Type	Default	Comments
<b>Traffic Parameters</b>			
Transport Protocol	Single choice	TCP	

The Traffic Discovery - Statistics group includes the following report templates:

- Top Servers—Shows the most popular servers for certain services

**Note**

Server refers to the IP address of the other side of the flow initiator. It may be located on the Subscriber side or on the Network side.

- Top Client—Shows the most popular client IP for certain services

**Note**

Client refers to the IP address of the flow initiator. It may be located on the Subscriber side or on the Network side.

- Top Server Ports—Shows the most popular server ports for certain services
- Top Service Ports—Shows the most popular server ports of a certain service or services
- Top Protocols—Shows the most popular protocol for certain services
- Top IP Protocols—Shows the most popular IP protocol for certain services
- Top Server IP to Server Port—Shows the most popular server IP to server port for certain services
- Top Client IP to Server Port—Shows the most popular client IP to server port for certain services
- Top Client IP to Server IP—Shows the most popular client IP to server IP for certain services
- Top Client IP to Server IP and Server Port—Shows the most popular server IP and server port for certain services.

## Demographic Data and Service Popularity Reports Template Group

The Demographic Data and Service Popularity group of report templates allows you to view statistics of the demographic data.

The Demographic Data and Service Popularity group includes the following report templates:

- Global Active Subscriber per Service—Shows the distribution of subscribers among the different services defined in the system for all traffic, regardless of subscriber or package
- Package Active Subscriber per Service—Shows the distribution of bandwidth among the different services defined in the system for specific subscriber package
- Service Popularity among Subscribers—Shows the percentage of subscribers using a specific service defined in the system
- Service Popularity among Subscribers of a Specific Package—Shows the percentage of subscribers using a specific service in a specific package defined in the system
- Relative Consumption of Top Subscribers—Shows the relative consumption of a specific number of subscribers compared to “other”
- Service Popularity among Subscribers (Average)—Shows the total number of subscribers using a specific service compared to subscribers using all other services
- Service Popularity among Subscribers of a Specific Package (Average)—Shows the total number of subscribers using a specific service compared to subscribers using all other services in a specific package

## Web and Streaming Reports Template Group

The Web and Streaming group of report templates allows you to compile statistics presenting the most popular servers or hosts for the various predefined system services (such as Browsing, Streaming, and Downloading) and for user-defined services.

These reports cannot be generated using data collected from an SCE platform running in asymmetric routing classification mode.

**Table D-4** Property of Web and Streaming Group Templates only

Property	Field Type	Default	Comments
<b>Items to Focus on</b>			
Where host is contained	Free Text	(not set)	Filter to hosts containing the given pattern.

The Web and Streaming group includes the following report templates:

- Top Web Hosts—Shows the most popular web servers
- Top Rtsp Hosts—Shows the most popular real-time streaming protocol (RTSP) servers
- Top FTP Servers—Shows the most popular FTP file hosts
- Top MMS Servers—Shows the most popular MMS hosts
- Top Service Servers—Shows the most popular servers of a certain service or services
- Service Distribution by Subscriber Packages—Shows the most popular web servers, grouped by the package of the requesting subscriber
- Rtsp Host Distribution by Subscriber Packages—Shows the most popular RTSP servers, grouped by the package of the requesting subscriber
- FTP Server Distribution by Subscriber Packages—Shows the most popular FTP file servers, grouped by the package of the requesting subscriber
- MMS Server Distribution by Subscriber Packages—Shows the most popular Microsoft Manager Server servers, grouped by the package of the requesting subscriber
- Service Distribution by Subscriber Packages—Shows the distribution of service usage according to the subscriber packages

## Mail and News Reports Template Group

The Mail and News group of report templates allows you to view statistics of the mail and news traffic.

These reports cannot be generated using data collected from an SCE platform running in asymmetric routing classification mode.

The Mail and News group includes the following report templates:

- Top SMTP Servers—Shows the most popular SMTP hosts
- Top POP3 Servers—Shows the most popular POP3 hosts
- Top NNTP Servers—Shows the most popular NNTP hosts

- Top E-mail Sender—Shows the top e-mail sender
- Top E-mail Recipients—Shows the top e-mail recipients
- Top NNTP Consumers—Shows the top NNTP consumers
- Top Newsgroups—Shows the most popular newsgroups
- SMTP Server Distribution by Subscriber Packages—Shows the most popular SMTP servers, grouped by the package of the requesting subscriber
- POP3 Server Distribution by Subscriber Packages—Shows the most popular POP3 servers, grouped by the package of the requesting subscriber
- NNTP Server Distribution by Subscriber Packages—Shows the most popular NNTP servers, grouped by the package of the requesting subscriber
- Top Subscriber to Newsgroup—Shows the top subscriber to newsgroup for certain services
- Top E-mail Account Owners—Shows the top e-mail account owners

## P2P Reports Template Group

The P2P group of report templates allows you to view statistics of the P2P traffic.

These reports cannot be generated using data collected from an SCE platform running in asymmetric routing classification mode.

The P2P group includes the following report templates:

- Top P2P Protocols—Shows the most popular P2P protocol for certain services
- Top P2P Consumers—Shows a list of the top P2P subscriber volume consumption
- Top P2P Downloaders—Shows the top P2P download consumers
- Top P2P Uploaders—Shows the most popular P2P upload consumers

## VoIP Reports Template Group

The VoIP group of report templates allows you to view statistics of the VoIP traffic.

These reports cannot be generated using data collected from an SCE platform running in asymmetric routing classification mode.

**Table D-5** Property of VoIP Group Templates only

Property	Field Type	Default	Comments
<b>Data Show</b>			
Codec to filter	Multiple Choice	(not set)	

The VoIP group includes the following report templates:

- Global Bandwidth per VoIP Service—Shows the distribution of bandwidth among the different VoIP services defined in the system for all traffic, regardless of subscriber or package
- Global Concurrent Calls per VoIP Service—Shows the distribution of concurrent sessions among the different VoIP service usage counters defined in the system, grouped by day

- Global Hourly Call Minutes per VoIP Service—Shows the distribution of call minutes among the different VoIP service usage counters defined in the system, grouped by day
- Package Bandwidth per VoIP Service—Shows the distribution of bandwidth among the different VoIP services defined in the system for the traffic of subscribers in a specific package
- Packet Concurrent Calls per VoIP Service—Shows the distribution of concurrent sessions among the different VoIP service usage counters defined in the system, grouped by day
- Package Hourly Call Minutes per VoIP Service—Shows the distribution of call minutes among the different VoIP service usage counters defined in the system, grouped by day
- Subscriber Bandwidth per VoIP Service—Shows the distribution of bandwidth among the different VoIP services defined in the system for the traffic of subscribers in a specific package
- Subscriber Hourly Call Minutes per VoIP Service—Shows the distribution of call minutes among the different VoIP service usage counters defined in the system, grouped by day
- Top SIP Domains—Shows the most popular SIP Domains
- Top Talkers—Shows a list of the top talker volume/session/minutes consumption in a specific hour/day for a specific/all VoIP services
- Global VoIP Packets Loss
- Global VoIP Jitter
- Global Hourly Average VoIP Packets Loss
- Global Hourly Average VoIP Jitter
- Global VoIP MOS
- Global Hourly Average VoIP MOS
- Global VoIP MOS Distribution
- Global VoIP Codec Distribution

## Malicious Traffic Template Group

The Malicious Traffic group of report templates allows you to view statistics of the malicious events accrued in the system.

**Table D-6** Properties of Malicious Traffic Group Templates only

Property	Field Type	Default	Comments
<b>Traffic Parameters</b>			
IP protocol	Single Choice	(not set)	
Filter to port	Free Text	(not set)	
Detected IP side	Single Choice	(not set)	

The Malicious Traffic group includes the following report templates:

- Global Scan or Attack Rate—Shows the rate (session/sec) of scan/attacks originating from the hosts (typically because of a worm or zombie)
- Global DoS Rate—Shows the rate (sessions/sec) of DoS attacks on the targeted host
- Top Scanning or Attacking Hosts—Shows the top hosts identified as DoS attacking

- Top DoS Attacked Hosts—Shows the top DoS-attacked hosts
- Infected Subscribers—Shows the distribution of infected subscribers over time among the different IP protocols in the system
- DoS Attacked Subscribers—Shows the distribution of DoS-attacked subscribers over time among the different IP protocols defined in the system
- Top DoS Attacked Subscribers—Shows the top DoS-attacked subscribers
- Top Scanning or Attacking subscribers—Shows the top subscribers identified as DoS attacking
- Top Scanned or Attacked Ports—Shows the top scanned or attacked ports