Cisco Service Control Application Reporter User Guide

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Cisco Service Control Application Reporter User Guide

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About This Guide

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Introduction

This section describes who should read *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

The Document Revision History table records changes to this document.

Table 1 Document Revision History

Revision	Cisco Service Control Release and Date	Change Summary
OL-26822-01	Release 3.8.x September 17, 2012	New document for release 3.8.0.

Organization

This guide contains the following sections:

Table 2 Document Organization

Section	Title	Description
1	Cisco Service Control Overview	Provides a brief overview of the Cisco Service Control solution and describes the components of the system.
2	Getting Started	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 QuickStart section.
3	Using the Cisco Service Control Application Reporter	Describes basic and advanced configuration of the SCA Reporter. It also describes how to navigate in the GUI.
4	Managing Report Instances	Describes the features of the SCA Reporter, including creating a new report instance and modifying an existing report instance.
5	Working with Reports	Describes the available actions for the SCA Reporter, including viewing and adjusting the chart display.
6	The SCA Reporter Command-Line Interface	Explains how to use the SCA Reporter CLI to generate reports.
A	Installing and Upgrading SCA Reporter Templates	Describes how to install and upgrade SCA Reporter templates.
B	Troubleshooting	Describes SCA Reporter error messages and their probable causes and solutions.
C	SCA Reporter as a Tool in the SCA BB Console	Describes the SCA Reporter as a tool in the SCA BB Console.
D	SCA Reporter Templates	Describes the properties of report instances created from the SCA Reporter templates, organized by template groups.

Related Documentation

Use *Cisco Service Control Application Reporter User Guide* with the following documentation:

- *Cisco Service Control Application for Broadband User Guide*
- *Cisco Service Control Application for Broadband Reference Guide*
- *Cisco Service Control Application for Broadband Service Configuration API Programmer Guide*

Conventions

This document uses the following conventions:

Table 3 Conventions

Convention	Indication
bold font	Commands and keywords and user-entered text appear in **bold** font.
italic font	Document titles, new or emphasized terms, and arguments for which you supply values are in *italic* font.
[ ]	Elements in square brackets are optional.
{x | y | z }	Required 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.
`courier` font	Terminal sessions and information the system displays appear in `courier` 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*.

Tip Means *the following information will help you solve a problem*.

Caution Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

Timesaver Means *the described action saves time*. You can save time by performing the action described in the paragraph.

Warning **Means *reader be warned*. In this situation, you might perform an action 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 *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

Cisco Service Control Overview

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Introduction

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

This chapter also briefly describes the hardware capabilities of the service control engine (SCE) platform and the specific Cisco applications that together compose the total Cisco service control solution.

Cisco Service Control Solution

Cisco service control solution is delivered through a combination of hardware and specific software solutions that address various service control challenges. Service providers can use the SCE platform to support classification, analysis, and control of Internet and IP traffic.

Service control enables service providers to:

- Capitalize on existing infrastructure.
- Analyze, charge for, and control IP network traffic at multigigabit wire line speeds.
- Identify and target high-margin content-based services and 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 face 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.

Cisco service control solutions allow the service provider to capture profits from IP Services through detailed monitoring, precise, real-time control, and awareness of services as they are delivered.

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.

Cisco service control application for broadband (SCA BB) adds a 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 service level agreements (SLAs).
- Implement different service levels for different types of customers, content, or applications.
- Identify network abusers who are violating the acceptable use policy (AUP).
- Identify and manage peer-to-peer traffic, NNTP (news) traffic, and SPAM abusers.
- Enforce the AUP.
- Integrate Service Control solutions easily with existing network elements and business support systems (BSS) and operational support systems (OSS).

Cisco Service Control Capabilities

The core of the Cisco service control solution is the 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—Ability to map between IP flows and a specific subscriber to maintain the state of each subscriber transmitting traffic through the SCE platform and to enforce the appropriate policy on the traffic for this subscriber.

    Subscriber awareness is achieved either through dedicated integrations with subscriber management repositories, such as a DHCP or a RADIUS server, or through sniffing of RADIUS or DHCP traffic.
  - Application awareness—Ability to understand and analyze traffic up to the application protocol layer (Layer 7).

    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—Ability to perform advanced control functions, including granular bandwidth (BW) metering and shaping, quota management, and redirection, using application-layer, stateful, real-time traffic transaction processing. This feature requires highly adaptive protocol and application-level intelligence.
- Programmability—The ability to add new protocols quickly and adapt to new services and applications in the 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—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 integration process.
- Scalable high-performance service engines—Ability to perform all of these operations at wire speed.

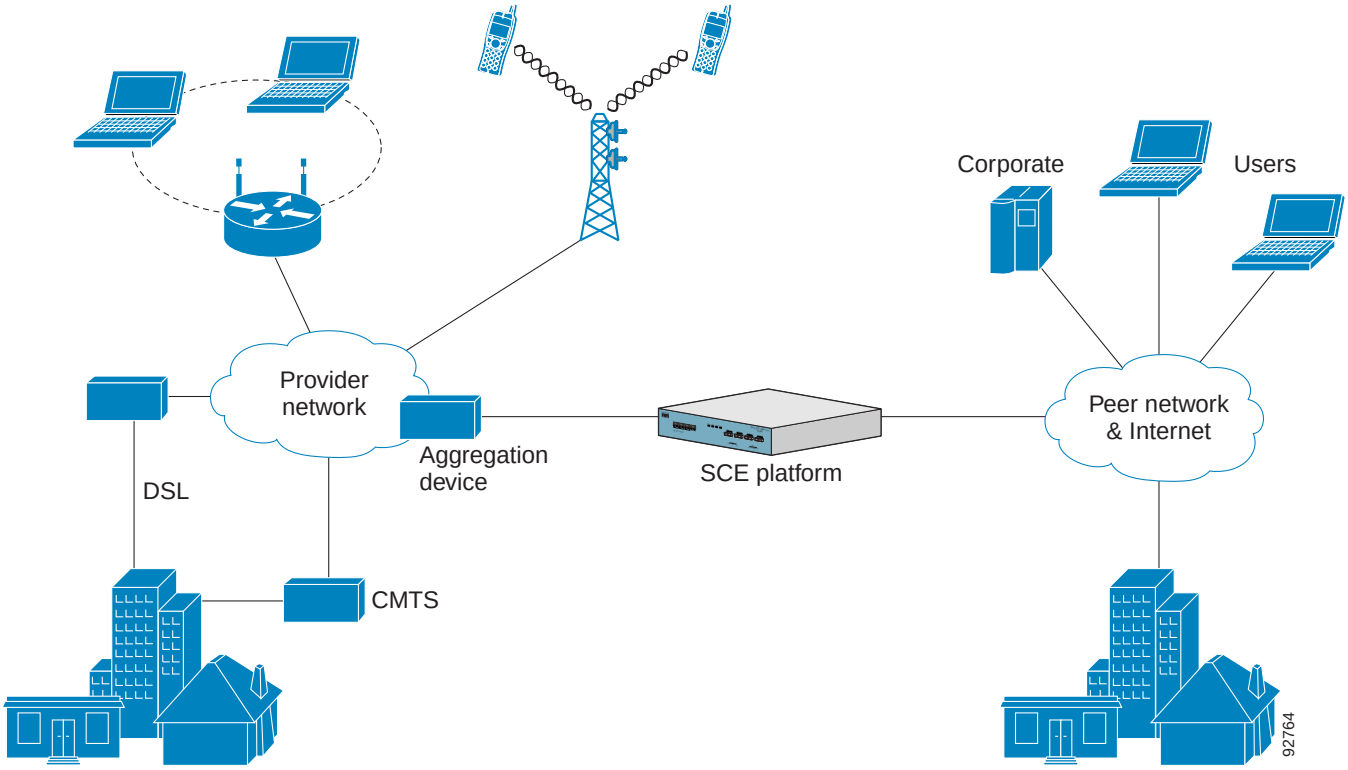
SCE Platform Description

The SCE family of programmable network devices performs application-layer stateful-flow inspection of IP traffic, and controls the traffic based on configurable rules. The *SCE platform* is a network device that uses ASIC components and reduced instruction set computer (RISC) processors to exceed beyond packet counting and expand into the contents of network traffic. Providing programmable, stateful inspection of bidirectional traffic flows, and mapping these flows with user ownership, SCE platforms provide real-time classification of network use. The classification provides the basis of the SCE platform advanced traffic-control and bandwidth-shaping functionality. Where most bandwidth shaper functionality ends, the SCE platform provides further control and shaping options, including:

- Layer 7 stateful wire-speed packet inspection and classification
- Robust support for more than 600 protocols and applications, including:
  - General—HTTP, HTTPS, FTP, Telnet, Network News Transfer Protocol (NNTP), Simple Mail Transfer Protocol (SMTP), Post Office Protocol 3 (POP3), Internet Message Access Protocol (IMAP), Wireless Application Protocol (WAP), and others
  - Peer-to-peer (P2P) file sharing—FastTrack-KazaA, Gnutella, BitTorrent, Winny, Hotline, eDonkey, DirectConnect, Piolet, and others
  - P2P VoIP—Skype, Skinny, DingoTel, and others
  - Streaming and Multimedia—Real Time Streaming Protocol (RTSP), Session Initiation Protocol (SIP), HTTP streaming, Real Time Protocol (RTP) and Real Time Control Protocol (RTCP), and others
- Programmable system core for flexible reporting and bandwidth control
- Transparent network and BSS and OSS integration into existing networks
- Subscriber awareness that relates traffic and usage to specific customers

Figure 1-1 illustrates a common deployment of an SCE platform in a network.

Figure 1-1 SCE Platform in Network



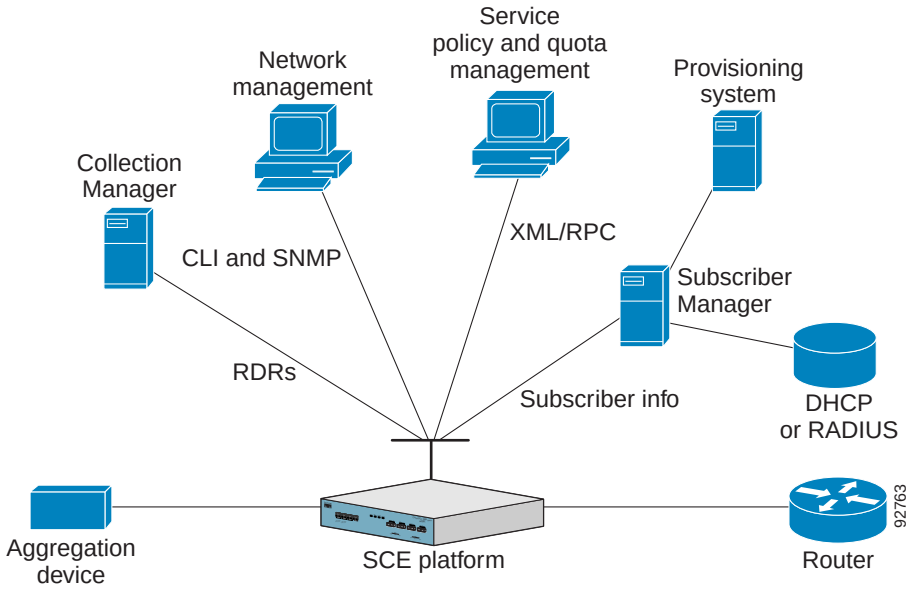
Management and Collection

The Cisco service control solution includes a management infrastructure that provides management components to manage all aspects of the solution:

- Network management
- Subscriber management
- Service control management

Figure 1-2 shows how these management interfaces comply with common management standards and integrate easily with existing OSS infrastructure.

Figure 1-2 Service Control Management Infrastructure



Managing Networks Using the SCE

The Cisco service control solution provides complete network Fault, Configuration, Accounting, Performance, Security (FCAPS) management.

Two interfaces provide 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 (through SNMP traps) and performance-monitoring functionality.

Subscriber Management—Bridging OSS and SCE Platforms

Where the Cisco service control application for broadband (SCA BB) enforces 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 OSS and 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—SM pushes subscriber information to the SCE platform automatically upon login of a subscriber.
- Pull mode—SM sends subscriber information to the SCE platform in response to a query from the SCE platform.

Managing Service Configuration

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 standards-based approach makes it easy to manage multiple devices in a large network.

Service control provides a GUI to edit and create these files and a complete set of APIs to automate their creation.

Performing Data Collection

Data collection occurs as follows:

1. All analysis and data processing functions of the SCE platform result in the generation of Raw Data Records (RDRs), which the SCE platform forwards using a simple TCP-based protocol (RDR-Protocol).
2. The Cisco service control management suite collection manager processes the RDRs.
3. *Collection manager software* is an implementation of a collection system that receives RDRs from one or more SCE platforms. It collects these records and processes them in one of its adapters. Each adapter performs a specific action on the RDR.

RDRs contain various information and statistics, depending on the configuration of the system. Three main categories of RDRs include:

- Transaction RDRs—Records generated for each *transaction*, where a transaction is a single event detected in network traffic. The identification of a transaction depends on the particular application and protocol.
- Subscriber Usage RDRs—Records generated per subscriber, describing the traffic generated by that subscriber for a defined interval.
- Link RDRs—Records generated per link, describing the traffic carried on the link for a defined interval.

CHAPTER 2

Getting Started

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Introduction

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

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 SCA Reporter as a Tool in the SCA BB Console, page C-1

The available reports can be displayed in various 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 multiple file formats as well as print or send the reports through e-mail. You can also modify the reports by changing the values assigned to the properties (for example, time boundaries). You can duplicate, save, and add reports to Favorites.

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.
- Favorites view—View a list of frequently used report templates and generate a report.
- Hierarchy view—View the report metrics in a hierarchical tree. You can select and deselect metrics to add and remove them from the report.

Generating a report can be divided into five broad steps:

1. Create a report instance from the Templates view using the New Report wizard.
   a. Configure the properties of the report instance.
   b. Execute the new report instance (optional).
   c. Add the new report instance to the favorites view (optional).
2. View the report in tabular or graphic form in its report view.
3. Select and deselect chart items in the hierarchy view to view a subset of the report data.
4. Expand and collapse chart items in the hierarchy view.
5. Adjust the chart display of the report in the Properties view.

You can generate multiple reports simultaneously and later export, print or send the reports through e-mail. 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 2000, Windows XP or Windows 7.

You can install the SCA Reporter command-line application for Linux on any computer running Red Hat Enterprise Linux 4 or 5.

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 in Windows

Installing the SCA Reporter in Windows

Step 1 Navigate to the SCA Reporter installation file, SCA Reporter 3.8.0 Setup.exe, and double-click it.

The Welcome to the SCA Reporter 3.8.0 Setup wizard window appears.

Step 2 Click **Next**. The Choose Install Location window of the SCA Reporter 3.8.0 Setup wizard appears.

Step 3 (Optional) To install it on a different directory, click **Browse**.

Step 4 Click **Next**. The Choose Start Menu Folder window of the SCA Reporter 3.8.0 Setup wizard appears.

Step 5 (Optional) To install it on a different location, enter a different Start Menu folder in the Start Menu Folder field.

Step 6 Click **Install**. The Installing window of the SCA Reporter 3.8.0 Setup wizard appears.

Step 7 Wait until installation is complete. The Completing the SCA Reporter 3.8.0 Setup wizard window appears.

Step 8 Click **Finish**. The SCA Reporter 3.8.0 Setup wizard closes. The SCA Reporter is now installed on the machine.

Uninstalling the SCA Reporter in Windows

Step 1 Choose **Start > All Programs > Cisco SCA > SCA Reporter 3.8.0 > Uninstall**. The Welcome to the SCA Reporter 3.8.0 Uninstall wizard appears.

Step 2 Click **Next**. The Uninstall SCA Reporter 3.8.0 window appears.

Step 3 Click **Uninstall**. The Uninstalling window appears.

Step 4 Wait until uninstallation is complete. The Completing the SCA Reporter 3.8.0 Uninstall wizard window appears.

Step 5 Click **Finish**. The SCA Reporter is uninstalled from the machine.

Installing the SCA Reporter in Linux

You can install the SCA Reporter in Linux, and then run it from the command line (see The SCA Reporter Command-Line Interface, page 6-1).

Installing the SCA Reporter in 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 **tar xpzf reporter-cmd-linux-3.8.0.tgz** command.

Step 3 Run the **reportercmd.sh –setup** command from the installation directory.

Uninstalling the SCA Reporter in Linux

Delete the installation directory.

Starting the SCA Reporter

Access the SCA Reporter from the **Start** menu.

Step 1 Choose **Start > All Programs > Cisco SCA > SCA Reporter 3.8.0 > SCA Reporter 3.8.0**.

The Cisco Service Control SCA Reporter splash window appears. After the SCA Reporter loads, the main window of the SCA Reporter appears, displaying the Welcome view.

Step 2 Close the Welcome pane. The Templates pane appears, see Figure 2-1.

Figure 2-1 Templates

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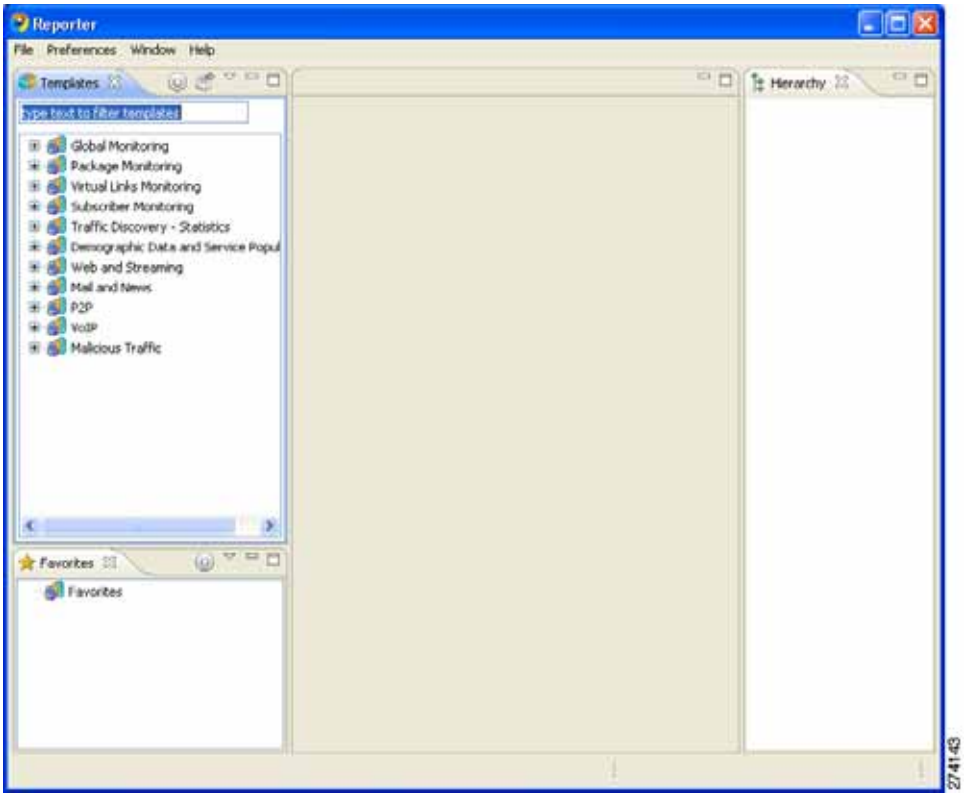


Configuring the SCA Reporter

To configure the SCA reporter, create a basic configuration for the SCA reporter. This procedure 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 *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, select the IP address of one of the SCE platforms in tThe database. The choice is made for each repository, represented by a tab in the Preferences (Filtered) window. The service configuration applied to the configured SCE platform determines all options offered in the Templates view of the SCA Reporter (available packages, services). 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 2-7
- Setting the IP Address of an SCE Platform, page 2-11
- Setting Chart Colors, page 2-13
- Configuring the Legend in Charts, page 2-19
- Configuring Advanced Options for the SCA Reporter, page 2-21

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.

- Adding a Database Connection, page 2-8
- Activating Database Connections, page 2-11

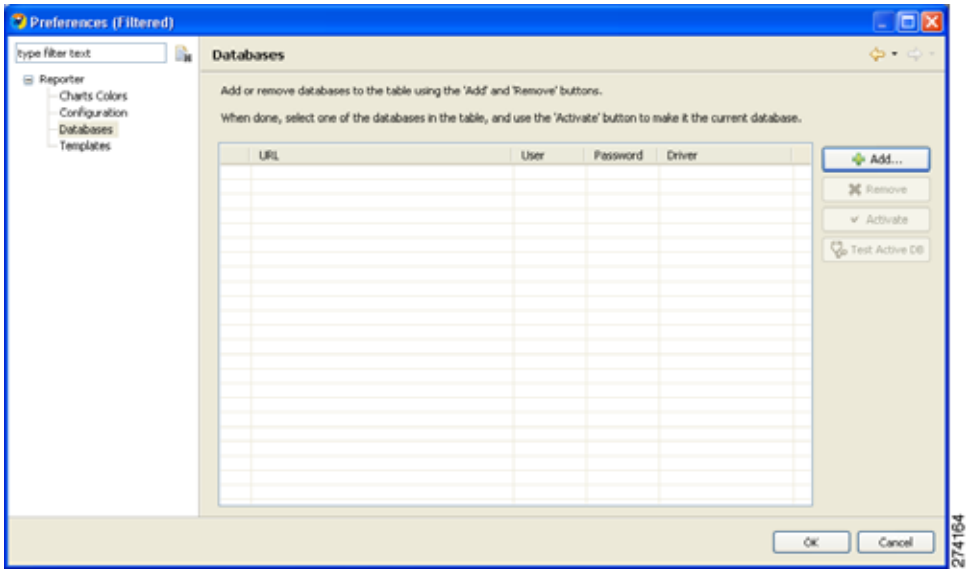
Adding a Database Connection

A database connection can be added using the Add Database wizard.

Step 1 At the Main menu, choose **Preferences (Filtered)** > **Reporter**. The Preferences (Filtered) window appears, see Figure 2-2.

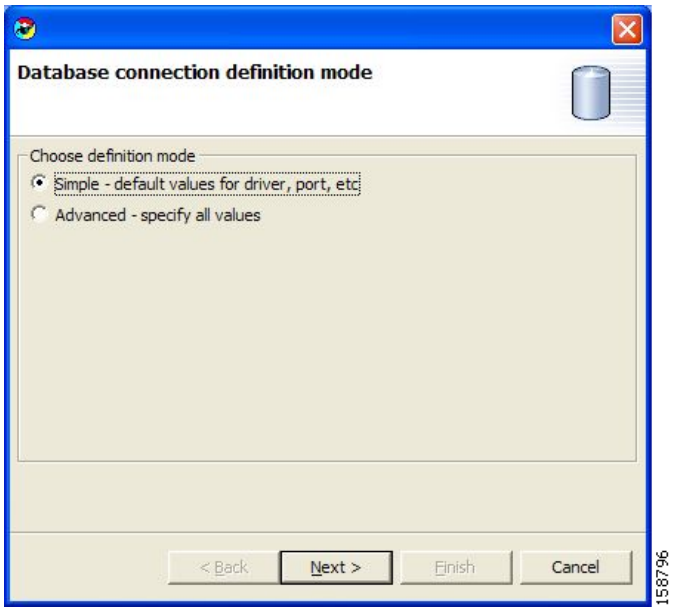
Step 2 From the Reporter tree, choose **Reporter** > **Databases**.

Figure 2-2 Preferences (Filtered) (Databases)



Step 3 In the Databases pane, click **Add**. The Add Database wizard window appears, see Figure 2-3.

Figure 2-3 Add Database Wizard



Step 4 Select one of the Choose definition mode radio buttons.

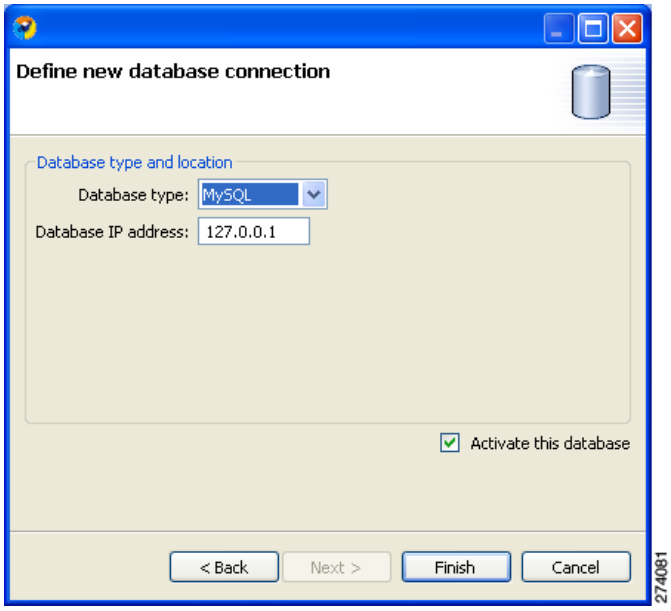
- **Simple**
- **Advanced**

Step 5 Click **Next**.

The Define new database connection window appears. The display depends upon the definition mode selected in Step 4:

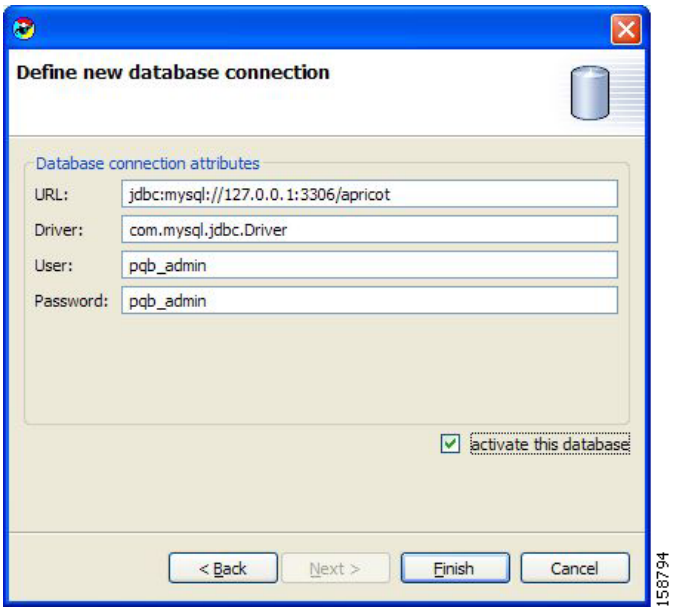
- If you selected Simple definition mode, the display of the Define new database connection window is as shown in Figure 2-4

Figure 2-4 Define New Database Connection



- If you selected Advanced definition mode, the display of the Define new database connection window is as shown in Figure 2-5

Figure 2-5 Advanced Definition



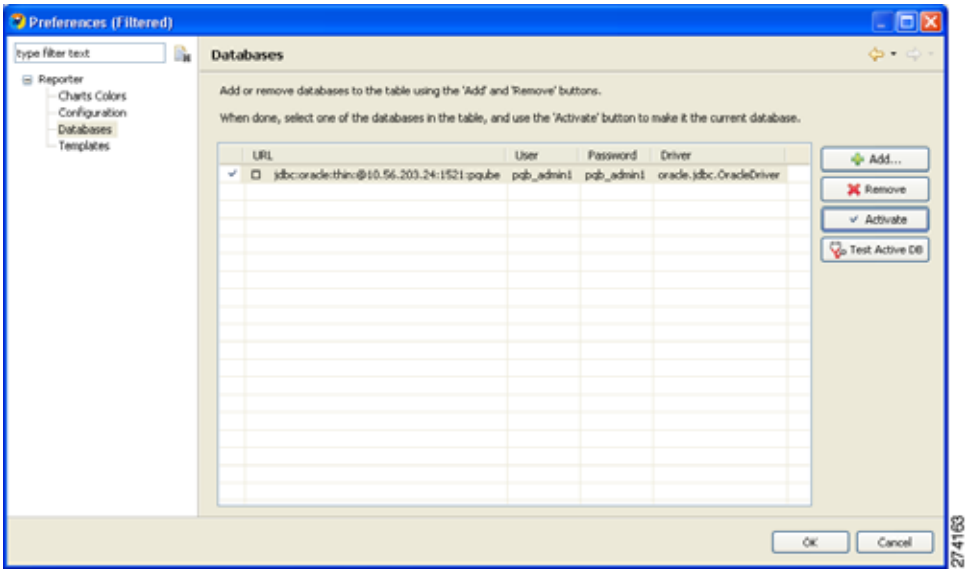
Step 6 Enter the required details to fill in all fields.

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 (Filtered) window, see Figure 2-6.

Figure 2-6 Preferences (Filtered)—Databases



Step 9 Click **Test Active DB**.

The database connection is tested.

- If successful, the following message appears: Click **OK**.
- If unsuccessful, reconfigure the database connection.

Step 10 Click **OK**. The Preferences (Filtered) window closes.

Activating Database Connections

Step 1 At the main menu, choose **Preferences (Filtered)** > **Reporter**. The Preferences (Filtered) window appears.

Step 2 From the Reporter tree, choose **Reporter** > **Databases**. All defined database connections are listed in the table.

A check mark () indiates the currently active database (if any).

Step 3 Choose the database connection you wish to activate.

Step 4 Click **Activate**.

Step 5 Click **OK**. The database is activated.

The first IP address listed for policy data is selected as the IP address of the SCE platform whose service configuration data is to be used in reports. The Preferences (Filtered) window closes.

Setting the IP Address of an SCE Platform

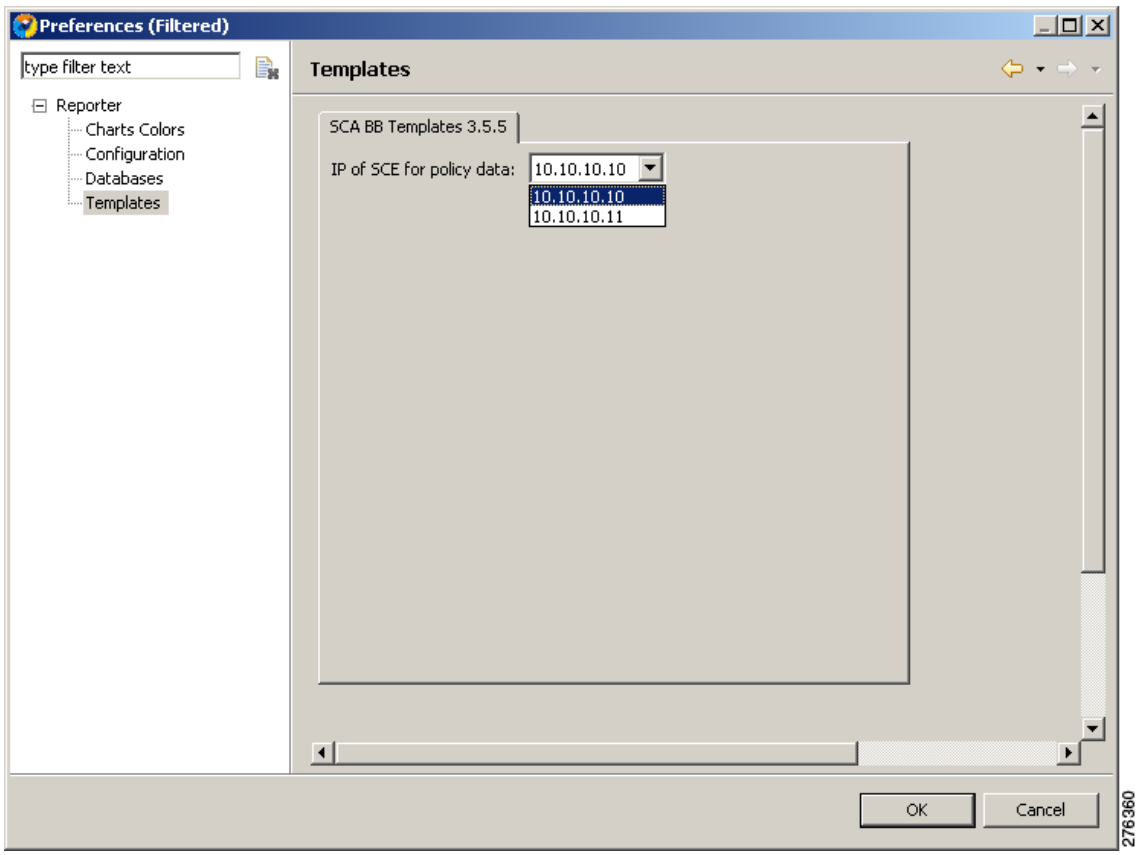
The IP address is set automatically to the first entry of the IP list, when the database is activated. To change the IP address, use this procedure.

Note The Preferences (Filtered) window contains one tab for each repository (set of templates) available in the Reporter. In each template, you choose one SCE platform. If there is more than one repository, more than one set of template groups in the Templates view exists.

Step 1 At the main menu, choose **Preferences (Filtered)** > **Reporter**. The Preferences (Filtered) window appears, see Figure 2-7.

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

Figure 2-7 Preferences (Filtered)—Templates



Step 3 In the Templates pane, from the **IP of SCE for policy data** drop-down list, choose 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 Before you close the dialog box, you *must* click **Apply**.

Step 5 Click **OK**. The Preferences (Filtered) window closes.

Setting Chart Colors

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 sets.

This feature 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

For information on Color Sets and changing legend item color, see Using Color Sets, page 2-14 and Changing a Single Legend Item Color, page 2-16.

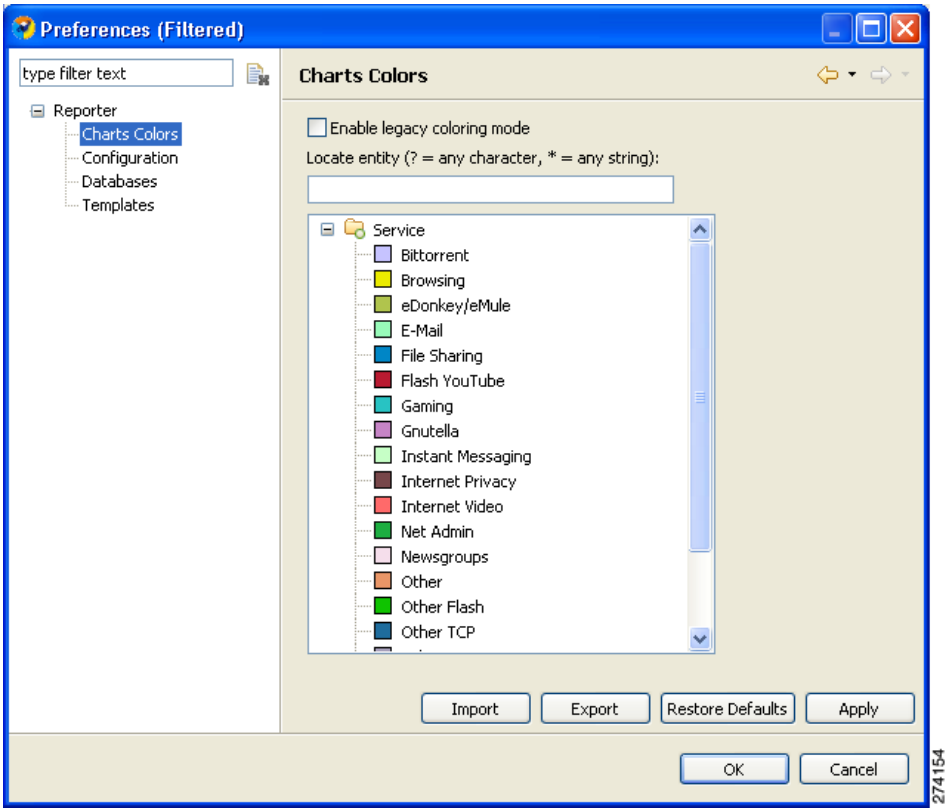
Using Color Sets

Each line of a color set file defines the color of one legend item. It is recommended that you avoid editing the color set file manually.

Step 1 At the Main menu, choose **Preferences (Filtered)> Reporter**. The Preferences (Filtered) dialog box appears.

Step 2 In the Reporter tree, choose **Reporter > Charts Colors**. The Charts Colors pane appears, see Figure 2-8.

Figure 2-8 Chart Colors Preference



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.

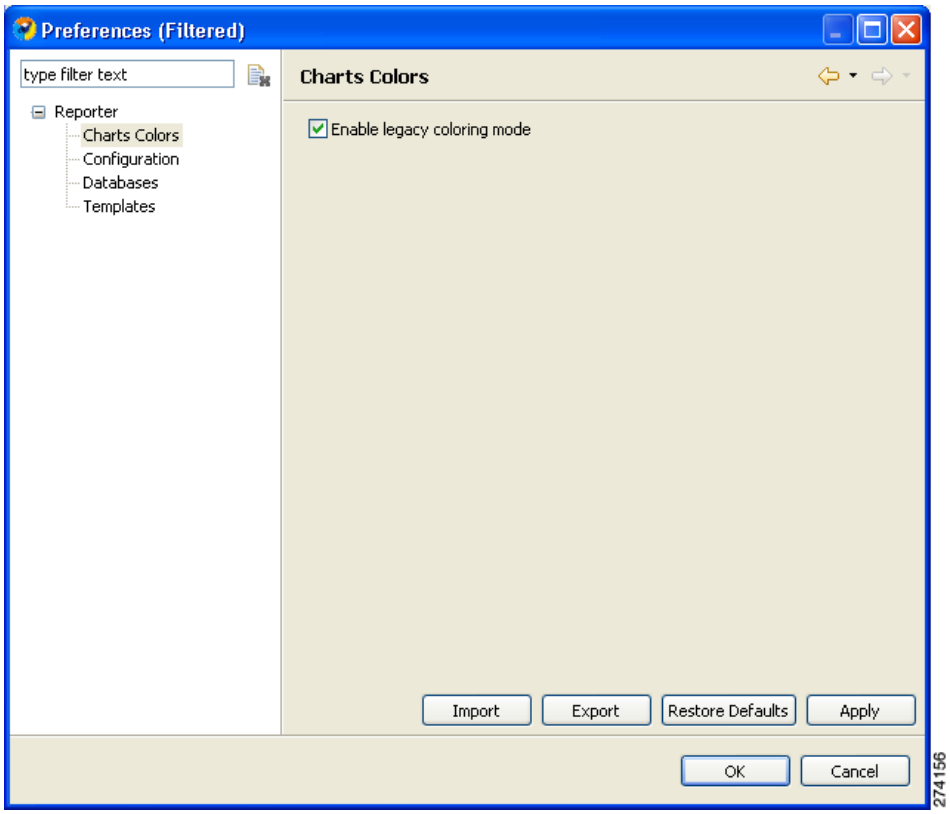
- To export the current color set to a file, click **Export**.

  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 before release 3.5.0, check the **Enable legacy coloring mode** check box, see Figure 2-9.

Figure 2-9 Chart Colors - Enable Legacy Coloring Mode



Note Before applying Import, Restore Defaults, or Enable legacy color mode, a Confirm discarding color settings dialog box appears, see Figure 2-10.

Figure 2-10 Confirm Discarding Color Settings

Step 4 Click **OK**. The Preferences (Filtered) window closes.

Changing a Single Legend Item Color

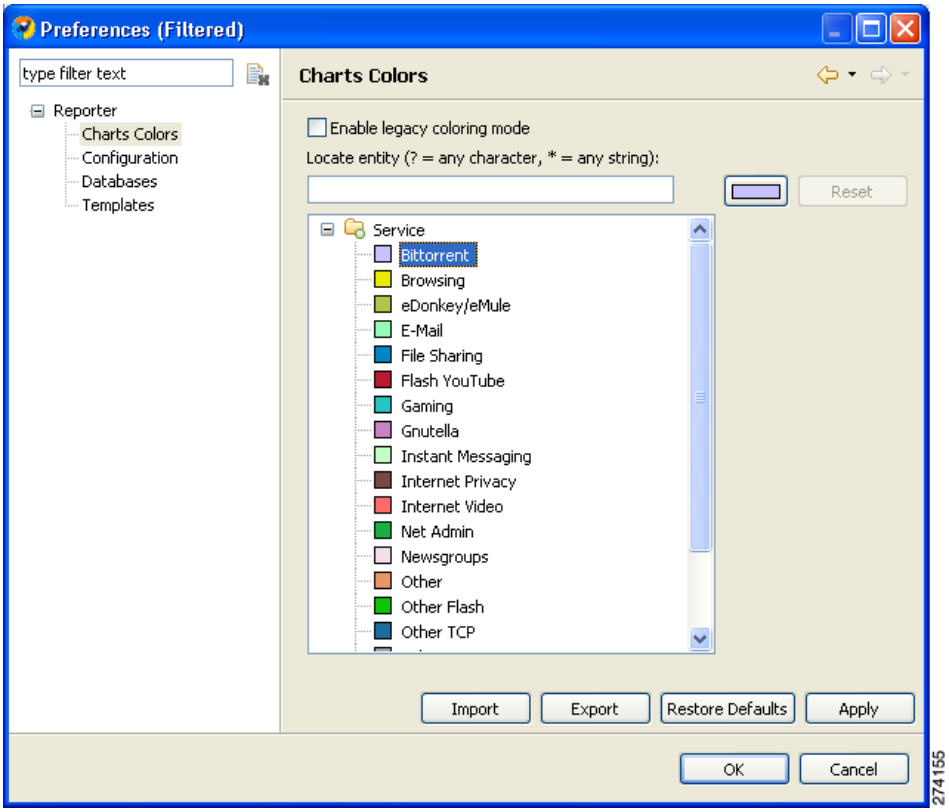
Step 1 At the Main menu, choose **Preferences (Filtered)** > **Reporter**. The Preferences (Filtered) window appears.

Step 2 In the Reporter tree, choose **Reporter** > **Charts Colors**. The Charts Colors preference pane appears.

Step 3 Select a legend item (in the following window, a service) from the color tree.

The current color of the legend item appears in the upper right corner of the Charts Colors pane, see Figure 2-11.

Figure 2-11 Current Color



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.

Step 4 Click the color. A color palette window appears, see Figure 2-12.

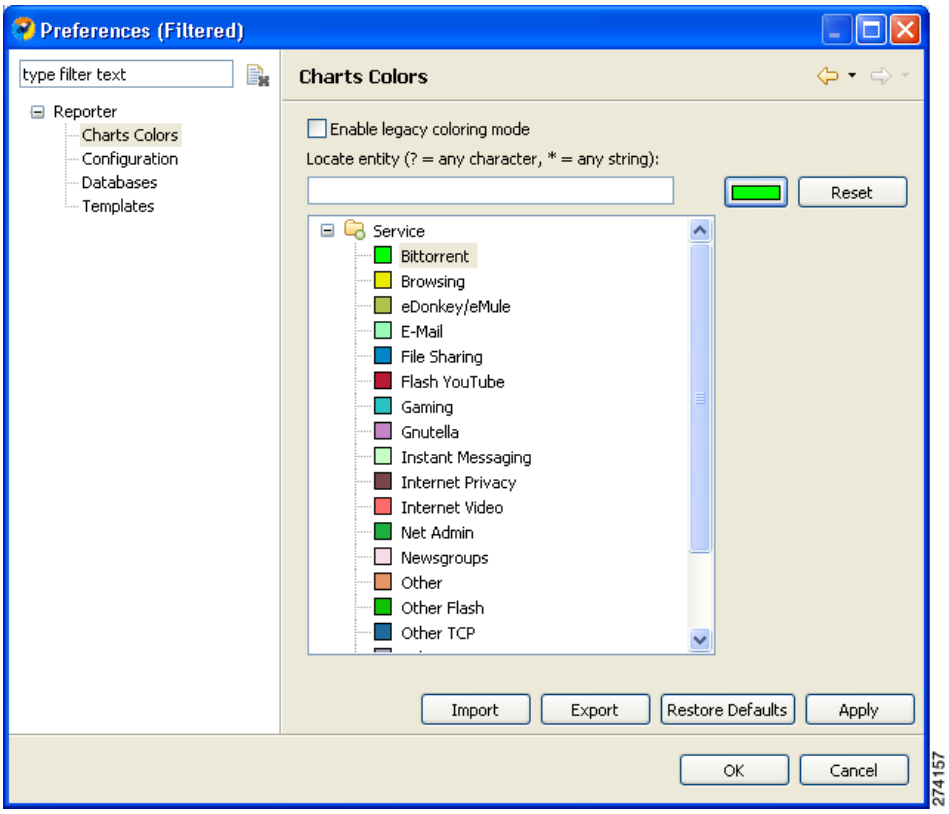
Figure 2-12 Color Palette

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

The Color window closes. The selected color is applied to the legend item, see Figure 2-13.

The Reset button is enabled.

Figure 2-13 Selected Color Applied



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

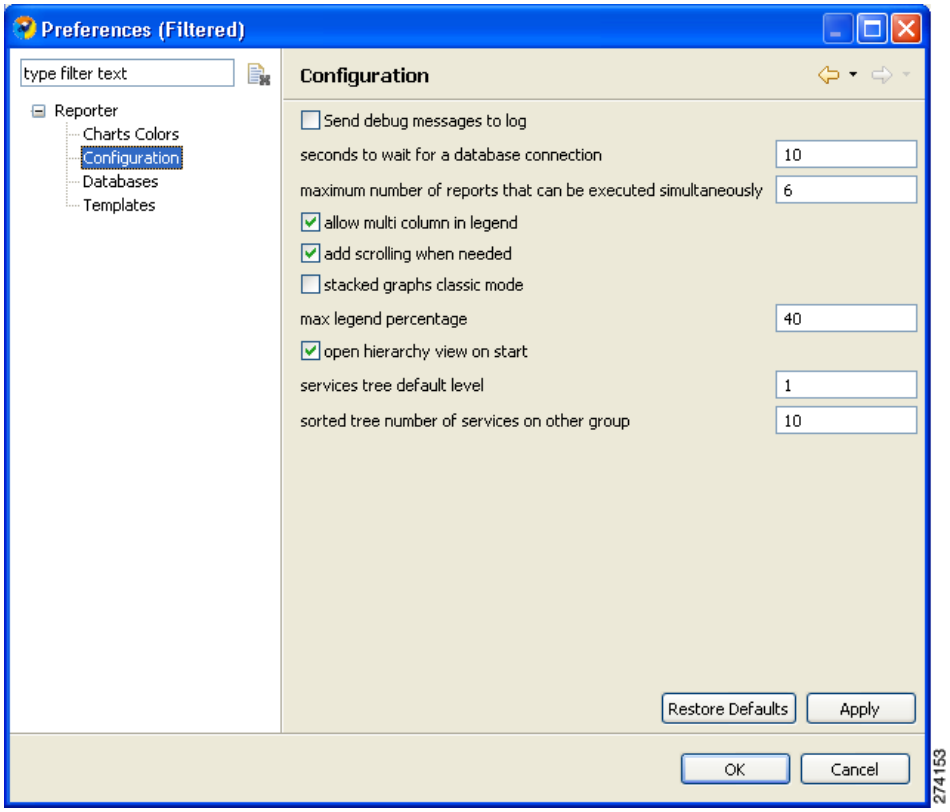
Configuring the Legend in Charts

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

Step 1 At the Main menu, choose **Preferences (Filtered) > Reporter**. The Preferences (Filtered) window appears, see Figure 2-14.

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

Figure 2-14 Preferences (Filtered)—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 (Filtered) window closes.

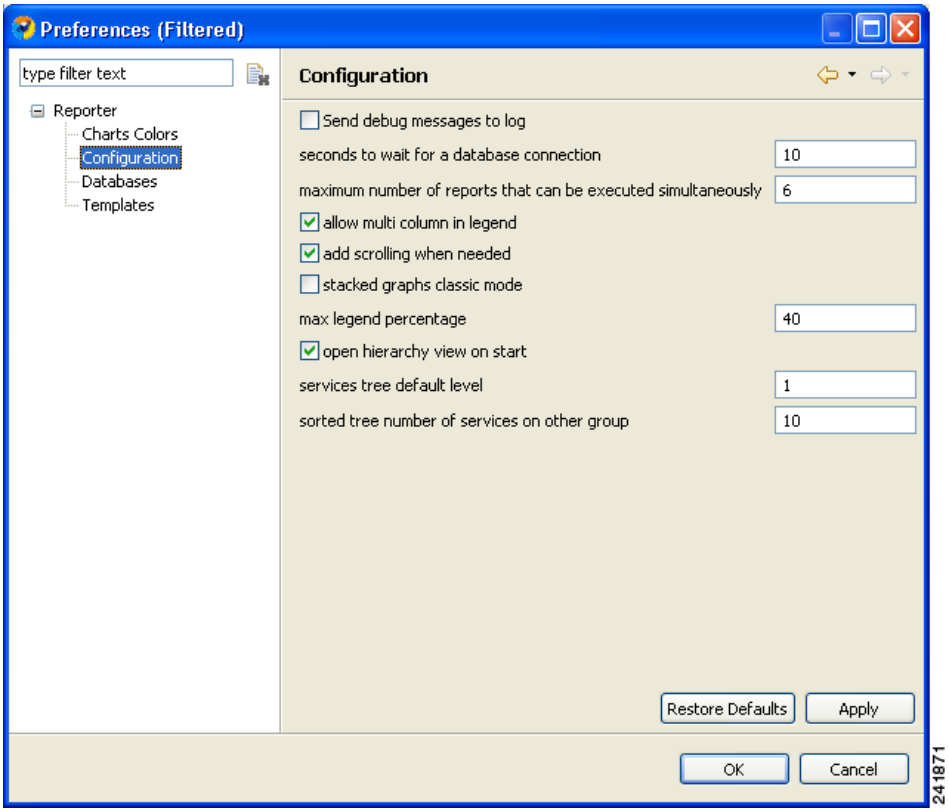
Configuring Hierarchy View

To configure several attributes of the Hierarchy view:

Step 1 At the Main menu, choose **Preferences (Filtered) > Reporter**. The Preferences (Filtered) window appears, see Figure 2-15.

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

Figure 2-15 Preferences (Filtered)—Configuration



Step 3 (Optional) Check **open hierarchy view on start**.

Step 4 (Optional) In the services tree default level field, enter a new value.

Step 5 (Optional) In the sorted tree number of services on other group field, enter a new value indicating the number of services to include in the Other group of the hierarchy.

Step 6 Click **OK**. The new settings are saved.

The Preferences (Filtered) window closes.

Configuring Advanced Options for the SCA Reporter

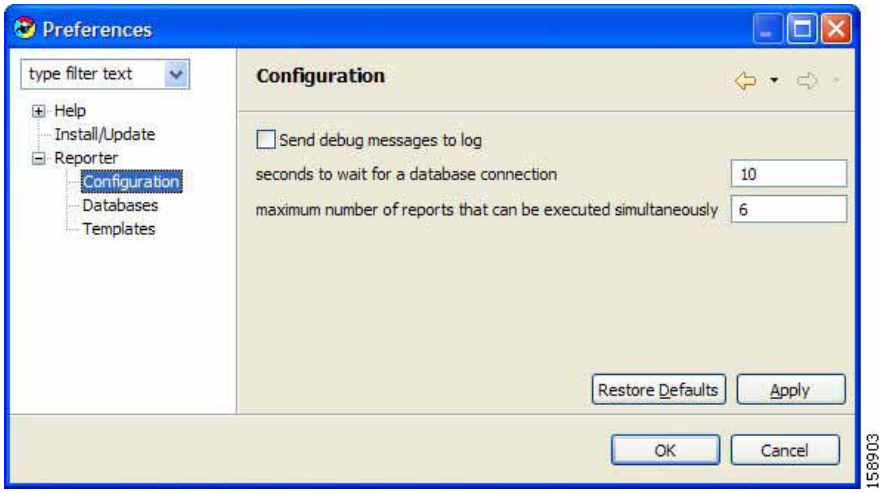
You can configure the following advanced options of the SCA reporter:

- Logging debug messages
- Length of time to wait for a database connection
- Maximum number of report instances that can be executed simultaneously

Step 1 At the Main menu, choose **Preferences (Filtered)** > **Reporter**. The Preferences (Filtered) window appears, see Figure 2-16.

Step 2 In the Reporter tree, choose **Reporter** > **Configuration**.

Figure 2-16 Preferences (Filtered)—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 Enter a new value in the seconds to wait for a database connection field.

Step 5 Enter a new value in the maximum number of reports that can be executed simultaneously field.

Step 6 Click **OK**. The new settings are saved. The Preferences (Filtered) window closes.

Using Online Help

Accessing Online Help

To access parts of this user guide from the SCA reporter:

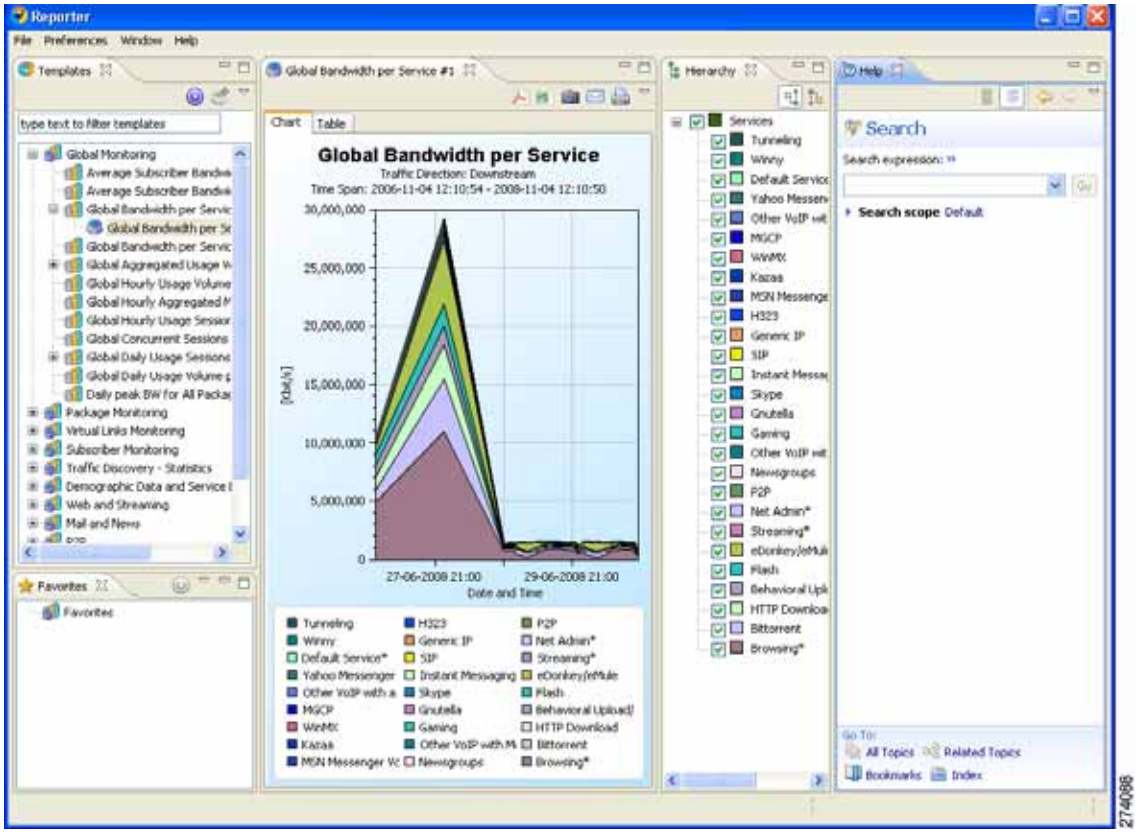
Step 1 From the Help menu, choose **Help Contents**. Online help appears in a separate window. For more information, see "Using Online Help Search" section on page 2-23.

Using Online Help Search

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

Step 1 From the Help menu, choose **Search**. The Help view appears in the Reporter window (Figure 2-17).

Figure 2-17 Reporter Help



Step 2 Enter a word, phrase, or 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 appear under Local Help.

Step 4 To view its contents, click a **help** topic.

Note You can bookmark topics for later reference.

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

- All topics
- Related topics
- Bookmarks

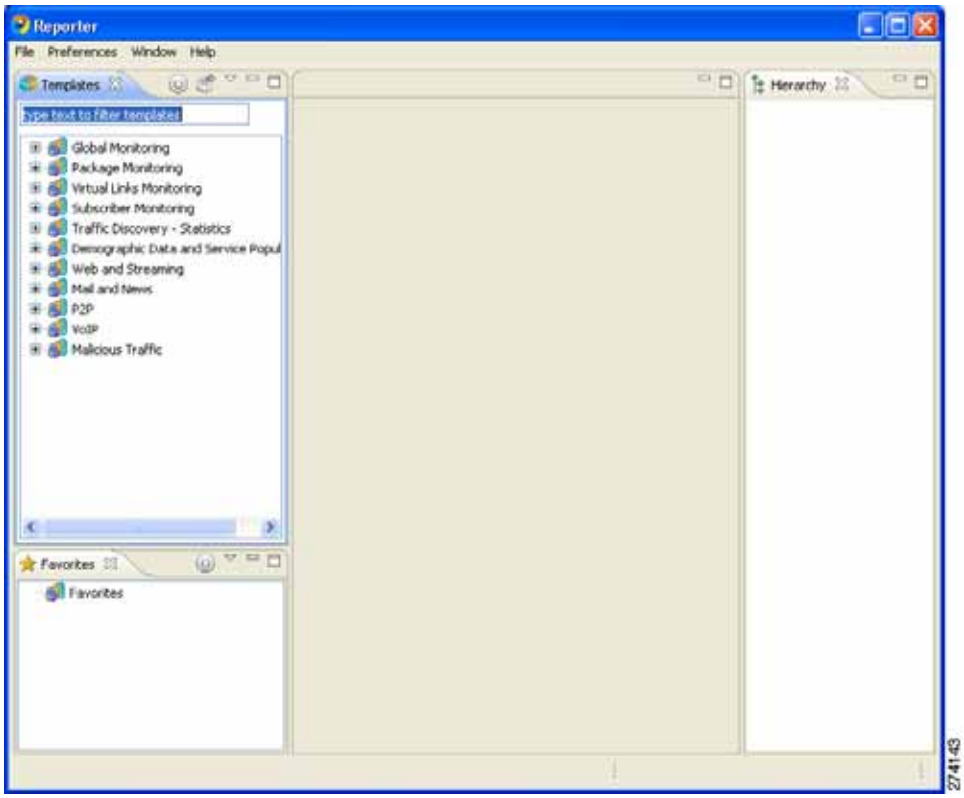
QuickStart—Getting Started with the SCA Reporter

This QuickStart section helps you get started with the SCA Reporter. You can configure the Reporter, create a report instance and generate a report, and then work with the report.

Creating a First Report

Step 1 Launch the SCA Reporter (choose **Start > All Programs > Cisco SCA > SCA Reporter 3.8.0 > SCA Reporter 3.8.0**) (Figure 2-18).

Figure 2-18 Reporter



Step 2 Add, configure, and activate a database connection (see Managing Database Connections, page 2-7).

Step 3 Confirm that there is an active database and that the system is configured correctly.

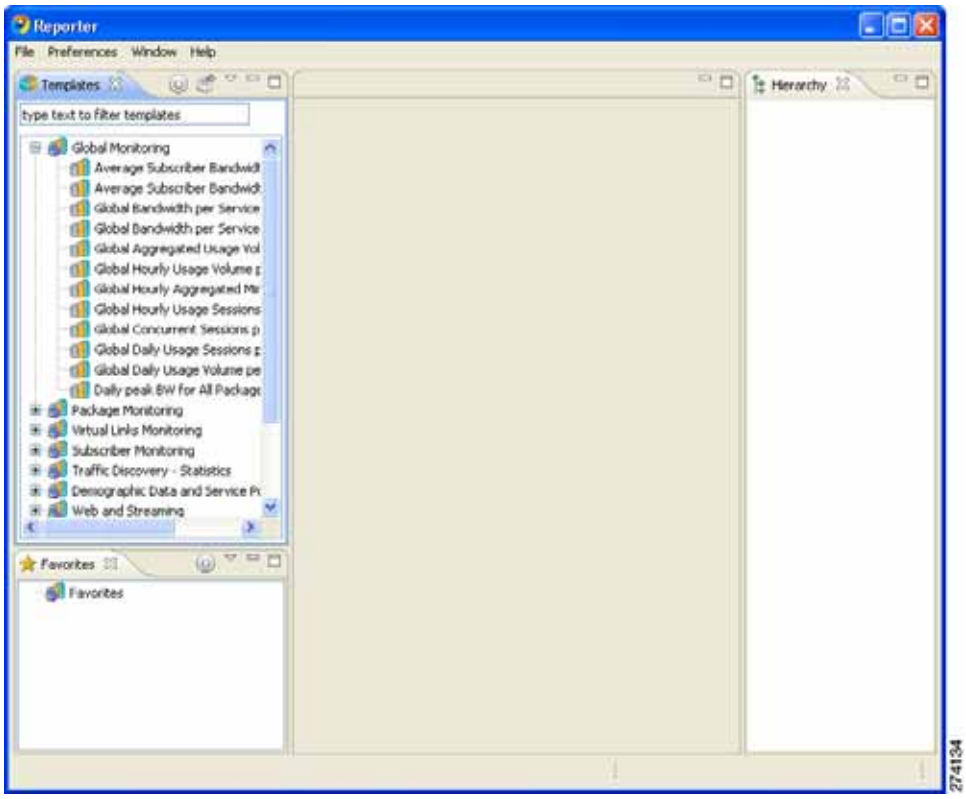
a. At the Main menu, choose **Preferences (Filtered) > Reporter**. The Preferences (Filtered) window appears.

b. In the Reporter tree, choose **Reporter > Databases**.

c. In the Databases pane, click **Test Active DB**.

Step 4 In the Templates view, expand the node of one of the template groups, see Figure 2-19.

Figure 2-19 Templates

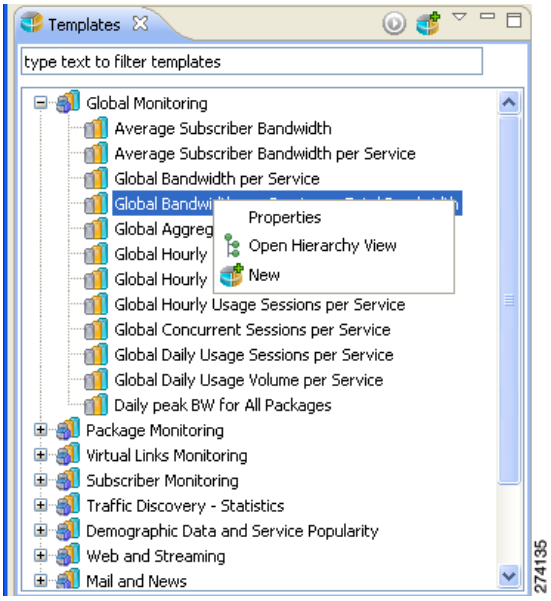


Step 5 Do one of the following:

- Double-click a report template
- Right-click a report template.

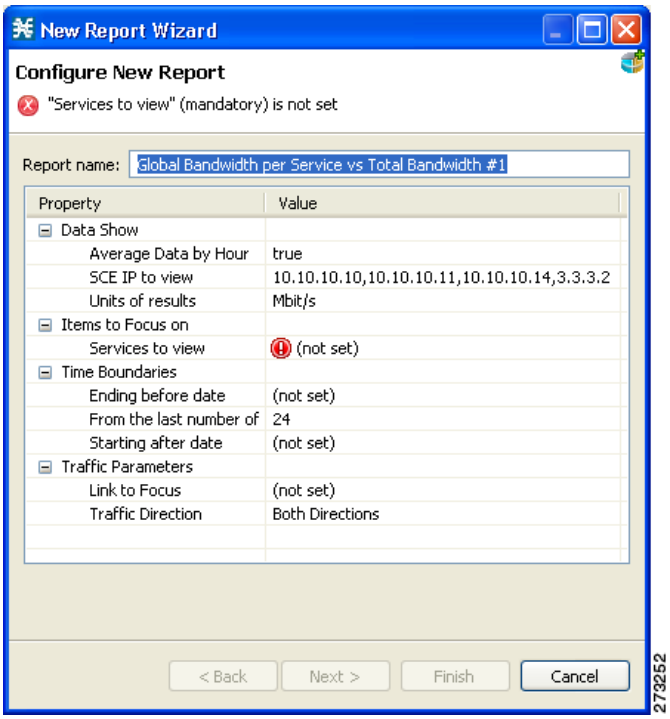
A report template popup menu appears, see Figure 2-20.

Figure 2-20 Templates Popup Menu



Step 6 From the menu, select **New**. The New Report wizard appears, see Figure 2-21.

Figure 2-21 New Report Wizard



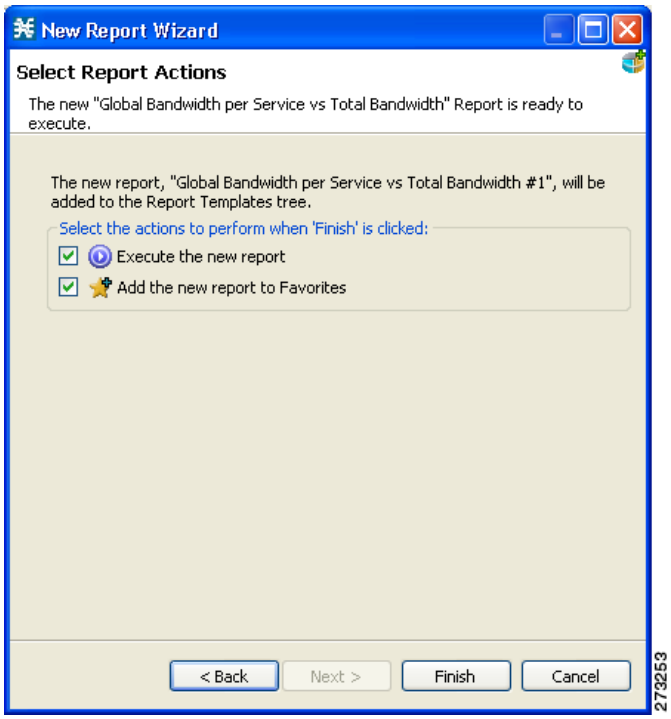
The report instance has the same name as the report template with the addition of "#1". You can optionally rename the report instance by entering a name in the **Report name** field.

Step 7 Configure the report instance properties

If any property has the value **(not set)**, you must assign a value to it.

Step 8 Click **Next** (Figure 2-22).

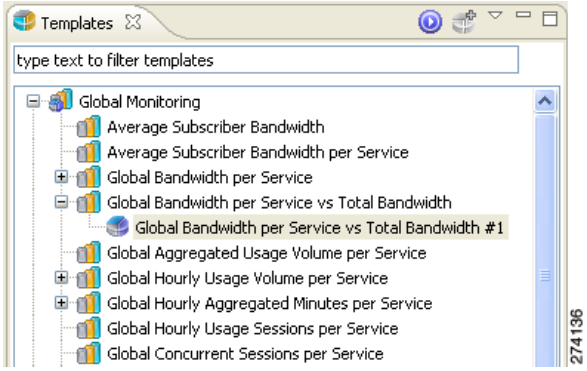
Figure 2-22 Select Report Actions



Step 9 Click **Finish**.

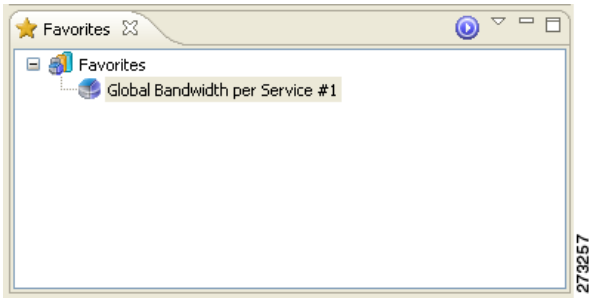
A report instance is added below the report template, see Figure 2-23.

Figure 2-23 Report Instance Added



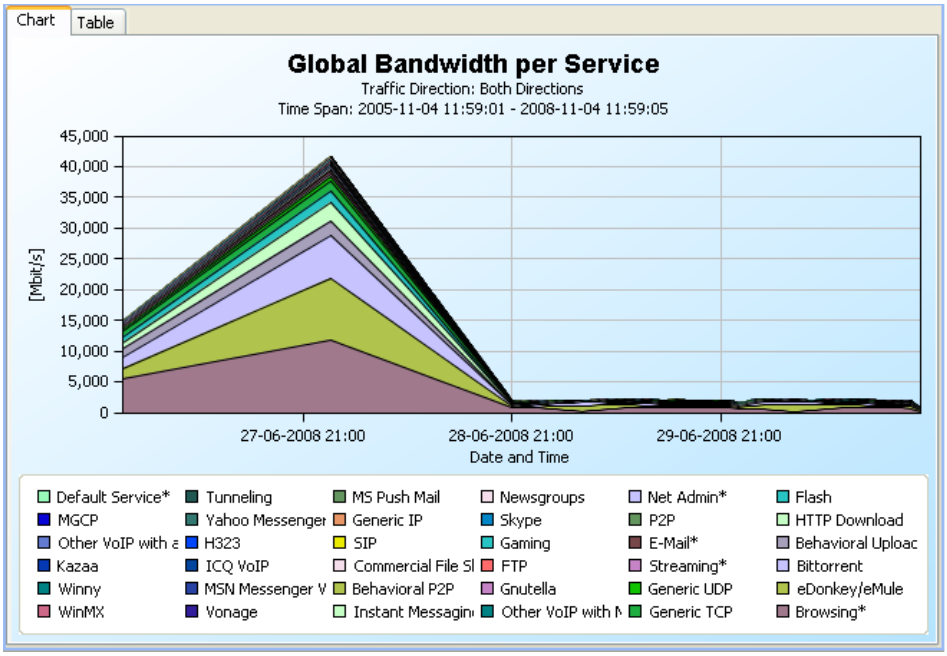
The report instance appears in the Favorites view, see Figure 2-24.

Figure 2-24 Favorites



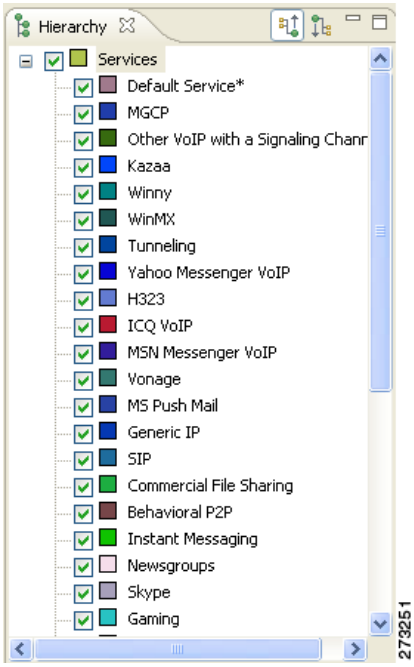
A report view, with the name of the report instance, appears in the top right of the SCA Reporter window, displaying a chart of the report, see Figure 2-25.

Figure 2-25 Report



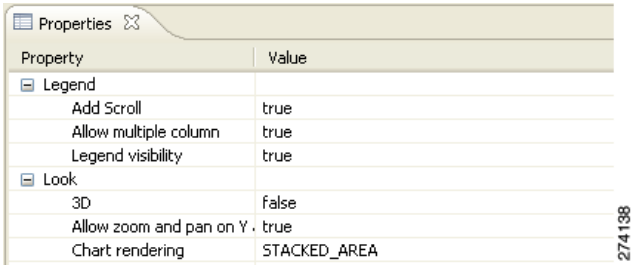
All the services included in the report are included in the Hierarchy view, see Figure 2-26.

Figure 2-26 Hierarchy



Step 10 View your report. The chart display properties are shown in the Properties view, see Figure 2-27.

Figure 2-27 Properties



Working with a First Report

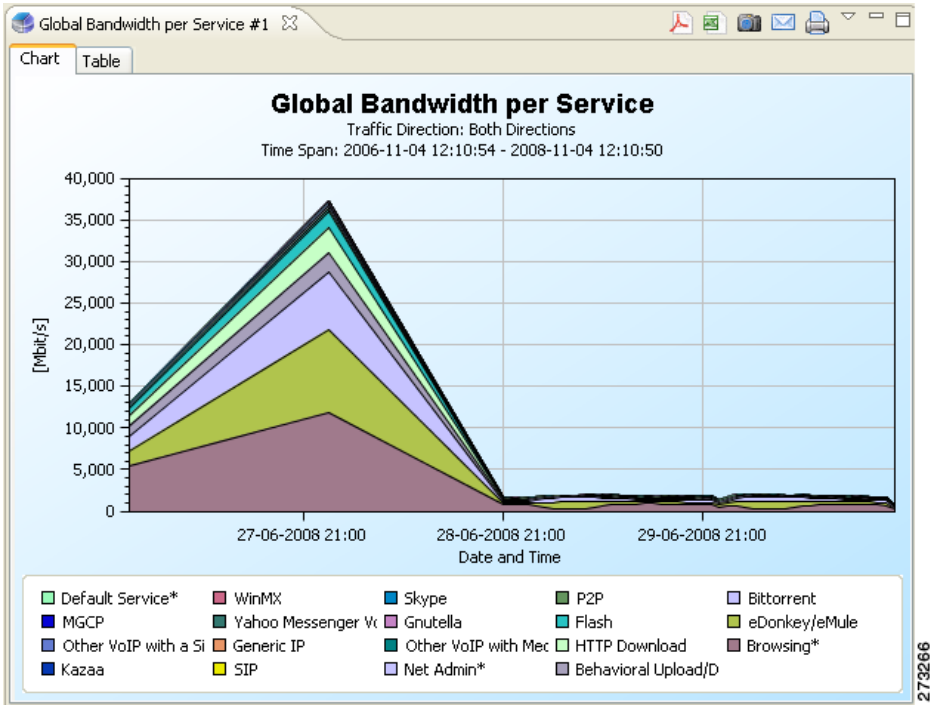
Step 1 Create a report, as described in the previous procedure.

Step 2 Adjust the chart display by modifying the chart display properties in the Properties view. (See Adjusting the Chart Display, page 5-14.)

Step 3 In the Hierarchy view, uncheck several chart items. The modified report appears in the report view, see Figure 2-28.

Step 4 In the report view, from the drop-down menu above the view, choose **Go To Report**.

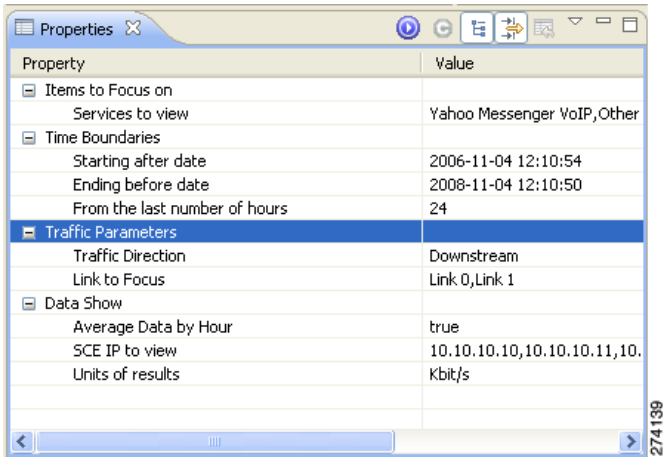
Figure 2-28 Modified Report



The Properties view displays the report instance properties.

Step 5 Display all the report instance properties by clicking  (**Show Advanced Properties**) (Figure 2-29).

Figure 2-29 Report Properties

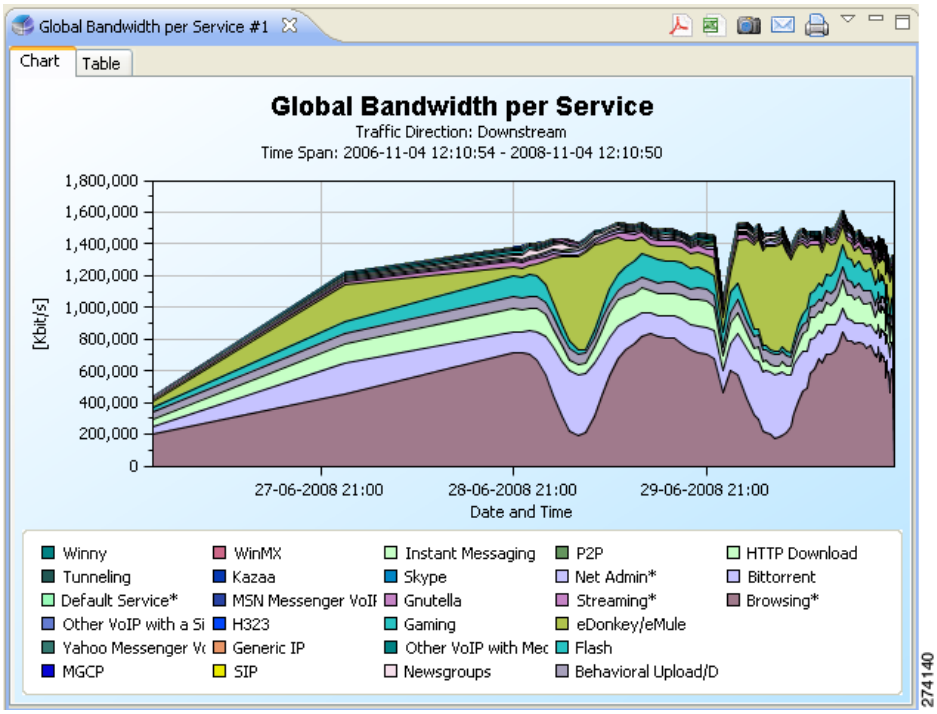


Step 6 Modify one or more properties. (See Modifying Existing Report Instances, page 4-8.)

Step 7 Click (**Execute**) to regenerate the report.

The modified report is displayed in the report view, see Figure 2-30.

Figure 2-30 Modified Report



(In the illustrated example (Figure 2-30), the **Traffic Direction** and **Units of results** properties were modified).

CHAPTER 3

Using the Cisco Service Control Application Reporter

Revised: September 17, 2012, OL-26822-01

Introduction

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

Using Views to Navigate the Reporter

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.

You can add the report instances that are used frequently to favorites and view them in the Favorites view

When you generate a report, a report view opens. The Hierarchy view displays a hierarchy of all the chart items included in the report 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 is named after 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 or Favorites 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 3-2
- Configuring Properties, page 3-2
- Properties View, page 3-4

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.

Note If there are less than five items in the list, a drop-down menu appears. If there are five or more items, a list box appears.

- 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 Table 3-1.

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.
	Search	Search the selected items.
	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.

Therefore, 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. For details, see Configuring Report Instance Properties, page 4-9 and Configuring the Properties of a Chart Display, page 5-14.

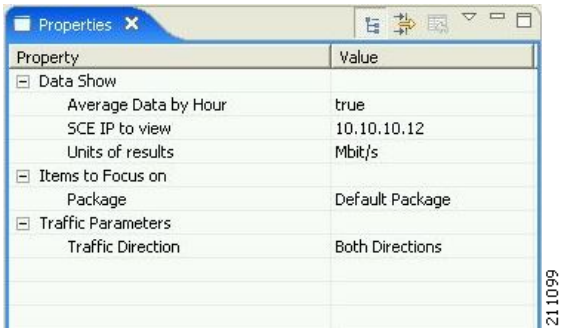
Run the report instance again so that the new report appears with the new configuration.

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. see Figure 3-1.

Figure 3-1 Properties (Report Instance)

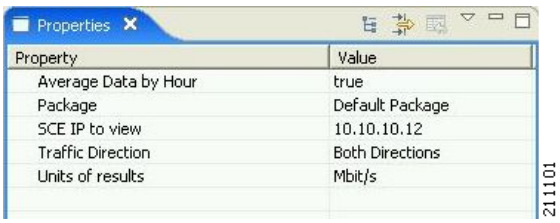


By default, the property categories are displayed and advanced properties do not appear.

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

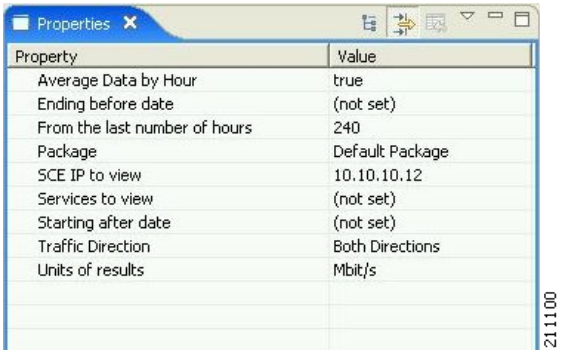
The display of property categories is toggled off, see Figure 3-2.

Figure 3-2 Properties Toggled Off



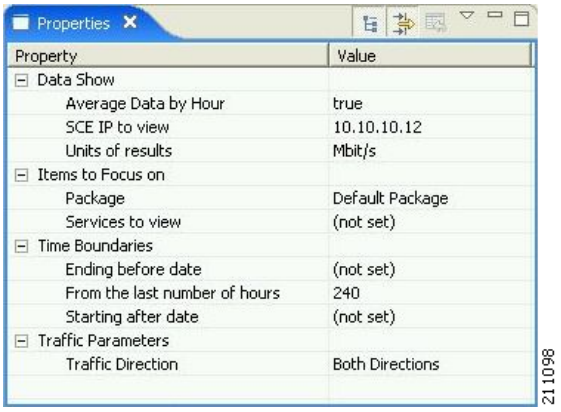
Step 3 Click (**Show Advanced Properties**). All properties appear, see Figure 3-3.

Figure 3-3 Properties Toggled On



Step 4 Click (**Show Categories**). The display of property categories toggles on, see Figure 3-4.

Figure 3-4 Display Properties Toggled On



CHAPTER 4

Managing Report Instances

Revised: September 17, 2012, OL-26822-01

Introduction

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. You can add frequently used reports to the Favorites view. 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 services, traffic direction, and time frame (either start/end time or previous number of hours).

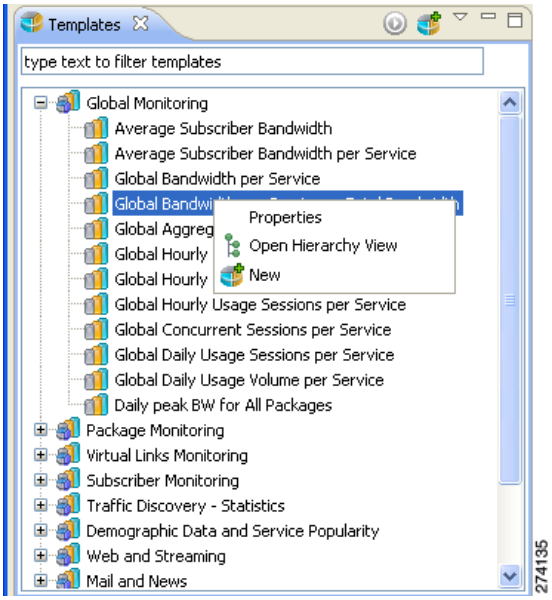
  The exact procedure for defining a report instance depends on the report template selected. The example in this chapter is intended as a general guide to the process of creating and defining a new report instance.

Creating a New Report Instance

Step 1 Do one of the following:

- In the Templates view, right-click a report template (for example, **Global Monitoring > Global Bandwidth per Service versus Total Bandwidth**).
- In the Templates view, double-click a report template. A popup menu appears, see Figure 4-1.

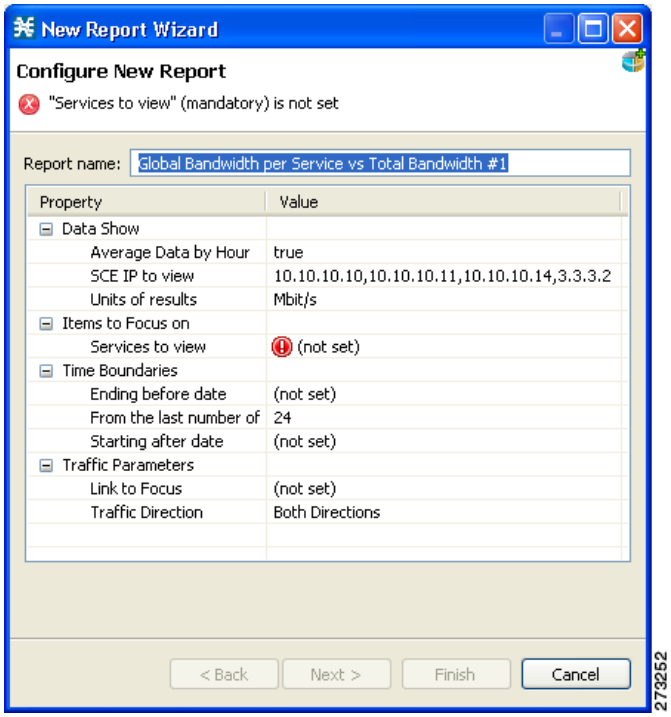
Figure 4-1 Templates Popup Menu



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

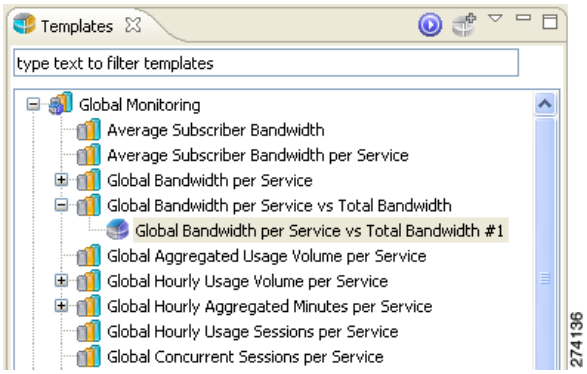
The New Report wizard window appears, see Figure 4-2.

Figure 4-2 New Report Wizard



A report instance is added below the report template, see Figure 4-3.

Figure 4-3 Report Instance



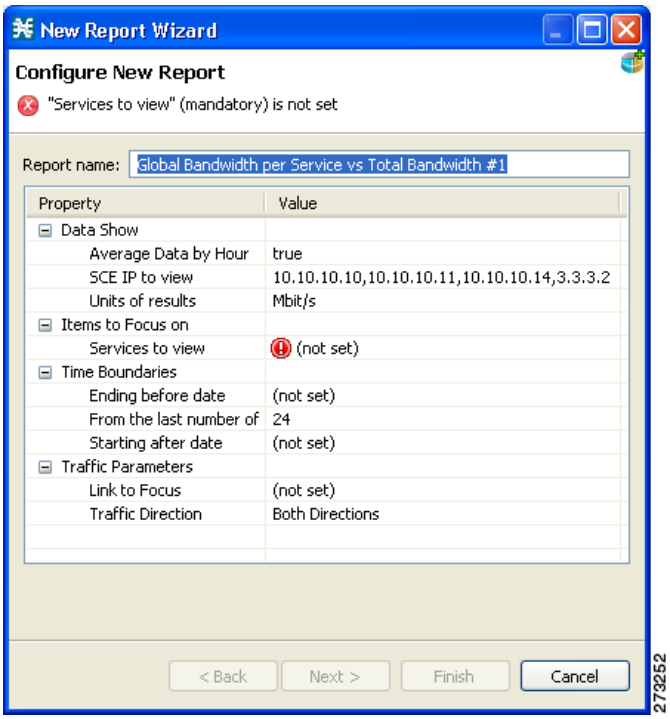
The report instance is named Global Bandwidth per Service versus Total Bandwidth #1. (If you create another report instance from this report template, it will be named Global Bandwidth per Service vs Total Bandwidth #2, and so on. You can optionally rename report instances by entering a name in the **Report name** field.)

Step 3 Configure the report instance properties.

If any property has the value (**not set**), you must assign a value, see Figure 4-4.

Step 4 Click **Next**.

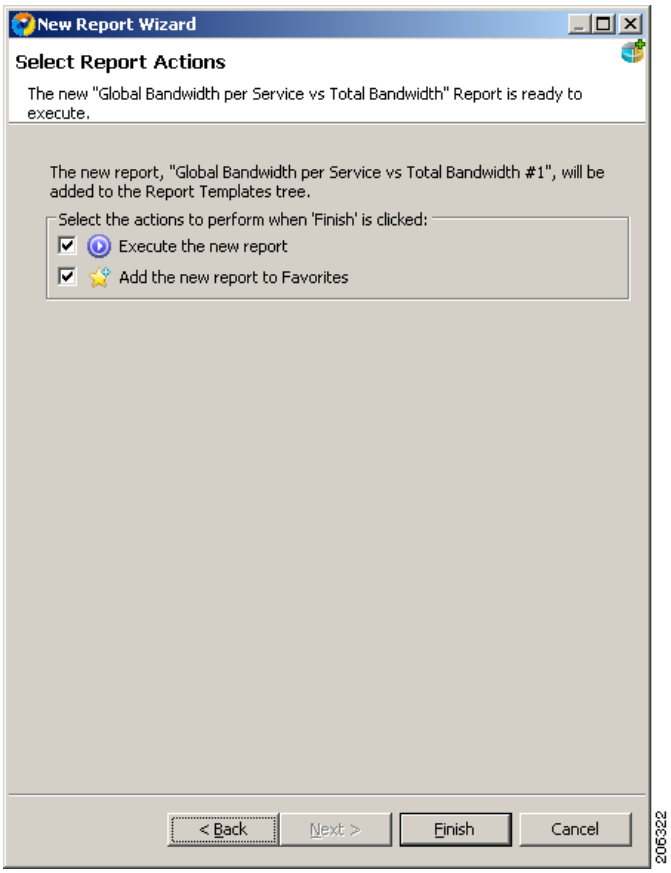
Figure 4-4 Report Instance Properties



Step 5 (Optional) Uncheck **Execute the new report**, see Figure 4-5.

Step 6 (Optional) Uncheck **Add the new report to Favorites**, see Figure 4-5.

Figure 4-5 Report Actions

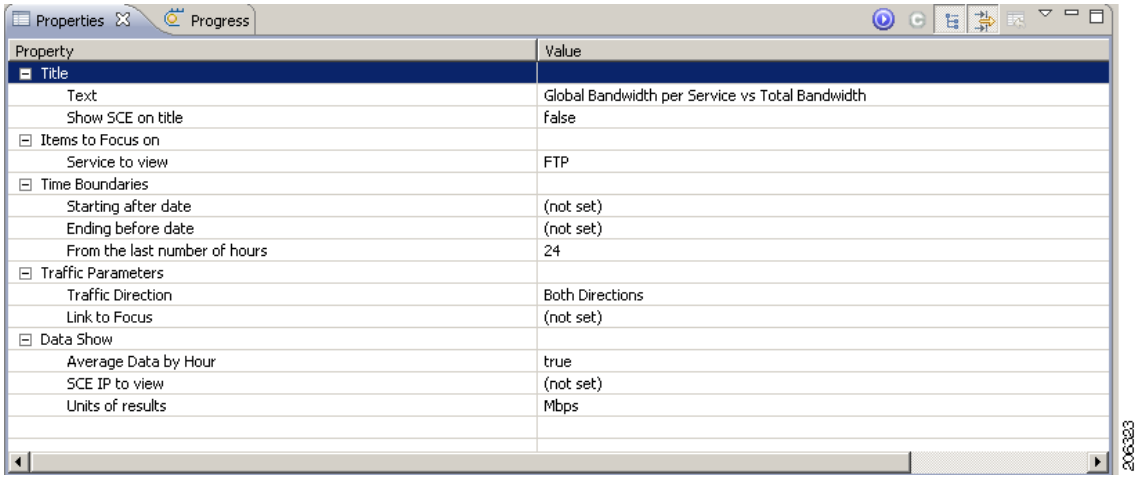


Step 7 Click **Finish**.

A report instance is added below the report template.

The Properties view appears in the bottom right of the SCA Reporter window, displaying the basic and advanced report instance properties, see Figure 4-6.

Figure 4-6 Properties (Report Instance)



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

Using the Reports View Toolbar

After a report is created, you can perform several actions on the active report using the Reports view toolbar.

For a description of the available actions, see the "Report Actions" section on page 5-2.

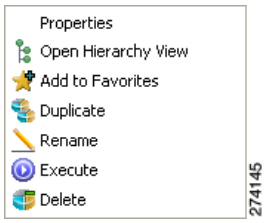
Adding a Report Instance to Favorites

If you have a report instance that you generate frequently, you can add it to the Favorites view. From Favorites view, you can quickly access, rename, and delete the instance as well as generate reports.

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

A popup menu appears, see Figure 4-7.

Figure 4-7 Templates Popup Menu



Step 2 From the menu, select **Add to Favorites**. The report instance is added to the Favorites View, see Figure 4-8.

Figure 4-8 Favorites

Modifying Existing Report Instances

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, choose **Go to report**.
- Select a report instance from the Templates view.
- Select a report instance from the Favorites view.

The Properties view window displays the report instance properties.

Step 2 Edit a property. To edit the property, click on the row of the property and make changes.

The change is saved. The new value is used the next time the report instance is executed.

Configuring Report Instance Properties

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

Step 1 In the Templates view or Favorites 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 does not appear, 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, see Figure 4-9.

Figure 4-9 Property Values Drop-Down Menu

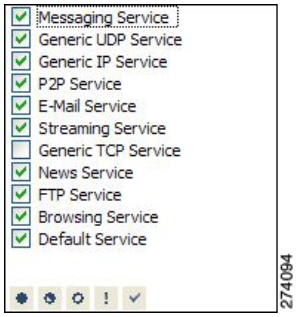
If fewer than five items appear in the list, a drop-down menu appears. If five or more items exist, a list box appears.

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, see Figure 4-10.

Figure 4-10 Property Values Checklist



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, see Figure 4-11.

Figure 4-11 Choose Date and Time

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

Step 9 Click (**Execute**).

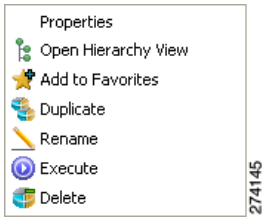
The report is generated with the configured values.

Duplicating 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.

Step 1 In the Templates view, right-click a report instance. A popup menu appears, see Figure 4-12.

Figure 4-12 Templates Popup Menu



Step 2 From the menu, choose **Duplicate**.

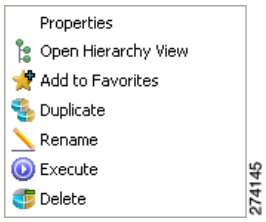
The report instance is duplicated.

Renaming an Existing Report Instance

You can rename an existing report instance. This feature 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 or Favorites view, right-click a report instance. A popup menu appears, see Figure 4-13.

Figure 4-13 Templates Popup Menu



Step 2 From the menu, choose **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.

Deleting a Report Instance

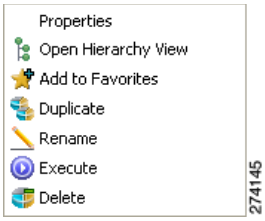
You can delete report instances.

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

You can also choose more than one instance. To choose several instances, hold down the **Ctrl** key while choosing the report instances, and then right-click.

A popup menu appears (Figure 4-14).

Figure 4-14 Popup Menu



Step 2 From the menu, choose **Delete**. The chosen report instances are deleted.

Removing a Report Instance from Favorites

Step 1 In the Favorites view, right-click a report instance. A popup menu appears, see Figure 4-15.

Figure 4-15 Favorites Popup Menu

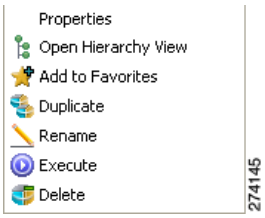
Step 2 From the menu, choose **Remove from Favorites**.

The report instance is removed from the Favorites view.

Modifying a Report Chart Title

Step 1 In the Favorites view, right-click a report instance. A popup menu appears, see Figure 4-16.

Figure 4-16 Favorites Popup Menu



Step 2 From the menu, choose **Properties**.

The report chart instance is highlighted and you can edit its title.

Step 3 Enter a new title and press **Enter**.

The report chart instance is renamed and listed with the new title.

Step 4 To add the SCE as subtitle, configure the report chart instance properties.

Set the value of **Show SCE on Title** to true.

Step 5 Click  **(Execute)**.

The report is generated with the configured values.

CHAPTER 5

Working with Reports

Revised: September 17, 2012, OL-26822-01

Introduction

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

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 Table 5-1.

Table 5-1 Reporter Actions and Icons

Action	Icon	Description	Comments
Home		Opens the Welcome view.	—
Menu		Displays all of the available actions for the view.	Common to all views.
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 choose report.	In the Properties view, Templates view, and Favorites view.
New or Report (from Legend)		Creates a new report instance.	In the Templates view—When you choose 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 **OK.** 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 and Favorites view.
Show Cmd		Opens a window displaying the CLI command for the report instance.	In the Properties view, Templates view, and Favorites 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 and Favorites view.
Duplicate		Creates a copy of the report instance.	In the Templates view.

Table 5-1 Reporter Actions and Icons (continued)

Action	Icon	Description	Comments
Rename		Highlights the report instance so that you can rename it.	In the Templates view and Favorites 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 **(not set).** Mandatory properties are not reset to **(not set).**
Go to report	—	Navigates from the choose 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 and Reports view.
Open Hierarchy View		Opens the Hierarchy view.	In the Templates view.
Add to Favorites		Adds the report instance to the Favorites view.	In the Templates view.
Remove From Favorites		Removes the report instance from the Favorites view.	In the Favorites view.
Export to PDF		Exports the report in view; including the table and chart, to PDF.	In the Reports view.
View Table with External Program		Exports the table in view to an external application associated with CSV file format.	In the Reports view.
Copy Chart Image to Clipboard		Copies the chart image in view to the clipboard.	In the Reports view.

Table 5-1 Reporter Actions and Icons (continued)

Action	Icon	Description	Comments
Send by E-mail		Attaches the table or chart in view to an e-mail using your default e-mail application.	In the Reports view.
Print		Prints the table or chart in view.	In the Reports view.
Based on configured service tree		Configures the hierarchical tree according to the configured service tree.	In the Hierarchy view.
Based on service popularity		Configures the hierarchical tree according to service popularity.	In the Hierarchy view.
Reset Zoom		Resets the zoom on the report view	In the Reports view.

Filtering Report Templates and Instances

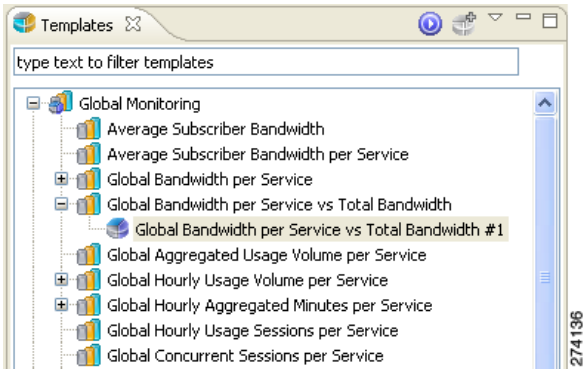
Report templates and instances can be filtered so that only specific templates and instances are displayed in the Templates view.

How to Filter Report Templates and Instances

Step 1 In the Templates view, enter a word, phrase, or more complex expression in the field.

The templates containing the text entered are displayed, see Figure 5-1.

Figure 5-1 Templates With Entered Text



How to Clear the Filter

Step 1 In the Templates view, click (**Clear**).

The filter is cleared and all templates and instances are displayed in the Templates view.

Generating 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 and you can add report instances to the Favorites view (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.

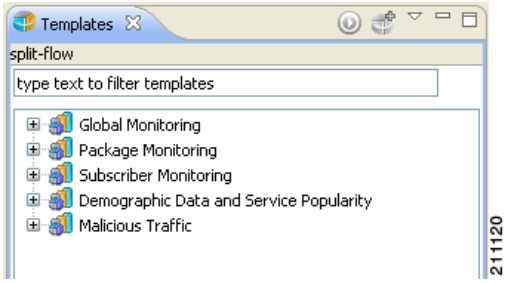
You can define and generate reports using the SCA Reporter Command-Line Interface (CLI). You can also use the CLI to preschedule reports. (See The SCA Reporter Command-Line Interface, page 6-1.)

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

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

Template groups whose report instances cannot be executed for asymmetric routing classification mode data are hidden, see Figure 5-2.

Figure 5-2 Templates With Split Flow



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 the maximum value, the generation of some of the reports are queued.

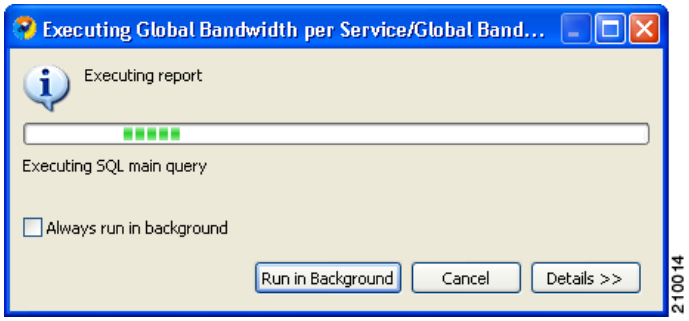
Step 1 From the Templates view window, while you hold down the **CTRL** key, choose the required report instances**.**

The selected report instances are highlighted.

Step 2 Click (**Execute**).

An Executing report dialog box appears while reports are being generated, see Figure 5-3.

Figure 5-3 Progress Dialog

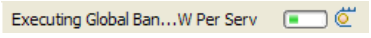


Step 3 Select a further action to take.

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.

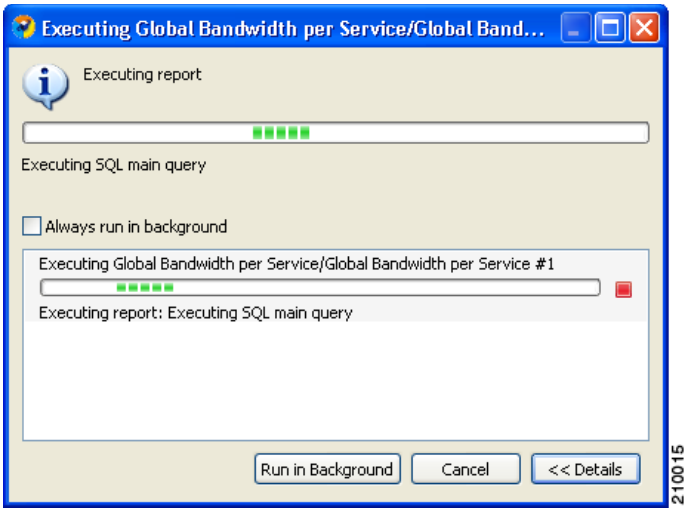
  While the reports are being generated, the system task status shows:

- Click **Details.**

  The status of all reports that are being generated is displayed, see Figure 5-4.

Figure 5-4 Report Status



- Click **Run in Background.**

  Report generation continues running in the background. After 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 canceled report to the background and continue your work uninterrupted.

Managing the Chart Items Hierarchy

After reports are generated, the Hierarchy view displays a hierarchy of all the chart items included in the report.

There are two modes in which the tree structure can display the hierarchy:

- Service popularity—Configures the hierarchy according to significance. The chart item creating the most significant traffic is first in the hierarchy and the chart item with the least significant traffic is last in the hierarchy.
- Configured services tree—Configures the hierarchy according to the defined policy tree.

Note The Hierarchy availability depends on the report type. For example, pie charts have no hierarchy.

How to Configure the Hierarchy Mode

Step 1 Generate a report.

Step 2 To view the hierarchical tree in configured services tree mode, click  (**based on configured services tree**).

The hierarchy is configured according to the service policy.

The chart is refreshed to reflect the hierarchy.

Step 3 To view the tree in service popularity mode, click  (**based on service popularity**).

The hierarchy is configured according to traffic weights.

The chart is refreshed to reflect the hierarchy.

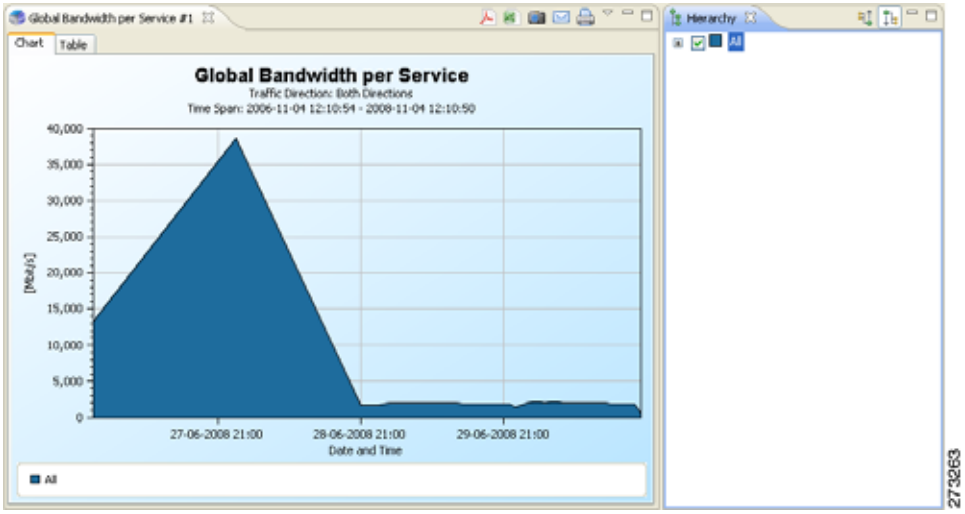
Manipulating the Hierarchy

After a report is generated, you can manipulate the chart items in the Hierarchy view to view a subset of the data included in the report. When the hierarchy is manipulated, the report is automatically refreshed to reflect the changes. You can perform the following actions:

- Viewing only the parent chart items—You can contract the parent nodes so that the report displays only the parent chart items without identifying the specific children, see Figure 5-5.

Note When a parent node is contracted, the parent node value is an aggregation of all the values of its children nodes.

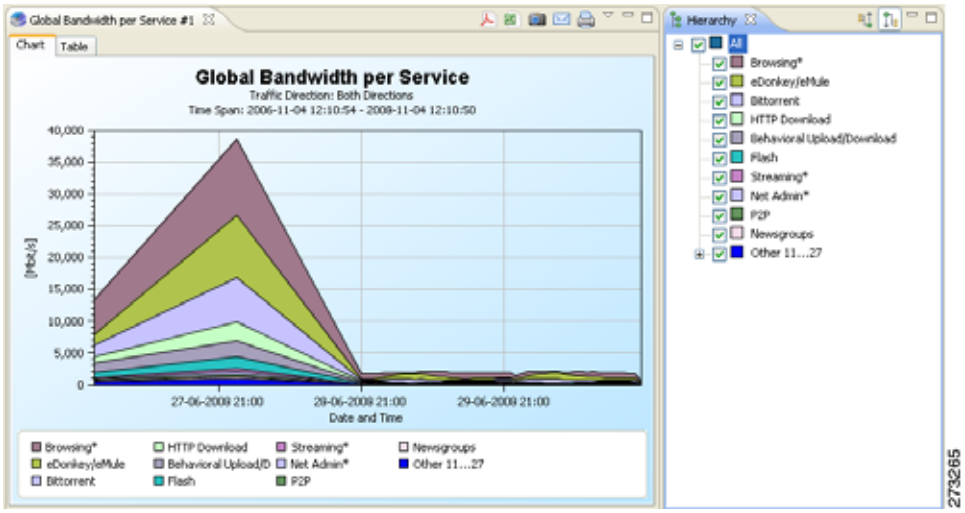
Figure 5-5 Report Displaying Only Parent Chart Items



- Expanding the parent chart items—The parent nodes can be expanded to drill down and identify all the specific chart items included in the parent, see Figure 5-6.

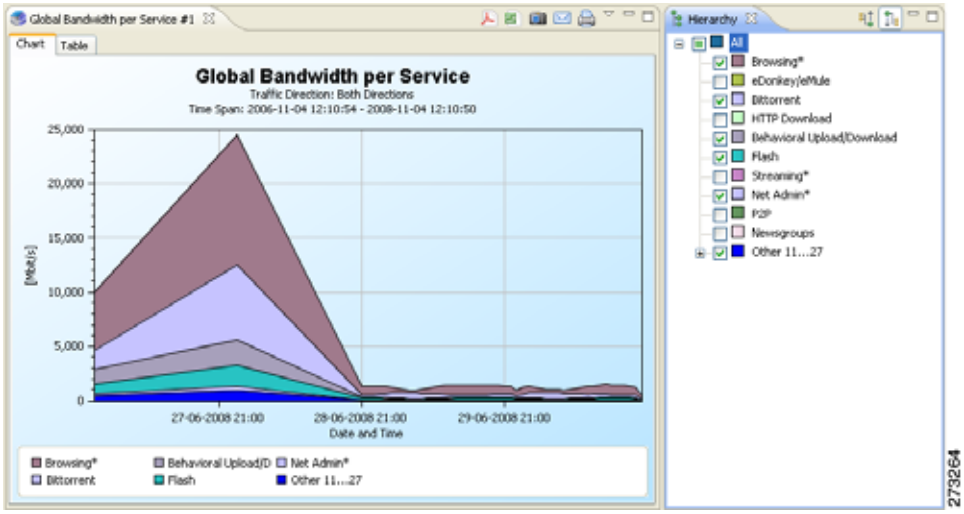
Note In service tree-based mode, if a parent chart item has a child that is not assigned a global usage counter, when the parent is expanded, both the parent and the child chart items appear on the chart.

Figure 5-6 Report Displaying Expand Parent Chart Items



- Unchecking chart items—You can uncheck chart items in the hierarchy to remove them from the report, see Figure 5-7.

Figure 5-7 Removing Chart Items By Unchecking



- Checking chart items—You can check chart items in the hierarchy to add them to the report.

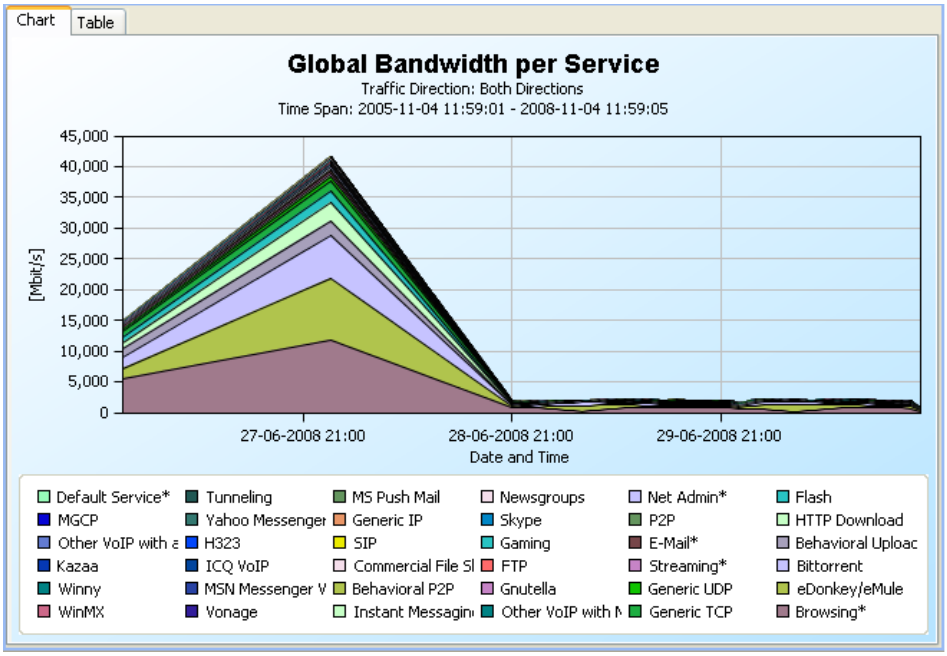
Note When checking or unchecking a parent node, all the children mirror the parent. However, you can check or uncheck individual chart items to view in the report.

Viewing Reports

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

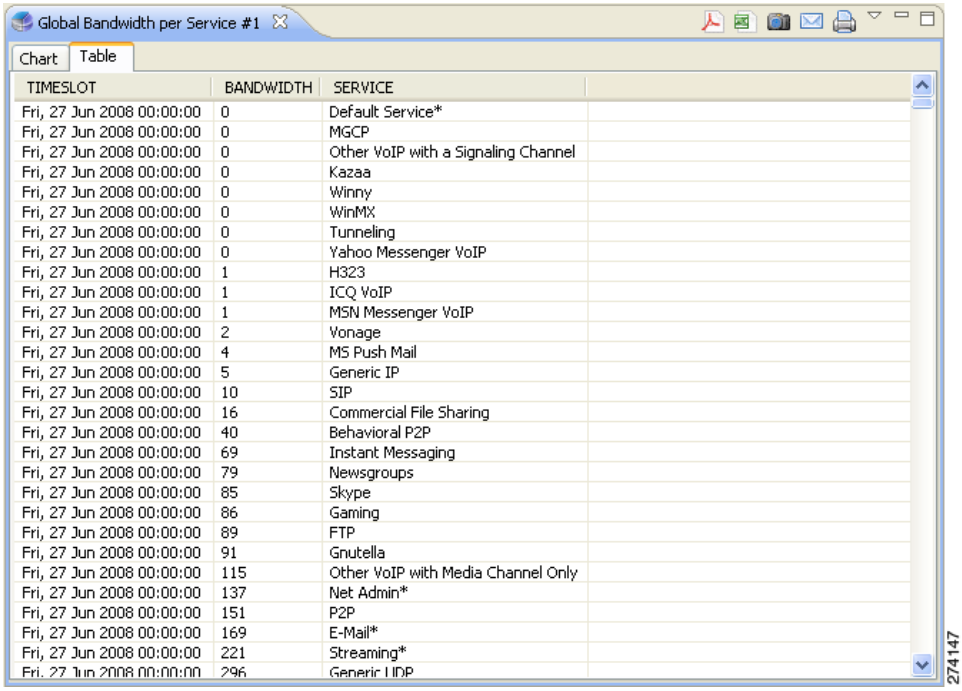
Step 1 To select the desired display, click the appropriate tab located at the bottom-left of the report view, see Figure 5-8.

Figure 5-8 Report Chart



The table is useful for locating specific information, see Figure 5-9.

Figure 5-9 Report Table



You can configure table contents and display properties:

- Copying contents of a cell—To copy the contents of a cell in the table, right-click on the cell and choose Copy.
- Sorting items in the table—To sort the table data in ascending or descending order, click on a column heading by which you want to sort the data.

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.

- 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 5-14
- Changing the Appearance of the Chart, page 5-16
- Zooming Items, page 5-18
- Managing the Chart Legend, page 5-20
- Managing the Chart Legend, page 5-20

Configuring the Properties of a Chart Display

You configure chart display properties in the Properties view. As you change the properties, the chart display is updated. There are also adjustments that are made directly in the report view (see Adjusting the Chart Display, page 5-14).

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

Table 5-2 lists chart display properties and their descriptions:

Table 5-2 Chart Display Properties

Property	Type	Default	Values	Comments
Look				
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.
Look/3D				

Table 5-2 Chart Display Properties (continued)

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

Table 5-3 shows possible values for the **Chart Rendering** property.

Table 5-4 lists the properties set in the 3D Properties dialog box and their possible values.

Table 5-3 Chart Display Types

• BAR • STACKED_BAR • STACKED100_BAR • SUPERIMPOSED_BAR • AREA • STACKED_AREA	• STACKED100_AREA • POLYLINE • STACKED_POLYLINE • STACKED100_POLYLINE • SCATTER	• STAIR • STACKED_STAIR • STACKED100_STAIR • SUMMED_STAIR • PIE

Table 5-4 3D Chart Properties

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.

Changing the Chart Type

Step 1 Generate a report. A Report view appears 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 (Figure 5-10).

Figure 5-10 Properties Drop-Down Menu

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

When you click another area in Properties view, the report updates.

Modifying a Graphical Display

Step 1 Generate a report. A report view appears displaying the report, and the Properties view window displays the chart display properties.

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

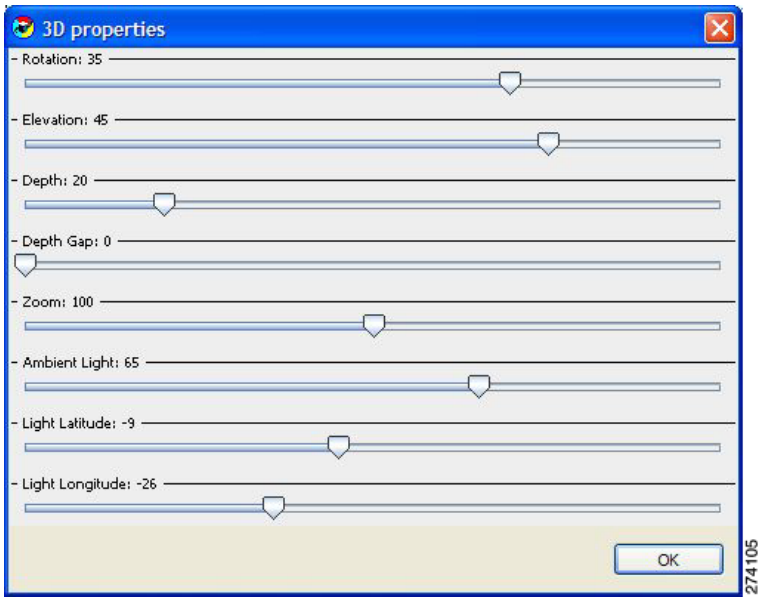
The value of the 3D property toggles from True to False and the Look/3D category is removed from the Properties view window.

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, see Figure 5-11.

Figure 5-11 3D Properties



Step 5 Change the 3-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.

Changing Chart Colors

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

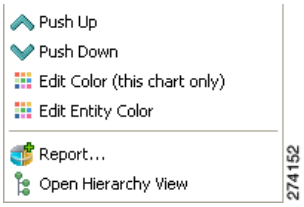
Note If legacy coloring is enabled (see the "Setting Chart Colors" section on page 2-13), this option is not available.

Note You can create and apply your own color sets globally. See the "Setting Chart Colors" section on page 2-13.

Step 1 Generate a report. A Report view appears, displaying the report.

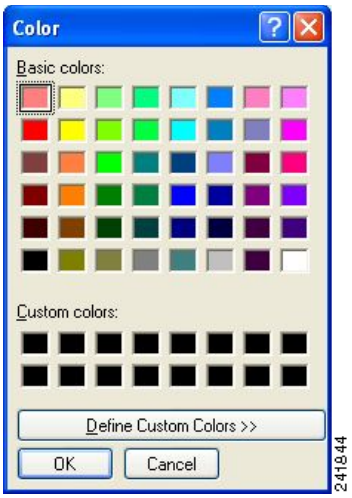
Step 2 Right-click on an item in the legend. A popup menu appears, see Figure 5-12.

Figure 5-12 Report Legend Popup Menu



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 appears, see Figure 5-13.

Figure 5-13 Color Palette



Step 4 Choose 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 chose **Edit Entity Color** at Step 3, the new color is applied to all open charts, except those using temporary colors.

Zooming Items

Zooming In on a 2-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 appears 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.

Dragging 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, click it with the middle mouse button, while dragging the chart.

The chart moves up, and the bottom of the chart appears.

Zooming Out of a Chart

Step 1 Mark off a rectangle by right-clicking it while dragging the mouse over the chart.

The cursor changes to a minus icon.

Step 2 Release the mouse button, and the view zooms out.

Zoom Reset

Step 1 In the report view, click  (**Reset Zoom**).

The report view is reset to its original settings.

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 the "Configuring the Legend in Charts" section on page 2-19.

Moving the Chart Legend

Step 1 Generate a report.

A Report view appears 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.

Hiding 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.

Managing Report Output

You can manage report output in several ways:

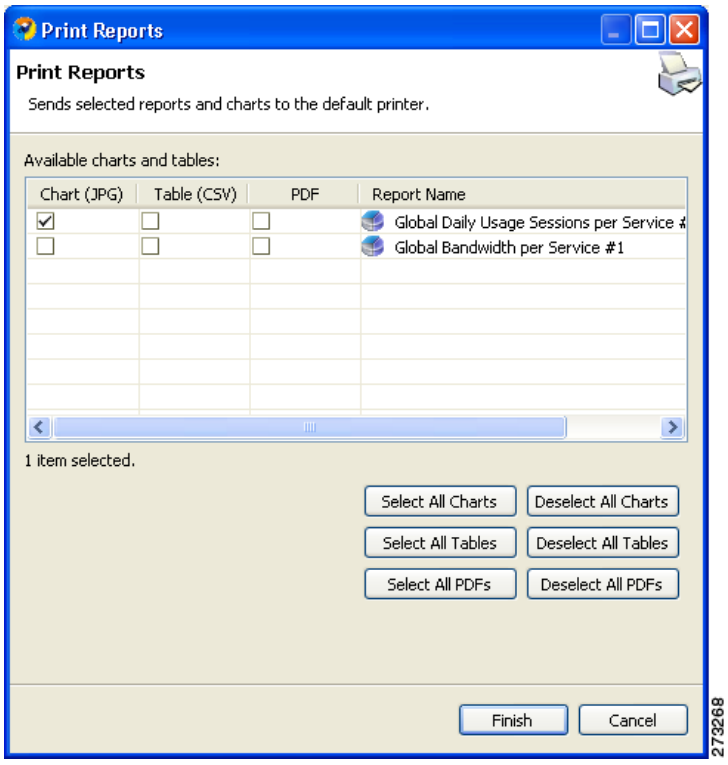
- Print, send by e-mail, or export reports to PDF format.
- Save charts to a number of graphic formats.
- Save tables to CSV or Quoted CSV formats, which you can open as spreadsheets.
- Print, send, or export multiple reports in one send operation.

Printing Reports

Step 1 After executing one or more report instances, choose **File > Print Reports**.

The Print Reports wizard appears, see Figure 5-14.

Figure 5-14 Print Reports Wizard



Step 2 Choose one or more formats for each report you are printing.

Step 3 Click **Finish**.

The selected reports print in the format or formats you chose.

Note For PDF and CSV formats, the print feature uses the desktop interface and only prints if the associated application can print from the desktop. If you can print from the desktop without opening the application, the print feature will work.

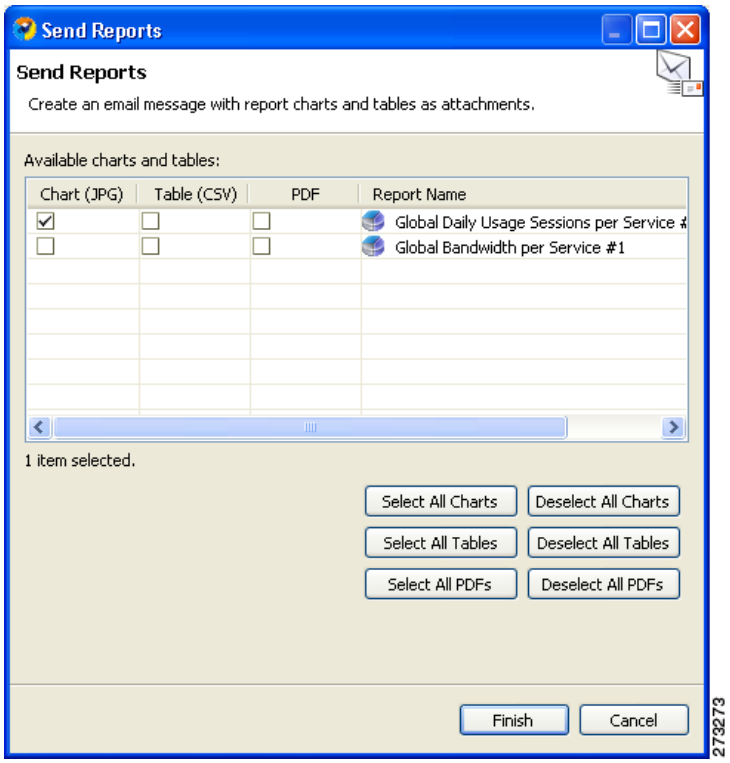
Note If you selected several reports to print, the application may freeze for several moments while sending the reports to the printer.

Sending Reports by E-mail

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

The Send Reports wizard appears, see Figure 5-15.

Figure 5-15 Send Reports Wizard



Step 2 Choose one or more formats for each report you are sending.

Step 3 Click **Finish**.

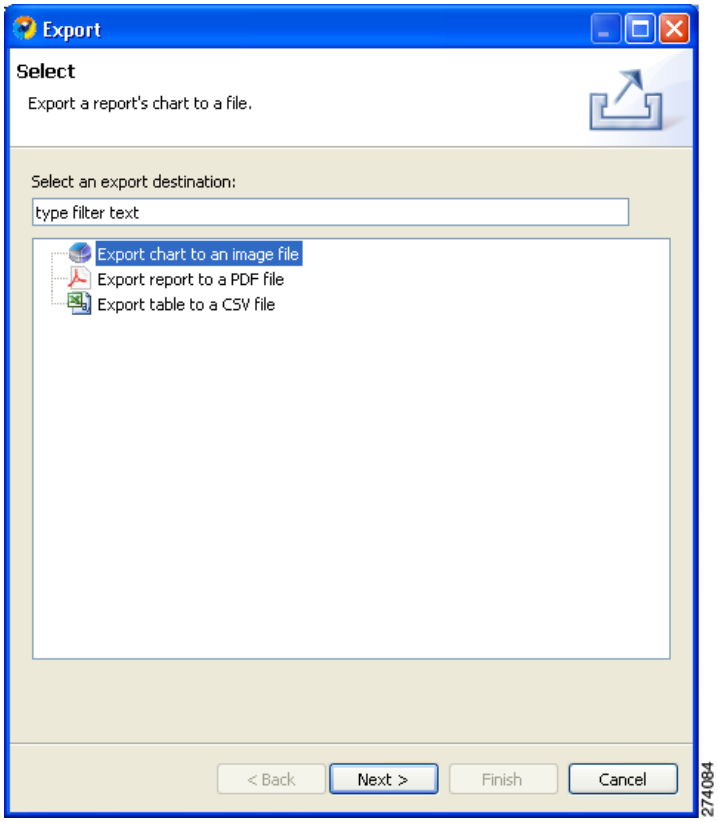
An e-mail message appears from the default e-mail application installed on the desktop, with the selected reports attached.

Exporting Reports

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

The Export wizard appears, see Figure 5-16.

Figure 5-16 Export Wizard



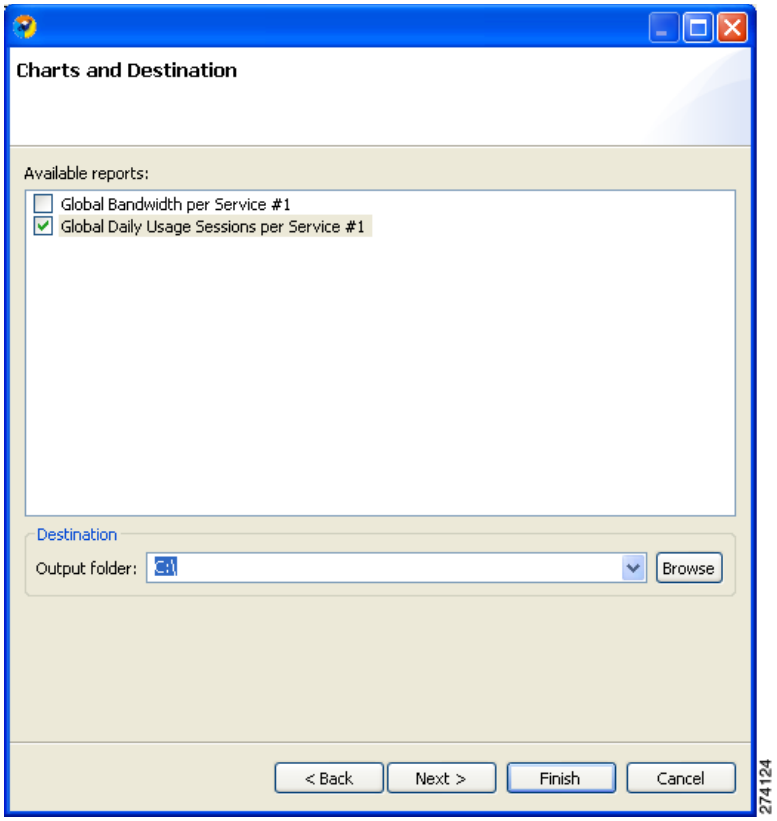
Step 2 Choose one of the following:

- **Export chart to an image file**
- **Export report to a PDF file**
- **Export table to a CSV file**

Step 3 Click **Next**.

The Tables and Destination page of the Export wizard appears, see Figure 5-17.

Figure 5-17 Charts and Destination



Step 4 Check one or more of the Available reports.

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

Step 6 Do one of the following:

- If you chose Report in Step 2, continue with Step 8.
- If you chose Chart, or Table in Step 2, click **Next**.

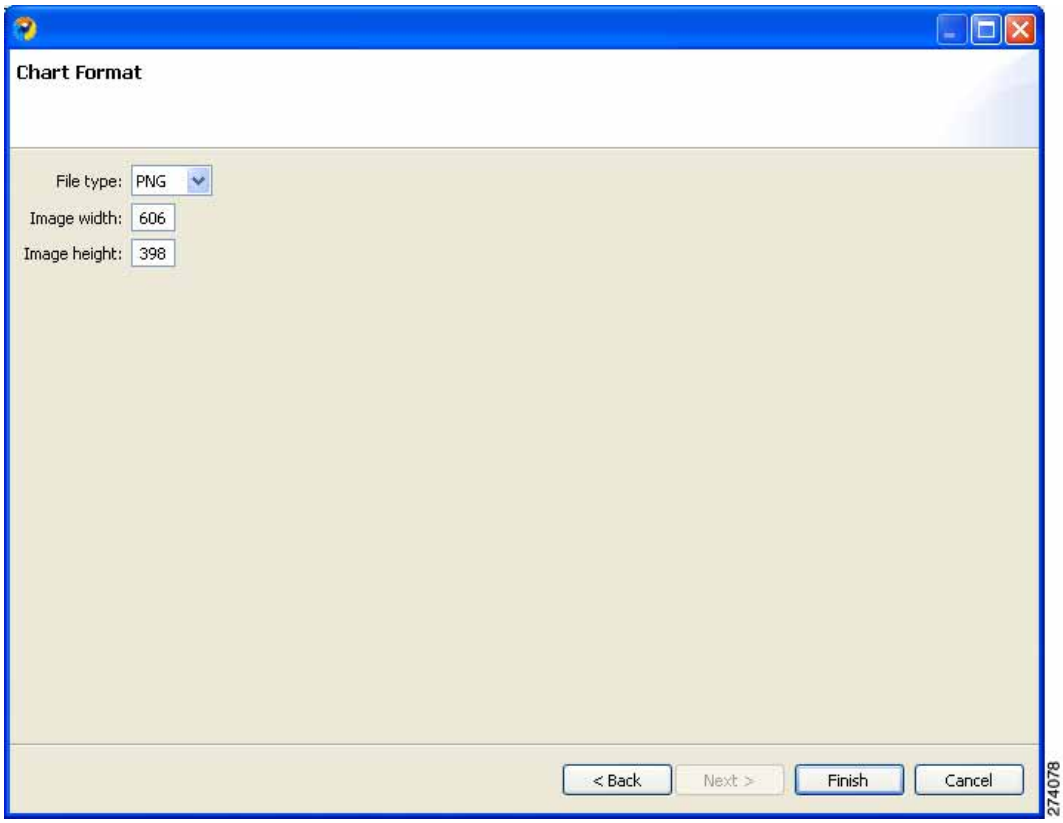
  The Format page of the Export wizard appears (Figure 5-18 or Figure 5-19). (The display depends on whether you chose Chart or Table in Step 2.)

Step 7 Enter required information.

Do one of the following:

- (For Chart)

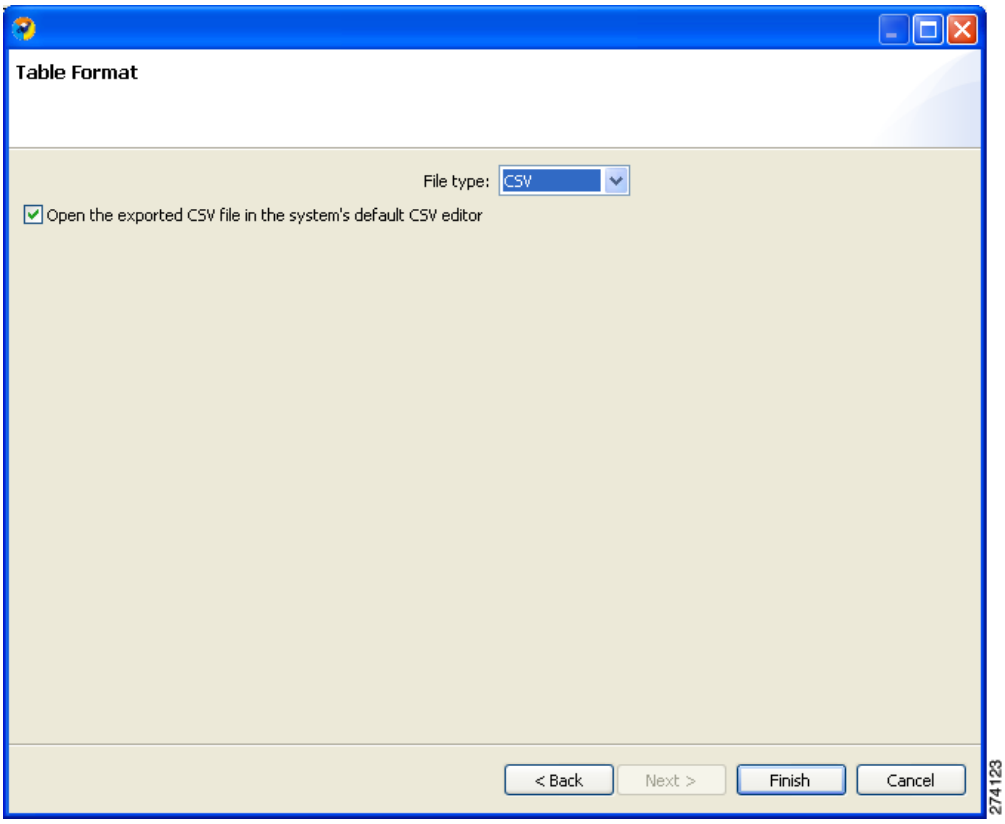
Figure 5-18 Chart Format



  - 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)

Figure 5-19 Table Format



  - 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

Revised: September 17, 2012, OL-26822-01

Introduction

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

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 produce selected reports periodically. You can use either an existing report instance or a report template, as explained in various sections in this chapter.

The following shows 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. You can now paste the command into a command file shell or a command prompt and then execute it after making any necessary changes. You must then 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 listed in the CLI invocation, and:

- 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

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

```
reportercmd -report "Global Bandwidth per Service #1" -dbdriver "com.mysql.jdbc.Driver"
-dburl "jdbc:mysql://10.56.201.89:3306/apricot" -dbuser "pqb_admin" -dbpassword
"pqb_admin" -policysce "10.56.201.87" -params "titleText=Global Bandwidth per
Service;services=Flash Yahoo,HTTP,Google Talk File Transfer,Other
Flash;numhours=24000;trafficdir=Both Directions;link=Link 0,Link
1;showSce=false;avgdata=true;units=Mbps" -o "myfile" -format "jpeg"
```

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

```
reportercmd -template "Global Bandwidth per Service" -dbdriver
"com.sybase.jdbc3.jdbc.SybDriver" -dburl "jdbc:sybase:Tds://10.56.99.13:4100" -dbuser
"pqb_admin" -dbpassword "pqb_admin" -policysce "10.56.98.10" -params "endtime=2008-04-13
10:46:20;titleText=Global Bandwidth per Service;services=Flash Yahoo,HTTP,Google Talk File
Transfer,Other Flash;numhours=24000;starttime=2008-04-12 10:46:20;trafficdir=Both
Directions;seip=10.56.201.87;link=Link 0,Link 1;showSce=false;avgdata=true;units=Mbps"
-hierarchy services;1 -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

Table 6-1 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
-report "*report-name*"	Generates a report using the specified name of a report instance.	Use this parameter when generating a report from an existing report instance.
-template "*template-name*"	Generates a report using the specified name of a report template.	Use this parameter when generating a report from a template.

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

Option	Action by SCA Reporter	Comments
-dbdriver "*db-driver*"	The driver for the database.	The same database that is configured in the SCA Reporter.
-dburl "*db-url*"	The URL of the database.	—
-dbuser "*db-user*"	The user of the database.	—
-dbpassword "*db-password*"	The password for the database.	—
-policysce "*IP of SCE for policy data*"	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.
-params "*param1=value1;...*"	Parameters from the Properties view.	When a particular parameter is not listed, the default value is used.
-o "*filename*"	The name of the file to which to direct output.	If the file name exists, the original file is overwritten.
-format "*fileformat*"	Specifies whether to output the report as a chart or as a table. The `fileformat` parameter can take one of the following values: • `jpeg` • `csv` • `pdf`	—
-show	Shows the structure (including parameters) of a report or template instead of executing it.	—
-help	—	—

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

Option	Action by SCA Reporter	Comments
-list	Outputs a list of all template groups and report templates.	—
-hierarchy *"mode; level; group-for sorted"*	Defines the report hierarchy attributes: • mode—The mode of the hierarchy tree. This attribute can accept one of the following values: – services—service popularity mode – sorted—configured services tree mode • level—The default level at which the tree is expanded. • group-for sorted—The number of items to include in each group. **Note** This attribute is only relevant for sorted.	—

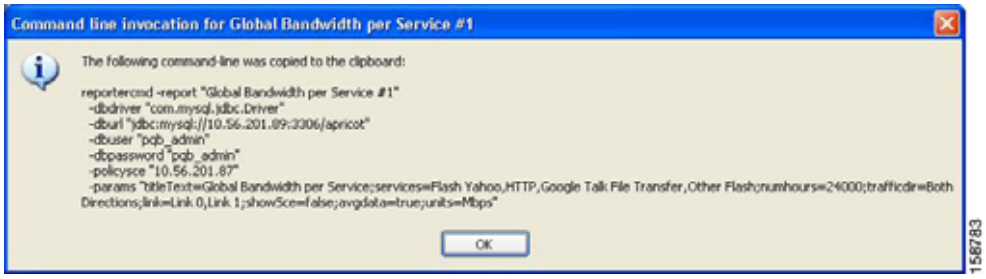
How to Generate Reporter Commands for a Report Instance

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, see Figure 6-1, displaying the generated command.

Figure 6-1 Command Line Invocation Dialog



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.

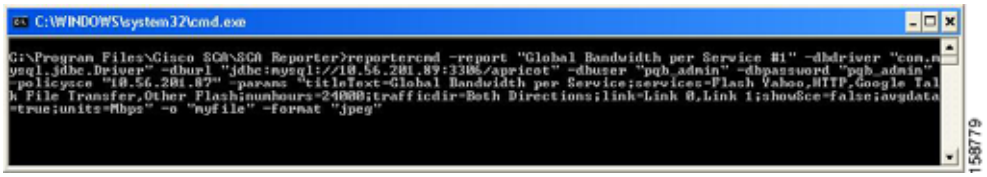
The command is pasted in the file or in the command line.

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, see Figure 6-2.

Figure 6-2 Change Parameters Example



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 template from the Templates view.

Step 2 From the drop-down menu in the tab, select **Show Cmd**, see Figure 6-3.

A Command line invocation dialog box appears, displaying the generated command.

Figure 6-3 Command Line Invocation Dialog

Parameters that have default values are given the default value. A value of ___ (underscore) indicates mandatory parameters that do not have default values.

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.

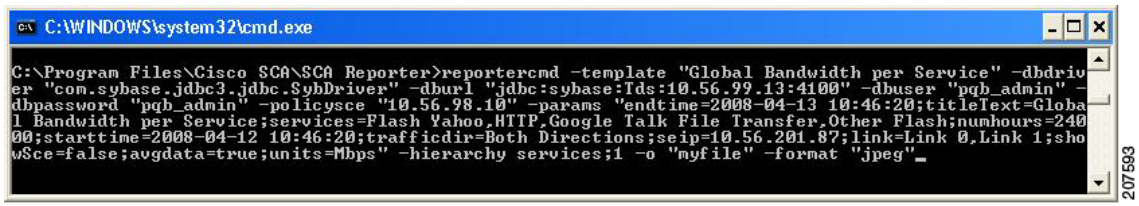
The command is pasted in the file or in the command line.

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, see Figure 6-4.

Figure 6-4 Change Parameters Example



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.

APPENDIX A

Installing and Upgrading SCA Reporter Templates

Revised: September 17, 2012, OL-26822-01

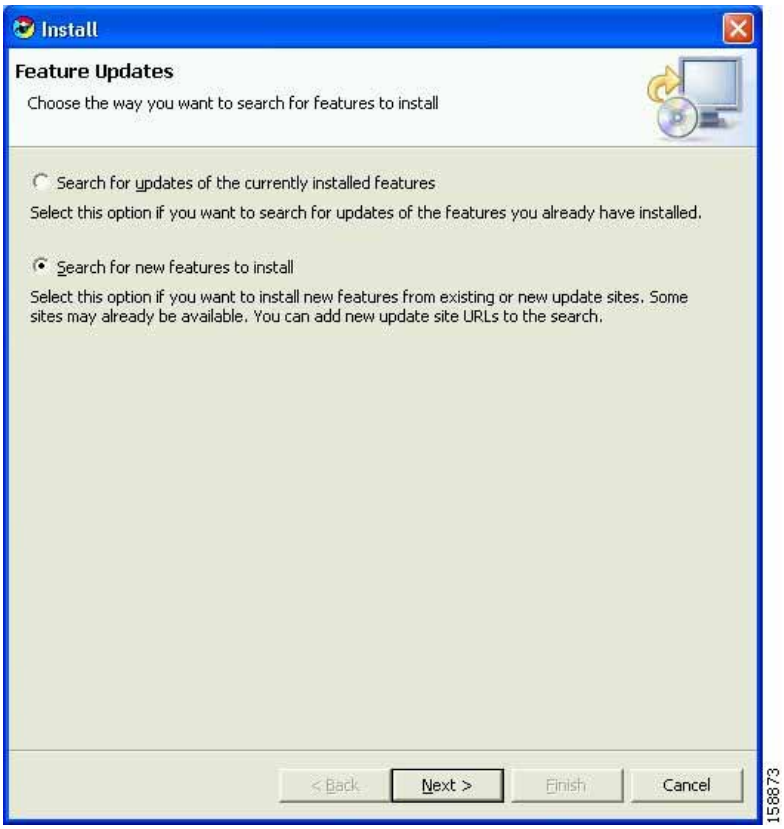
Introduction

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

Installing Report Templates

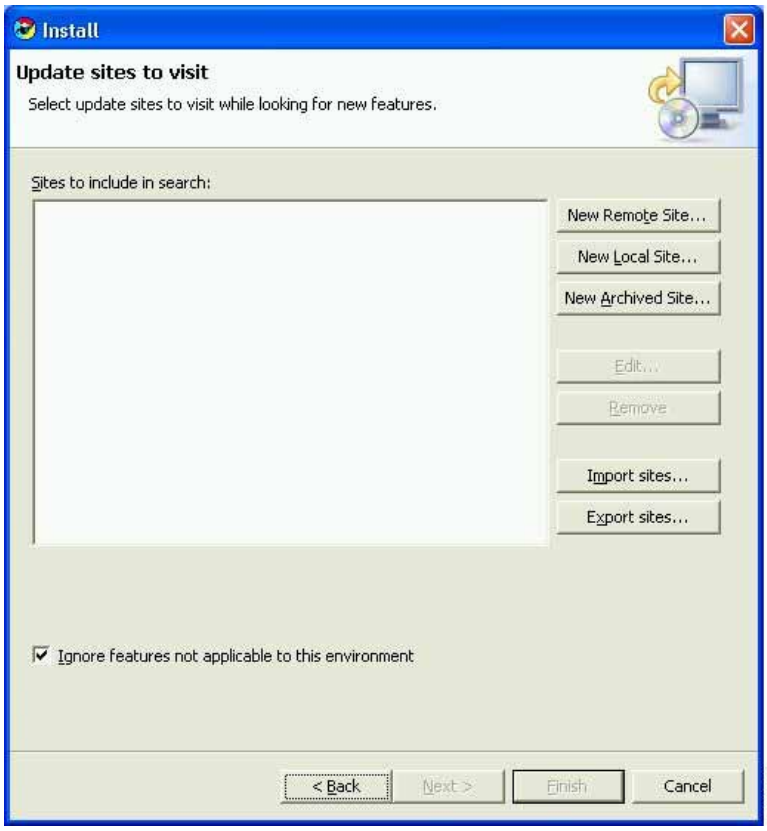
Step 1 At the Main menu, choose **Help > Find and Install**. The Install/Update dialog box appears (Figure A-1).

Figure A-1 Install Feature Updates



Step 2 Check the **Search for new feature to install** radio button and click **Next**, see Figure A-2.

Figure A-2 Update Sites to Visit



Step 3 Click **New Local Site**.

The Select Local Site Archive dialog box appears.

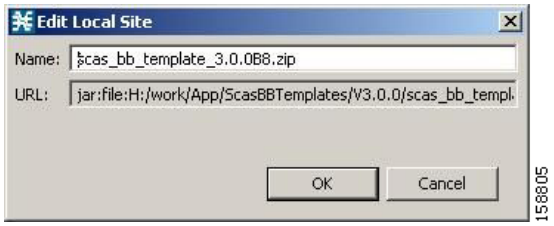
Step 4 Browse to the archive file and select it.

The file is named **SCAS_bb_template_.<version>B<build>.zip**. For example, the file may be named **SCAS_bb_template_3.1.6B8.zip**.

Step 5 Click **Open**.

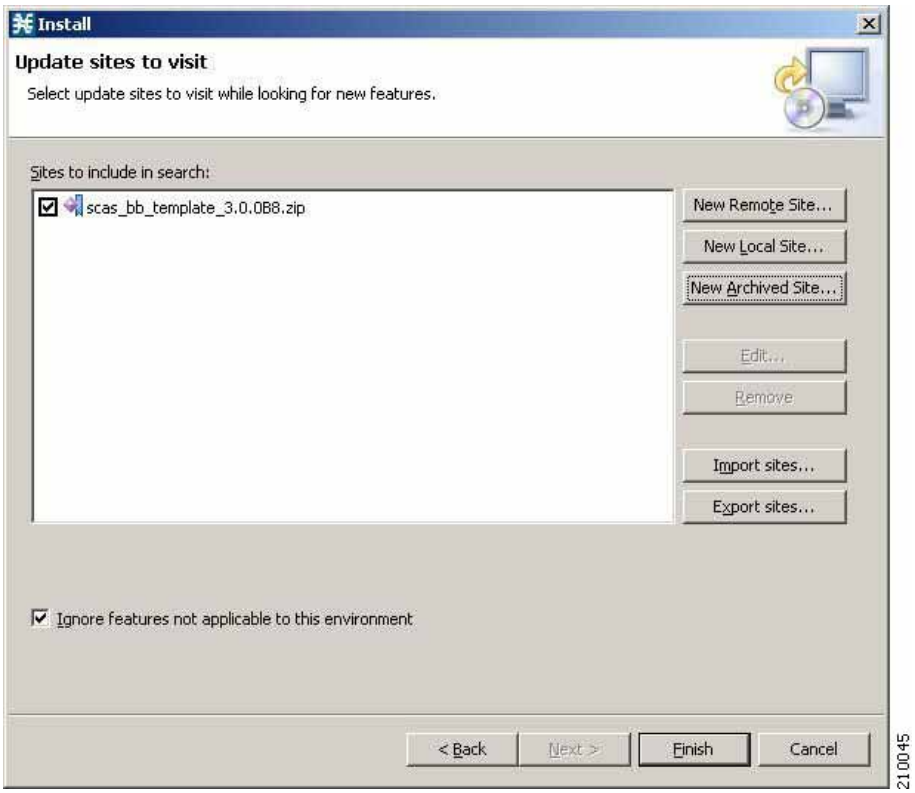
The Edit Local Site dialog box appears displaying the file name and its location and contents, see Figure A-3.

Figure A-3 Edit Local Site Dialog



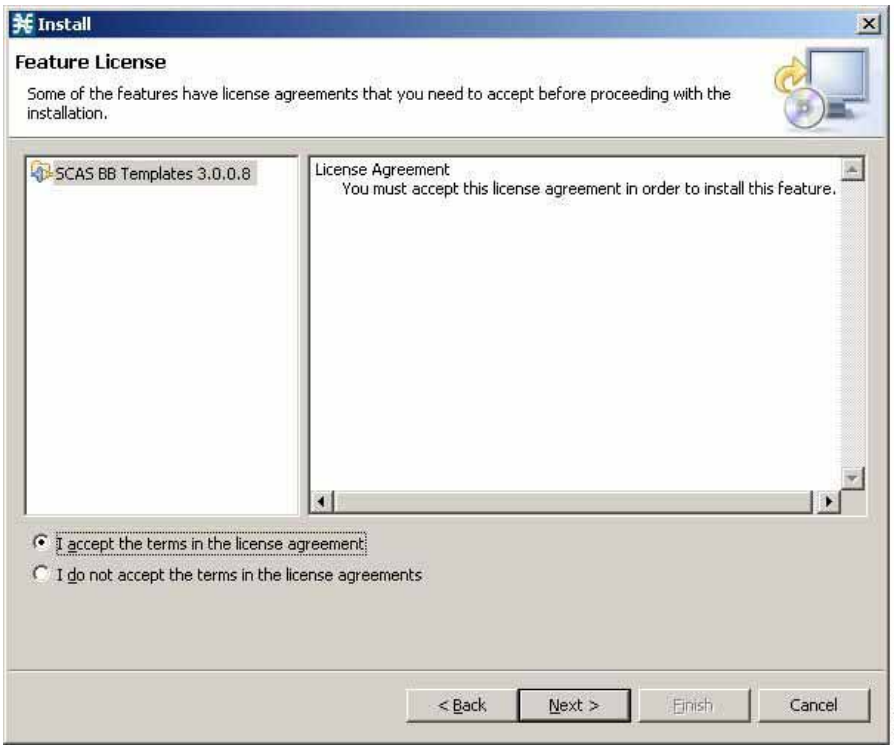
Step 6 Click **OK** (Figure A-4).

Figure A-4 Update Sites to Visit - Update Sites Selected



Step 7 Click **Finish**, see Figure A-5.

Figure A-5 Feature License Dialog

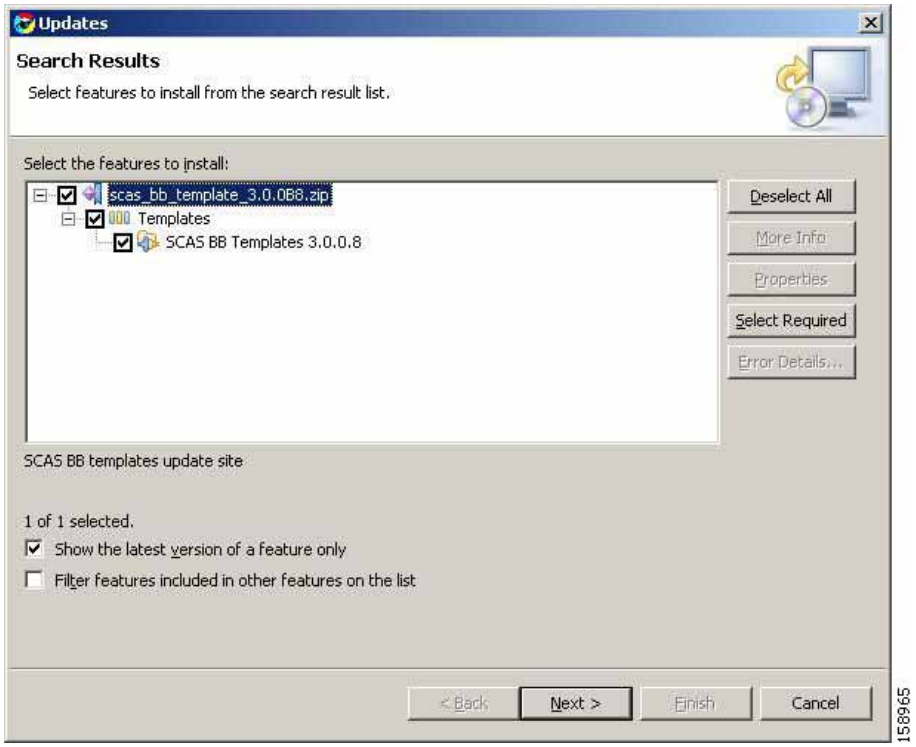


Step 8 Accept the agreement and click **Next**.

The Updates dialog box appears with the installed features available for the site, see Figure A-6.

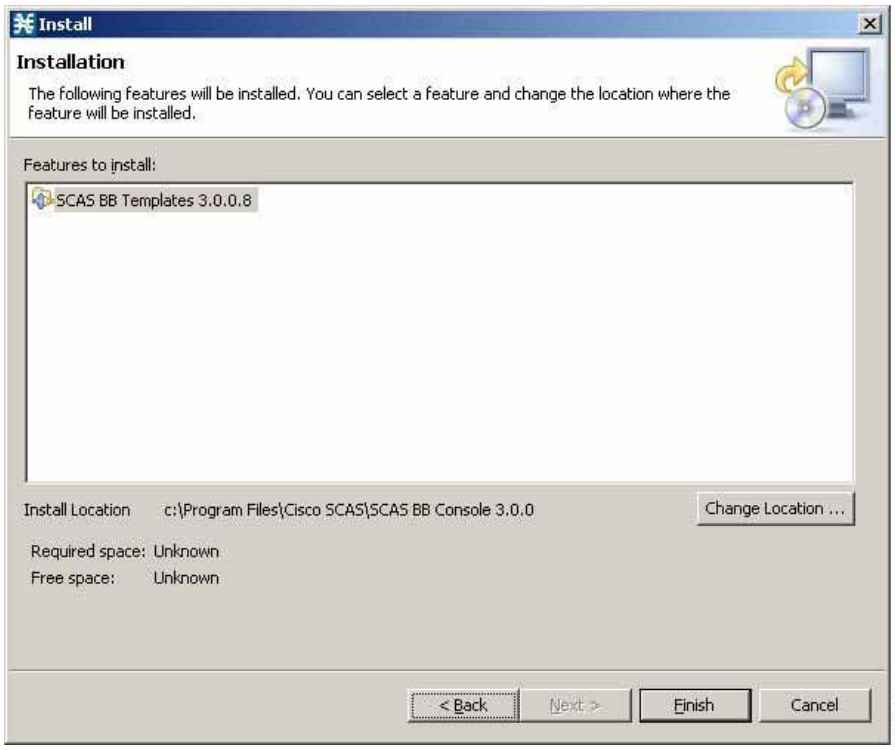
Step 9 Select the required feature, which should be named **SCAS BB Templates<version.<build>**. For example, the file may be named **SCAS BB Template 3.1.6.8**.

Figure A-6 Updates Dialog



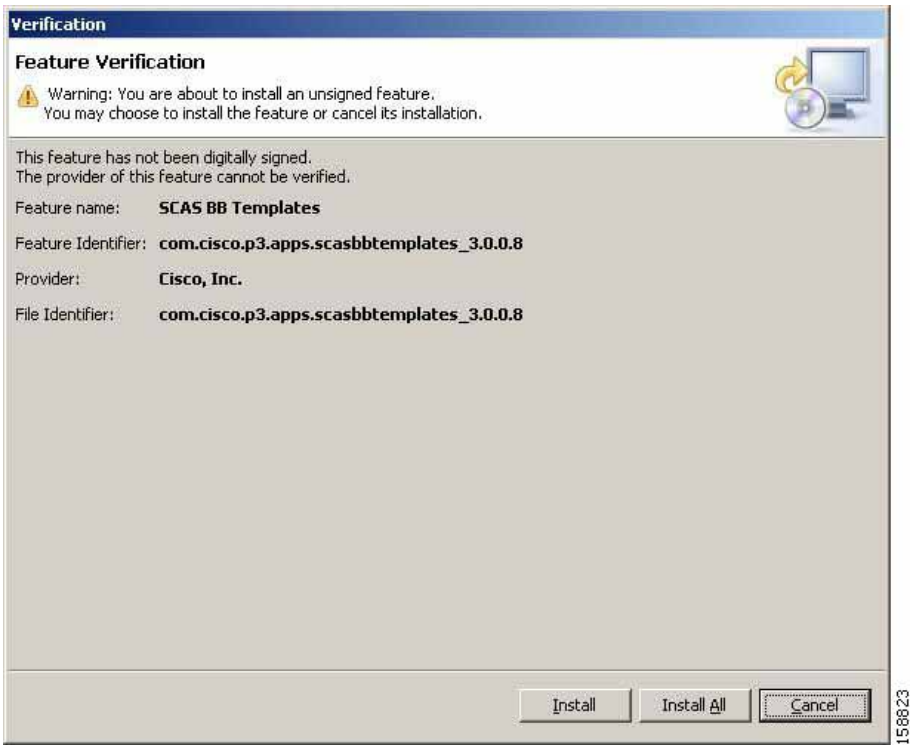
Step 10 (Optional) To install the feature in a different location, click Change Location, and browse to the required location (Figure A-7).

Figure A-7 Change Location



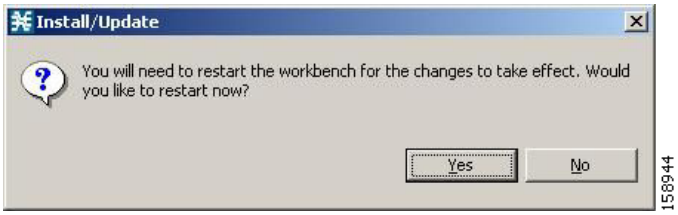
Step 11 Click **Finish (**Figure A-8**)**.

Figure A-8 Feature Verification



Step 12 Click **Install** or **Install All (Figure A-9).**

Figure A-9 Install/Update Dialog



Step 13 Click **Yes**, and wait for the application to appear.

The computer restarts. The new report templates are installed.

Upgrading Report Templates

Step 1 At the Main menu, choose **Help > Find and Install**. The Install/Update dialog box appears (Figure A-10).

Figure A-10 Install Feature Updates

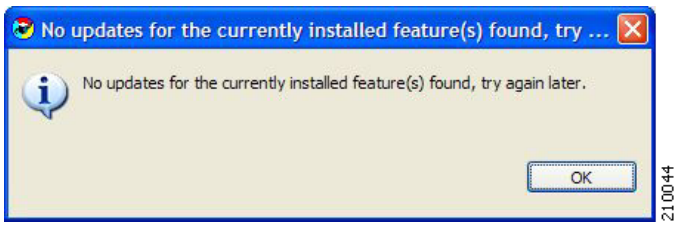
Step 2 Check the **Search for updates of the currently installed features** radio button.

Step 3 Click **Finish**.

One of the following occurs:

- There are no updates (Figure A-11).

Figure A-11 No Updates Dialog



- There are updates.

  The wizard appears (see Installing Report Templates, page A-2).

APPENDIX B

Troubleshooting

Revised: September 17, 2012, OL-26822-01

Introduction

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

This appendix describes the subsystems available for efficient problem solving. After applying the solutions in this appendix, if you are still unable to solve an issue, contact a customer service representative for assistance. Provide the representative with the following information:

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

While working in the SCA reporter, you can also access online help.

General Troubleshooting

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 Using Online Help, page 2-22).

Troubleshooting Setup Errors

If the GUI does not open, check the following:

- Ensure that adequate memory is installed and available.
- Uninstall an old release before installing a new release.
- Ensure that the database is installed and populated.
- Ensure that the IP address of the computer is not connected to another device.

Troubleshooting Using the Command Line Interface

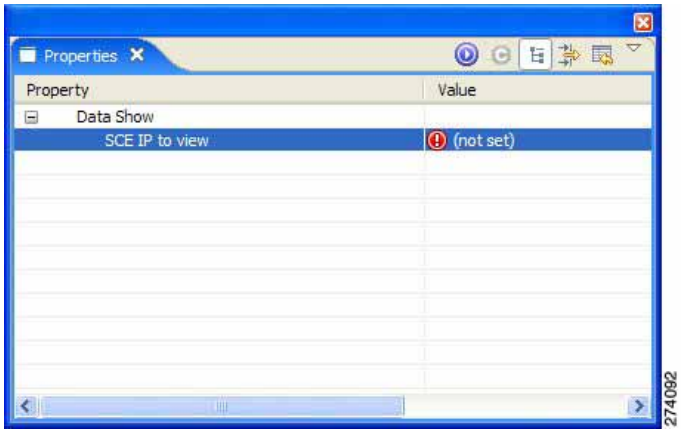
For details on using and troubleshooting the SCA reporter command line interface (CLI), see the following sections in either *Cisco SCE8000 CLI Command Reference* or *Cisco SCE 2000 or SCE 1000 CLI Command Reference*:

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

Troubleshooting Parameter Definition Errors

In this example, a mandatory property is not set (Figure B-1).

Figure B-1 Mandatory Property Not Set



When the report instance is executed, an error message appears (Figure B-2).

Figure B-2 Error Message

To view specifics on an error, click **Details** (Figure B-3).

Figure B-3 Error Message Details

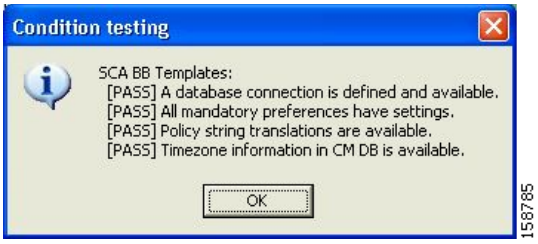
Checking System Conditions

You can check the system conditions to ascertain if:

- Database connection is defined correctly and that the connection is active
- System is correctly configured

Step 1 From the Main menu, choose **Help > Check Conditions**. A Condition testing message appears (Figure B-4).

Figure B-4 Condition Testing Message



Step 2 Click **OK**.

Viewing the Error Log

To configure debug message logging, see the "Configuring the SCA Reporter" section on page 2-7. 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**.

Viewing the Installed Version of Report Templates

When there is a change in a database structure, but the repository is not updated, Template Repository errors may exist. For details, see the "Installing and Upgrading SCA Reporter Templates" section on page A-1.

Note Before the installation, you may need to update the files used for installation and upgrade.

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

SCA Reporter as a Tool in the SCA BB Console

Revised: September 17, 2012, OL-26822-01

Introduction

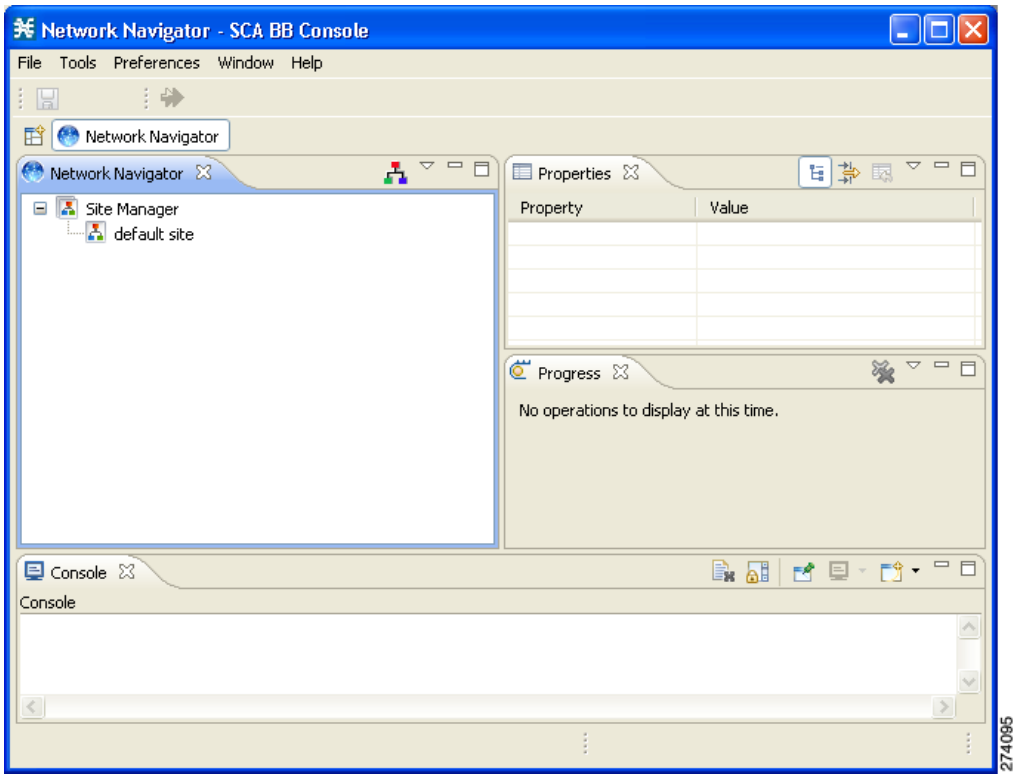
This appendix describes the Cisco Service Control Application Reporter (SCA Reporter) as a tool in the SCA BB Console. For more information about the SCA BB Console, see *Cisco Service Control Application for Broadband User Guide*.

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 3.8.0 > SCA BB Console 3.8.0.** The SCA BB Console appears (Figure C-1).

Figure C-1 SCA BB Console

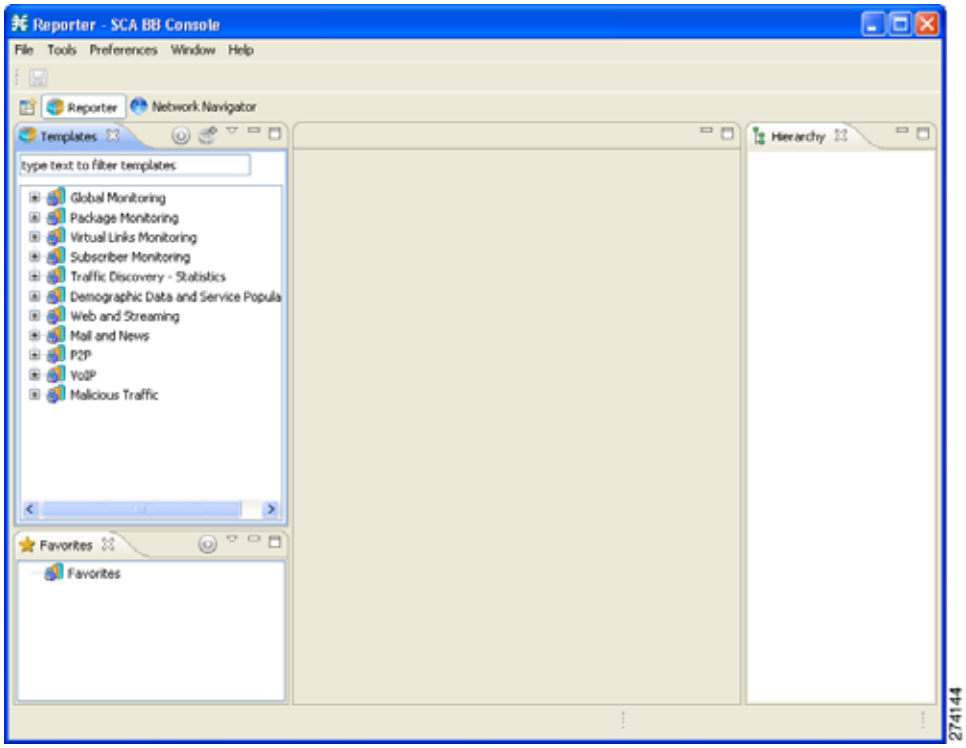


Step 2 Configure and activate a database connection. (See Managing Database Connections, page 2-7.)

Step 3 From the Console main menu, choose **Tools** > **Reporter**.

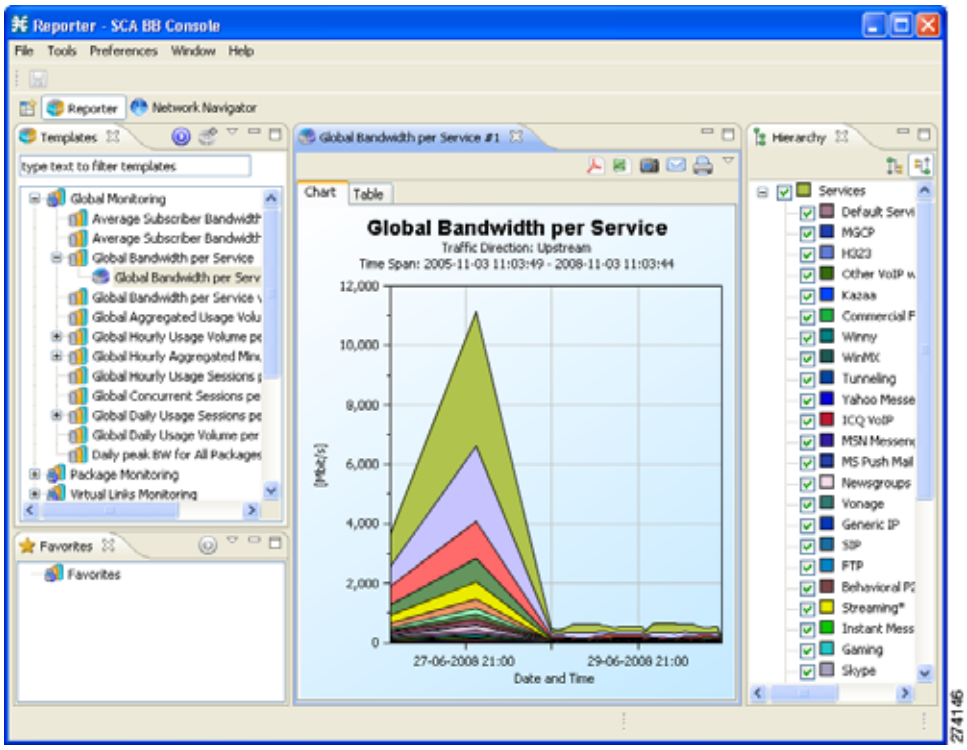
The Reporter tool opens (Figure C-2).

Figure C-2 Reporter Tool



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 (Figure C-3).

Figure C-3 Reporter Tool With Report Displayed



APPENDIX D

SCA Reporter Templates

Revised: September 17, 2012, OL-26822-01

Introduction

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

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-5
- Information About Traffic Discovery Reports, page D-6

Report Instance Properties

Table D-1 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
Items to Focus on			
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.

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

Property	Field Type	Default	Comments
• 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.
Time Boundaries—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.
• From the last number of hours	Free Text	24	Ignored when the Starting After Date and Ending Before Date properties are both set.
• From the last number of Days	Free Text	7	
Specific Time	Date/Time	(not set)	Mandatory property. Appears in three report instance types instead of the other three time boundary properties. The selected time is rounded to the nearest hour/day.
Traffic Parameters			
Link to Focus	Multiple Choice	(not set)	List of available links to focus.
One of the following is included in many report templates:			
Traffic Direction	Single Choice	Depends on report template	Depends on report template: • Direction only • Direction and metric
Metric to order	Single Choice	Depends on report template	Depends on report template and metric: • Metric only • Metric and direction

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

Property	Field Type	Default	Comments
Data Show			
Pick BW Over	Single Choice	1 Hour	
SCE IP to view	Multiple Choice	At installation: (not set) Thereafter: most recent assigned value	IP address of specific Service Control Engine (SCE) platforms.
Units of results	Single Choice	Depends on report template	
Limit number of results	Free Text	10	
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 hours or more.
Show other Consumption	Boolean	False	
Aggregation Period	Single Choice	Hourly	
Subscriber Id	Free Text	(not set)	Pattern that represents 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

Report-monitoring provides 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 specific package usage counter, or for traffic generated by a specific subscriber). These reports are critical for tuning the Service Control Solution 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 SCE platform generated RDRs provide periodic usage information (at 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 counters defined in the service configuration of the SCE platform from which the reports are generated.

- Granularity, page D-5
- Using Metrics, page D-6

Granularity

The granularityof a report instance 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 specific package usage counter. Use package granularity to monitor how subscribers assigned to a specific package usage counter (for example, the total volume of streaming traffic for all subscribers assigned to the Gold package usage counter in the last 10 days) use network resources. See the “Using the Service Configuration Editor: Traffic Control” chapter of *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 specific package. See “Using the Subscriber Manager GUI Tool” chapter of *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 specific subscriber is using network resources (for example, the number of P2P sessions generated by a specific 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 “Using the Service Configuration Editor: Traffic Accounting and Reporting” chapter of *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-8.
- Package report templates are accessible from the Package Monitoring Template Group, page D-9.
- Subscriber report templates are accessible from the Subscriber Monitoring Template Group, page D-11.

Using 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 specific 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 metrics is recommended when you are generating a report for many hours. In this case, a single data point per hour is 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, 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 specific 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 specific service usage counter.

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

Note Volume and bandwidth are reported in layer 3.

Information About Traffic Discovery Reports

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

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 for Reporting, page D-7
- Order Property, page D-7

Criteria for Reporting

Each report template focuses on a specific criterion based on Layers 3 - 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 is 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. This limiting 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—Shows the daily value of the maximum bandwidth (one hour or two hour average), for all packages.
- Average Subscriber Bandwidth per Service—Shows the average bandwidth consumed per subscriber, for each service usage counter.
- Average Subscriber Bandwidth—Shows the average total bandwidth consumed per subscriber.
- Global Bandwidth per Service and Total Bandwidth—Shows the bandwidth used by each service usage counter, compared to the total link bandwidth.
- Global Bandwidth per Traffic Direction—Shows the upstream and downstream bandwidth over time.
- Global Bandwidth per Service comparison—Shows the bandwidth used by groups of service usage counters combined by a subscriber.

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 specific 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).
- Multi Package Bandwidth per Service—Shows the distribution of bandwidth among the different service usage counters defined in the system for all subscribers belonging to specific packages.
- 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—Shows the daily value of the maximum bandwidth (one hour or two hour average), for the traffic of subscribers in specific package usage counters.

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.

For more information on monitoring virtual links, see *Cisco Service Control for Managing Remote Cable MSO Links Solution Guide.*

Table D-2 lists properties used only by the Virtual Links Monitoring group of report templates.

Table D-2 Properties of Virtual Links Monitoring Group Templates Only

Property	Field Type	Default	Comments
Items to Focus on			
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 Bandwidth per Package—Shows the distribution of bandwidth among the different packages defined in the system for selected vlinks.
- 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—Shows the daily value of the maximum bandwidth (one or two hour average) for all virtual links.
- Top VLink by Usage Volume—Shows the top vlinks by usage volume.
- Total Active Subscribers per VLink—Shows the number of active subscribers for a selected vlink.
- Vlink Bandwidth per Cable-Modems Group—Shows the distribution of bandwidth for the selected Cable-Modems group.

Note To generate the Vlink Bandwidth per Package report, enable the CM RAG Adapter and configure the vlink bandwidth per package aggregation.

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 “Additional Management Tools and Interfaces” chapter of *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 specific subscriber.
- Subscriber Aggregated Usage Volume per Service—Shows the most popular service usage counter for a specific 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 specific 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 specific 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 specific 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 specific subscriber.
- Daily Peak BW for Specific Subscriber—Shows the daily value of the maximum bandwidth (one or two hour average), for a specific subscriber.
- Peak Bandwidth per Subscriber—Shows the peak bandwidth for a specific subscriber, all subscribers, or subscribers by pattern, in a specified time frame.

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.

The 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.

Note The reports in this group can often show inaccurate or inconsistent data because they are based on statistical information. Instead of using the Top Protocols report, use the Global Monitoring/Global BW per Service report.

Table D-3 lists the property used only by the Traffic Discovery - Statistics group of report templates.

Table D-3 Property of Traffic Discovery - Statistics Group Templates Only

Property	Field Type	Default	Comments
Traffic Parameters			
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.
- Total Active Subscribers—Shows the average number of active subscribers per period in days.
- 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”.
- Top Subscribers Usage Distribution per Service—Shows the distribution of services by a selected metric for a specific top subscriber, or all top subscribers.
- 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.
- Cumulative Distribution of Subscriber Usage—Shows the cumulative distribution of traffic volume by subscribers.
- Subscribers Average Consumption—Shows the distribution of the average subscriber consumption.

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.

Note The reports in this group can often show inaccurate or inconsistent data because they are based on statistical information.

Table D-4 lists the property used only by the Web and Streaming group of report templates.

Table D-4 Property of Web and Streaming Group Templates Only

Property	Field Type	Default	Comments
Items to Focus on			
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, grouped by page impressions.
- 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.

Note The reports in this group can often show inaccurate or inconsistent data because they are based on statistical information. The following reports have a deterministic alternative:

- Top E-mail Recipients—Use the Subscriber Monitoring/Top Subscribers report, and filter it to focus on the POP3 service.
- Top E-mail Senders—Use the Subscriber Monitoring/Top Subscribers report, and filter it to focus on the SMTP service.
- Top NNTP Consumers—Use the Subscriber Monitoring/Top Subscribers report, filter it to focus on the NNTP service.

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.

Note The P2P protocols can often show inaccurate or inconsistent data because they are based on statistical information. For a deterministic alternative use the Global Monitoring/Global BW per Service report and filter it to focus on the P2P service.

- 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 lists the properties used only by the VoIP group of report templates.

Table D-5 Property of VoIP Group Templates Only

Property	Field Type	Default	Comments
Data Show			
Code 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.
- Global Call Minutes per VoIP Service—Shows the distribution of concurrent VoIP calls between the different services defined in the system.
- 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—Shows the global number of lost packets in VoIP calls.
- Global VoIP Jitter—Shows the global jitter measured in VoIP calls.
- Global Hourly Average VoIP Packets Loss—Shows the average number of lost packets per VoIP call.
- Global Hourly Average VoIP Jitter —Shows the average jitter measurement per VoIP call.
- Global VoIP MOS—Shows the global VoIP quality estimation (Mean-Opinion-Score).
- Global Hourly Average VoIP MOS—Shows the average VoIP quality estimation (Mean-Opinion-Score) per VoIP call.

- Global VoIP MOS Distribution—Shows the distribution of VoIP quality estimation (Mean-Opinion-Score) values.
- Global VoIP Codec Distribution—Shows the distribution of codecs that are used to encode VoIP calls on the network.
- Average MOS per SIP Domain—Shows the average VoIP quality estimation (Mean-Opinion-Score) per SIP domain.
- Calls Duration per SIP Domain—Shows the duration of calls in minutes per SIP domain.
- Number of Calls per SIP Domain—Shows number of calls per SIP domain.
- Top SIP User Agents—Shows the top SIP user agents ordered by hit count.
- Top SIP Domains by Unique Users—Shows the top SIP domains ordered by the number of unique users.

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 lists properties used only by the Malicious Traffic group of report templates.

Table D-6 Properties of Malicious Traffic Group Templates Only

Property	Field Type	Default	Comments
Traffic Parameters			
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.
- Infected subscribers vs Active Subscribers—Shows the distribution of infected subscribers over time, compared to all active subscribers.
- 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.

IPv6 Reports Template Group

The IPv6 group of report templates allows you to view the statistics of the IPv6 traffic.

The IPv6 group includes the following report templates:

- IPv6 vs IPv4 Bandwidth Comparison—Shows the total bandwidth carried by each IP type.
- Tunneled IPv6 Average Subscriber Bandwidth—Shows the average tunneled IPv6 bandwidth consumed per subscriber.
- Tunneled IPv6 Concurrent Sessions—Shows the distribution of concurrent open tunneled IPv6 sessions.
- Tunneled IPv6 Active Subscribers—Shows the number of active subscribers using the tunneled IPv6 bandwidth.

Mapping Between RDRs and Reports

This section provides the mapping information between RDRs and reports. The mapping between RDRs and reports is divided into the following categories:

- Category 1 reports are for Usage RDRs—CM (CSV or DB)
- Category 2 reports are for Real-Time Signaling RDRs—Attack Detection And Per-Transaction Flow Accounting
- Category 3 reports are for DHCP and RADIUS Sniffer Integrations used for SM
- Category 4 reports are for QM

Note TAGs without descriptions are for internal use only.

Table D-7 lists the RDRs to Reports mapping.

Table D-7 RDRs to Reports Mapping

TAG	Category	TAG (DEC)	RDR Name	ON/OFF	Default Rate	Table/CSV	Reports	Statistical
0xb2d05e01	4	—	—	—	—	—	—	—
0xb2d05e02	4	—	—	—	—	—	—	—
0xb2d05e04	1	—	—	—	—	—	—	—
0xb2d05e05	1	—	—	—	—	—	—	—
0xf0f0f000	1	4042321920	SUBSCRIBER_ USAGE_ RDR	ON	Every 10 minutes	RPT_NUR RPT_ TOPS_ PERIOD0 RPT_ TOPS_ PERIOD1	Subscriber Monitoring • Top Subscribers Demographic Data & Service Popularity • Relative Consumption of Top Subscribers VoIP • Top Talkers	NO

Table D-7 RDRs to Reports Mapping (continued)

TAG	Category	TAG (DEC)	RDR Name	ON/OFF	Default Rate	Table/CSV	Reports	Statistical
0xf0f0f002	1	4042321922	REALTIME_ SUBSCRIBER_ USAGE_RDR	ON	Every 1 minute	RPT_SUR	Subscriber Monitoring • Subscriber Bandwidth per Service • Subscriber Aggregated Usage Volume per Service • Subscriber Hourly Usage Volume per Service • Subscriber Hourly Aggregated Minutes per Service • Subscriber Hourly Usage Session per Service • Subscriber Daily Usage Session per Service • Subscriber Daily Usage Volume per Service • Daily peak BW for Specific Subscriber VoIP • Subscriber Bandwidth per VoIP Service • Subscriber Hourly Call Minutes per Service	NO

Table D-7 RDRs to Reports Mapping (continued)

TAG	Category	TAG (DEC)	RDR Name	ON/OFF	Default Rate	Table/CSV	Reports	Statistical
0xf0f0f004	1	4042321924	PACKAGE_ USAGE_RDR	ON	Every 5 minutes	RPT_PUR	Package Monitoring • All Reports Demographic Data & Service Popularity • Package Active Subscriber per Service • Service Popularity among Subscribers of Specific Package • Service Popularity among Subscribers of Specific Package (Average) VoIP • Package Bandwidth per VoIP Service • Package Concurrent Calls per VoIP Service • Package Hourly Call Minutes per Service	NO

Table D-7 RDRs to Reports Mapping (continued)

TAG	Category	TAG (DEC)	RDR Name	ON/OFF	Default Rate	Table/CSV	Reports	Statistical
0xf0f0f005	1	4042321925	LINK_USAGE_ RDR	ON	Every 5 minutes	RPT_LUR	Global Monitoring • All Reports Demographic Data & Service Popularity • Global Active Subscriber per Service • Service Popularity among Subscribers VoIP • Global Bandwidth per VoIP Service • Global Concurrent Calls per VoIP Service • Global Hourly Call Minutes per Service	NO

Table D-7 RDRs to Reports Mapping (continued)

TAG	Category	TAG (DEC)	RDR Name	ON/OFF	Default Rate	Table/CSV	Reports	Statistical
0xf0f0f006	1	4042321926	VIRTUAL_ LINKS_USAGE_ RDR	OFF	—	RPT_VLUR	Virtual Links Monitoring • Daily peak BW for VLinks • Top VLinks by Usage Volume • Total Active Subscribers per VLink • VLink Aggregated Usage Volume per Service • VLink Bandwidth per Service • Vlink Bandwidth per Cable-Modems group • VLink Concurrent Sessions per Service • VLink Daily Usage Sessions per Service • VLink Daily Usage Volume per Service • VLink Hourly Aggregated Minutes per Service • VLink Hourly Usage Sessions per Service • VLink Hourly Usage Volume per Service	—

Table D-7 RDRs to Reports Mapping (continued)

TAG	Category	TAG (DEC)	RDR Name	ON/OFF	Default Rate	Table/CSV	Reports	Statistical
0xf0f0f010	1	4042321936	TRANSACTION_ RDR	ON	100/sec Max	RPT_TR	Traffic Discovery Statistics • All Reports Web & Streaming • All Reports Mail & News • All Reports P2P • All Reports VoIP • Top SIP Domains	YES
0xf0f0f016	2	4042321942	FLOW_START_ RDR	OFF	—	CSV	—	—
0xf0f0f017	2	4042321943	FLOW_ ONGOING_RDR	OFF	—	CSV	—	—
0xf0f0f018	2	4042321944	FLOW_END_RDR	OFF	—	CSV	—	—
0xf0f0f019	2	4042321945	ATTACK_START_ RDR	OFF	—	CSV	—	—
0xf0f0f01a	2	4042321946	ATTACK_END_ RDR	OFF	—	CSV	—	—
0xf0f0f072	4	4042322034	QUOTA_ BREACH_RDR	OFF	—	QM	—	—
0xf0f0f071	4	4042322033	QUOTA_STATUS_ RDR	OFF	—	QM	—	—
0xf0f0f073	4	4042322035	QUOTA_ THRESHOLD_ BREACH_RDR	OFF	—	QM	—	—
0xf0f0f070	4	4042322032	QUOTA_ SESSION_ CREATION_RDR	OFF	—	QM	—	—
0xf0f0f040	1	4042321984	SERVICE_ BLOCK_RDR	ON	—	CSV	—	—
0xf0f0f042	3	4042321986	DHCP_RDR	OFF	—	LEG	—	—

Table D-7 RDRs to Reports Mapping (continued)

TAG	Category	TAG (DEC)	RDR Name	ON/OFF	Default Rate	Table/CSV	Reports	Statistical
0xf0f0f043	3	4042321987	RADIUS_RDR	OFF		LEG		
0xf0f0f050	1	4042322000	MALICIOUS_ TRAFFIC_ P ERIODIC_RDR	ON	Every 60 seconds	RPT_ MALUR	Malicious Traffic • All Reports	NO
0xf0f0f438	1	4042323000	TRANSACTION_ USAGE _RDR	OFF	—	CSV	—	—
0xf0f0f43c	1	4042323004	HTTP_ TRANSACTION_ USAGE_RDR	OFF	—	CSV	—	—
0xf0f0f440	1	4042323008	RTSP_ TRANSACTION_ USAGE_RDR	OFF	—	CSV	—	—
0xf0f0f46a	1	4042323050	VoIP_ TRANSACTION_ USAGE_RDR	OFF	—	CSV	—	—
0xf0f0f46c	1	4042323052	MEDIA_FLOW_ RDR	ON	—	RPT_ MEDIA	VoIP • 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	NO
0xf0f0f480	1	4042323072	VIDEO_ TRANSACTION_ USAGE_ RDR	OFF	—	CSV	—	—

Table D-7 RDRs to Reports Mapping (continued)

TAG	Category	TAG (DEC)	RDR Name	ON/OFF	Default Rate	Table/CSV	Reports	Statistical
0xf0f0f090	1	4042322064	GENERIC_ PERIODIC_RDR	ON	Every 5 minutes	RPT_GUR	IPv6 • IPv6 vs IPv4 Bandwidth Comparison • Tunneled IPv6 Active Subscribers • Tunneled IPv6 Average Subscriber Bandwidth • Tunneled IPv6 Concurrent Sessions	—
0x2108	1	—	—	—	—	—	—	—
0x12fcb	1	—	—	—	—	—	—	—
0x12fcf	1	—	—	—	—	—	—	—
0x12fd0	1	—	—	—	—	—	—	—
0xf4240	1	—	—	—	—	—	—	—
0xa98671	1	—	—	—	—	—	—	—
0xa98672	1	—	—	—	—	—	—	—
0xa98673	1	—	—	—	—	—	—	—
0xa98674	1	—	—	—	—	—	—	—
0xa98a59	1	—	—	—	—	—	—	—
0xa9ad81	1	—	—	—	—	—	—	—
0xa9fba1	1	—	—	—	—	—	—	—
0xaa22b1	1	—	—	—	—	—	—	—
0xaa49c1	1	—	—	—	—	—	—	—
0xaa70d1	1	—	—	—	—	—	—	—