



## APPENDIX **D**

# SCA Reporter Templates

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## Introduction





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

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

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

Property	Field Type	Default	Comments
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.
<b>Traffic Parameters</b>			
Link to Focus	Multiple Choice	(not set)	List of available links to focus.
One of the following is included in many report templates:			
Traffic Direction	Single Choice	Depends on report template	Depends on report template: <ul style="list-style-type: none"> <li>• Direction only</li> <li>• Direction and metric</li> </ul>
Metric to order	Single Choice	Depends on report template	Depends on report template and metric: <ul style="list-style-type: none"> <li>• Metric only</li> <li>• Metric and direction</li> </ul>
<b>Data Show</b>			
Pick BW Over	Single Choice	1 Hour	
SCE IP to view	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	

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

Property	Field Type	Default	Comments
Aggregation Period	Single Choice	Hourly	
Subscriber Id	Free Text	(not set)	Pattern that represent group of subscribers.

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

## Information About Monitoring Reports

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's configuration according to changing network patterns.

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

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

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

- [Granularity, page D-6](#)
- [Using Metrics, page D-7](#)

## Granularity

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

- **Global**—Provides visibility into all traffic processed by the SCE platforms being reported on. Use global granularity to view the global distribution of network resources (for example, total P2P bandwidth for the last 24 hours).
- **Package**—Reports on traffic mapped to subscribers in a 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 ten 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 is recommended when you are generating a report for many hours. In this case a single data point per hour is usually sufficient: it reduces the quantity of data displayed, improving performance and the visualization of the data.

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

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

**Note**

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Volume and bandwidth are reported in layer 3.

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## 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 system's service configuration.

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

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

- [Criteria for Reporting, page D-8](#)
- [Order Property, page D-8](#)

## Criteria for Reporting

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

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

## Order Property

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

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

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

# Global Monitoring Template Group

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

The Global Monitoring group includes the following report templates:

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

## 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
<b>Items to Focus on</b>			
Select VLink ID	Free Text	(not set)	—
Select VLink direction	Single Choice	(not set)	—
Select VLink names	Multiple Choice	(not set)	—

The Virtual Links Monitoring group includes the following report templates:

- VLink Bandwidth per Service—Shows the distribution of bandwidth among the different service usage counters defined in the system for all subscribers.
- VLink Aggregated Usage Volume per Service—Shows the total volume of traffic (upstream and downstream) for each service usage counter.
- VLink 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 (1-hour or 2-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 hour 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
<b>Traffic Parameters</b>			
Transport Protocol	Single choice	TCP	—

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

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



**Note**

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

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



**Note**

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

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

# Demographic Data and Service Popularity Reports Template Group

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

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

- **Global Active Subscriber per Service**—Shows the distribution of subscribers among the different services defined in the system for all traffic, regardless of subscriber or package.
- **Package Active Subscriber per Service**—Shows the distribution of bandwidth among the different services defined in the system for specific subscriber package.
- **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
<b>Items to Focus on</b>			
Where host is contained	Free Text	(not set)	Filter to hosts containing the given pattern.

The Web and Streaming group includes the following report templates:

- Top Web Hosts—Shows the most popular web servers, 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
<b>Data Show</b>			
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
<b>Traffic Parameters</b>			
IP protocol	Single Choice	(not set)	—
Filter to port	Free Text	(not set)	—
Detected IP side	Single Choice	(not set)	—

The Malicious Traffic group includes the following report templates:

- Global Scan or Attack Rate—Shows the rate (session/sec) of scan/attacks originating from the hosts (typically because of a worm or zombie).
- Global DoS Rate—Shows the rate (sessions/sec) of DoS attacks on the targeted host.
- Top Scanning or Attacking Hosts—Shows the top hosts identified as DoS attacking.
- Top DoS Attacked Hosts—Shows the top DoS-attacked hosts.
- Infected Subscribers—Shows the distribution of infected subscribers over time among the different IP protocols in the system.
- 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 mappings.

**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 <ul style="list-style-type: none"> <li>• Top Subscribers</li> </ul> Demographic Data & Service Popularity <ul style="list-style-type: none"> <li>• Relative Consumption of Top Subscribers</li> </ul> VOIP <ul style="list-style-type: none"> <li>• Top Talkers</li> </ul>	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 <ul style="list-style-type: none"> <li>• Subscriber Bandwidth per Service</li> <li>• Subscriber Aggregated Usage Volume per Service</li> <li>• Subscriber Hourly Usage Volume per Service</li> <li>• Subscriber Hourly Aggregated Minutes per Service</li> <li>• Subscriber Hourly Usage Session per Service</li> <li>• Subscriber Daily Usage Session per Service</li> <li>• Subscriber Daily Usage Volume per Service</li> <li>• Daily peak BW for Specific Subscriber</li> </ul> VOIP <ul style="list-style-type: none"> <li>• Subscriber Bandwidth per VoIP Service</li> <li>• Subscriber Hourly Call Minutes per Service</li> </ul>	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 <ul style="list-style-type: none"> <li>All Reports</li> </ul> Demographic Data & Service Popularity <ul style="list-style-type: none"> <li>Package Active Subscriber per Service</li> <li>Service Popularity among Subscribers of Specific Package</li> <li>Service Popularity among Subscribers of Specific Package (Average)</li> </ul> VOIP <ul style="list-style-type: none"> <li>Package Bandwidth per VoIP Service</li> <li>Package Concurrent Calls per VoIP Service</li> <li>Package Hourly Call Minutes per Service</li> </ul>	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 <ul style="list-style-type: none"> <li>All Reports</li> </ul> Demographic Data & Service Popularity <ul style="list-style-type: none"> <li>Global Active Subscriber per Service</li> <li>Service Popularity among Subscribers</li> </ul> VOIP <ul style="list-style-type: none"> <li>Global Bandwidth per VoIP Service</li> <li>Global Concurrent Calls per VoIP Service</li> <li>Global Hourly Call Minutes per Service</li> </ul>	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 <ul style="list-style-type: none"> <li>• Daily peak BW for VLinks</li> <li>• Top VLinks by Usage Volume</li> <li>• Total Active Subscribers per VLink</li> <li>• VLink Aggregated Usage Volume per Service</li> <li>• VLink Bandwidth per Service</li> <li>• VLink Bandwidth per Cable-Modems group</li> <li>• VLink Concurrent Sessions per Service</li> <li>• VLink Daily Usage Sessions per Service</li> <li>• VLink Daily Usage Volume per Service</li> <li>• VLink Hourly Aggregated Minutes per Service</li> <li>• VLink Hourly Usage Sessions per Service</li> <li>• VLink Hourly Usage Volume per Service</li> </ul>	—

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 <ul style="list-style-type: none"> <li>All Reports</li> </ul> Web & Streaming <ul style="list-style-type: none"> <li>All Reports</li> </ul> Mail & News <ul style="list-style-type: none"> <li>All Reports</li> </ul> P2P <ul style="list-style-type: none"> <li>All Reports</li> </ul> VOIP <ul style="list-style-type: none"> <li>Top SIP Domains</li> </ul>	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	—	—
0xf0f0f020	4	4042321952	SUBSCRIBER_ ACCOUNTING_ RDR	OFF	Every 60 seconds	SM	—	—
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	—	—



Table D-7 RDRs to Reports Mapping (continued)

TAG	Category	TAG (DEC)	RDR Name	ON/OFF	Default Rate	Table/CSV	Reports	Statistical
0xf0f0f040	1	4042321984	SERVICE_BLOCK_RDR	ON	—	CSV	—	—
0xf0f0f042	3	4042321986	DHCP_RDR	OFF	—	LEG	—	—
0xf0f0f043	3	4042321987	RADIUS_RDR	OFF	—	LEG	—	—
0xf0f0f050	1	4042322000	MALICIOUS_TRAFFIC_PERIODIC_RDR	ON	Every 60 seconds	RPT_MALUR	Malicious Traffic <ul style="list-style-type: none"> <li>All Reports</li> </ul>	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 <ul style="list-style-type: none"> <li>Global VoIP Packets Loss</li> <li>Global VoIP Jitter</li> <li>Global Hourly Average VoIP Packets Loss</li> <li>Global Hourly Average VoIP Jitter</li> <li>Global VoIP MOS</li> <li>Global Hourly Average VoIP MOS</li> <li>Global VoIP MOS Distribution</li> <li>Global VoIP Codec Distribution</li> </ul>	NO

Table D-7 RDRs to Reports Mapping (continued)

TAG	Category	TAG (DEC)	RDR Name	ON/OFF	Default Rate	Table/CSV	Reports	Statistical
0xf0f0f480	1	4042323072	VIDEO_TRANSACTION_USAGE_RDR	OFF	—	CSV	—	—
0xf0f0f090	1	4042322064	GENERIC_PERIODIC_RDR	ON	Every 5 minutes	RPT_GUR	IPv6 <ul style="list-style-type: none"> <li>IPv6 vs IPv4 Bandwidth Comparison</li> <li>Tunneled IPv6 Active Subscribers</li> <li>Tunneled IPv6 Average Subscriber Bandwidth</li> <li>Tunneled IPv6 Concurrent Sessions</li> </ul>	—
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	—	—	—	—	—	—	—