



Report Writer Version 5.0 User Guide

Overview

Introduction

The Report Writer software enables you to generate reports that collect data from the Explorer Controller (EC) database, poll Digital Home Communication Terminals (DHCTs, also known as *set-tops* or *STBs*) for information, and collect system information. The reports are created in a Hypertext Markup Language (HTML) format, so you can view them through a web browser and you can print them.

This guide supports Report Writer 5.0, which is compatible with System Release 8.0.

Purpose

This guide provides the following information about the Report Writer software:

- Descriptions of new features introduced in this version of Report Writer
- Descriptions of the reports you can access in Report Writer
- Instructions for installing Report Writer on your system
- Instructions for using Report Writer to access reports through a web browser
- Instructions for troubleshooting the most common Report Writer error situations

Scope

The Report Writer software package is included with the system release and is installed by default during the initial setup of a new EC server and during any subsequent system release upgrade.

The installation instructions in this document are for installing incremental versions of Report Writer between system release upgrades.

Audience

This document is written for system operators. Our engineers may also find this document to be useful.

What's New in Report Writer 3.0?

Document Version

This is the first formal release of this document.

What's New in Report Writer 3.0?

Report Writer 3.0 introduces the following features and enhancements:


- The entire look and feel of the Report Writer has been updated to match the EC.
- You can now launch Report Writer directly from the EC without having to log in separately.

Using Report Writer



CAUTION:

Before opening Report Writer to display reports, exit all instances of Firefox associated with your UNIX user ID. When you try to open Report Writer with more than one instance of Firefox associated with your UNIX user ID, a message appears on the screen stating that Firefox has detected a locked file. Do not continue. If you attempt to continue, Report Writer may exhibit unpredictable behavior.

- 1 Click the navigation menu () . The EC main menu opens.
- 2 Click Utilities > Reports. The Report Writer launches.

Online Help

To open the online help for Report Writer:

- 1 On the Report Writer front page, click the **gear** button. A drop-down list opens.
- 2 Click **Report Writer Help**. The online help opens for Report Writer.

Customize Reports

Insert Your Company Logo

You can customize reports by inserting your company's logo, in GIF format, at the top of each Report Writer page.

- 1 Exit your browser.
- 2 Rename your logo file **logo_cisco.gif**.
- 3 Place the top.gif file in the following directory:
`/dvs/tools/xwt/xwt/themes/reboot2/xwt/images/header17/assets/`

Sort the Generated Reports

You can display report data in a different order by sorting any column field. To sort a generated report, click the column heading.

Note: Sorting a report does not regenerate the report data; it only displays the report data in a different order.

About the Reports

This section describes the different report categories and provides a description of the report formats.

Report Types

Reports are categorized into three types:

- Reports that collect data Only from the EC database.
- Reports that poll DHCTs for information using SNMP (Simple Network Management Protocol).
- Reports that collect system information from the EC server.

If you do not see data that you expect in a particular report, refer to the description for that report. It is possible that some filtering has been applied by the report that caused the expected data to be excluded.

About Database Reports

The following table provides a description of each of the reports that collect data from the EC database. These reports are listed in the order in which they are shown on the EC Reports window.

To generate the reports, see [Generating Database Reports](#).

Report Title	Description	Filter Options (if any)
PPV Events	Data listed: All pending pay-per-view (PPV) events.	
Zero Credit	Data listed: All In Service-Two Way DHCTs that have impulse pay-per-view (IPPV) events enabled and a credit limit of 0 (zero). Normal condition: Report should not show any data.	
CableCARD Report	Data listed: All CableCARD modules that are bound to the system.	<ul style="list-style-type: none"> ■ CableCARD MAC Address ■ Host MAC Address
CableCARD-DHCT Combo Devices Report	Data listed: All CableCARD modules-to-DHCT associations, and the status of the associations.	

Report Title	Description	Filter Options (if any)
Channels, Sources and Sessions Report	<p>Data listed: Each display channel in the system, including all information about “carriage” of that channel.</p> <p>Normal conditions: Report includes all multicast session information built on QAMs, NetCrypts, generic QAMs. PPV services are also included.</p> <p>Note: For this report, you can also run the CLI-based chanlineupinfo.sh utility located in the /dvs/RepWriter/current/bin directory. CD to the directory and type ./chanlineupinfo and press Enter. The utility creates a file named chanlineupinfo_[mmddyy]_[hhmmss].psv in the current directory. This pipe-delimited file contains all the data required for the Channels, Sources and Sessions (CSS) report.</p>	
DHCT Report	<p>Data listed: All DHCTs (set-tops) in the EC database and some DHCT configuration information.</p> <p>Normal conditions: Report can be extensive and not viewable on a workstation that has little free memory. It may take several minutes to generate/display this report.</p> <p>This report is most useful if you have a small number of DHCTs in your system. A DHCT listed in the database will not appear on this report if it is associated with a DHCT type that is not in the EC database.*</p> <p>Note: CableCARD module information is not available in this Report. Only the DHCT information is populated.</p>	
DHCT Packages Report	<p>Data listed: All DHCTs and their associated packages with package details.</p>	<ul style="list-style-type: none"> ■ DHCT MAC Address ■ Package Name
EC Packages Report	<p>Data listed: All packages and their associated sources on the EC. Includes details of the sources which are assigned to a package.</p>	<ul style="list-style-type: none"> ■ Package Name ■ Source Name
Service Group Report	<p>Data listed: All service groups on the EC. Includes details of the service groups that are assigned a QAM port.</p>	

Report Title	Description	Filter Options (if any)
QAMs Report	<p>Data listed: All of the QAMs that are in the database and information about their configuration.</p> <p>Normal conditions: A QAM listed in the database will not appear in the report if it does not have valid RF ports in the database.*</p>	
Netcrypt Report	<p>Data listed: All Netcrypt™ servers in the EC database and their status.</p> <p>Note: This report <i>only</i> appears if the Netcrypt feature is enabled on the EC.</p>	
SDV Servers Report	<p>Data listed: All switched digital broadcast servers in the DNCS database and their settings.</p> <p>Note: This report <i>only</i> appears if the SDV feature is enabled on the EC.</p>	
PCG Report	<p>Data listed: All PowerKEY® Conditional Access Gateways (PCGs) in the system and their status.</p> <p>Note: This report <i>only</i> appears if the PCG feature is enabled on the EC.</p>	
QPSK Mods	<p>Data listed: All QPSK Modulators in the database and information about their configuration.</p>	
QPSK DeMods	<p>Data listed: All QPSK Demodulators in the database.</p> <p>Normal condition: A QPSK Demodulator listed in the database will not appear in the report if it is associated with a QPSK Modulator, hub, or node set that is not in the EC database.*</p>	
In Service One-Way	<p>Data listed: DHCTs with an administrative status of In Service-One Way.</p> <p>Normal condition: Queries the EC database to identify DHCTs that have been configured for one-way service.</p>	

Report Title	Description	Filter Options (if any)
Non-Responding DHCTs - Never Connected	<p>Data listed: DHCTs with an administrative status of In Service-Two Way or Deployment that do not have an IP address.</p> <p>Normal condition: Queries the EC database to identify DHCTs configured for two-way service that have never established a two-way connection in a EC.</p>	
Non-Responding DHCTs - Lost Connection Report	<p>Data listed: DHCTs with an administrative status of In Service-Two Way which have an IP address, but whose operational status is "Unknown," "MAC initialization failed," or "DSMCC boot failed."</p> <p>Normal condition: Queries the EC database to identify DHCTs configured for two-way service that have lost a previous two-way connection.</p>	
TSID Report	<p>Transport Stream ID</p> <p>Data listed: Lists transport stream IDs (TSIDs) used by QAMs.</p> <p>Normal condition: Queries the database to identify all TSIDs that have been used in the system.</p>	

*This situation should occur infrequently, if at all, and could indicate that some sort of EC database corruption has occurred. Try to open the applicable EC Administrative Console GUIs to ensure that the data is intact for a particular device.

About SNMP Poll Reports

The SNMP Poll Reports collect data by issuing up to three SNMP poll requests to each candidate DHCT (set-top).

Note: The term *candidate DHCTs* refers to DHCTs in the EC database that have an associated MAC address, IP address, QPSK Modulator, and QPSK Demodulator, along with an administrative status of In Service-Two Way. If a DHCT listed in the EC database does not meet all of these criteria, it is excluded from the SNMP Poll Report. The SNMP poll request determines the current two-way communication ability of each DHCT.

When the SNMP Poll Report is run, each candidate DHCT is polled (an SNMP "get" request). This SNMP poll collects all of the data necessary for generating the four SNMP Poll reports. The SNMP Poll reports are different views into the data collected.

About the Reports

If a DHCT does not respond to the initial SNMP poll, it is polled up to two more times (for a maximum of three attempts). If the SNMP poll is unsuccessful after three attempts, the DHCT is considered to be a non-responder and will appear only on the Non-Responding DHCTs-SNMP Poll Report. However, if at least one of the three SNMP poll attempts succeeds, then the DHCT will appear in the OS/App Version, Memory, and DHCT Uptime Reports.

Note: You can view the list of candidate DHCTs from the last SNMP Poll Report that was run by examining the `/dvs/RepWriter/current/bin/maclist` file.

The following table provides a description of each of the SNMP Poll Reports. These reports are listed in the order in which you will see them when you open Report Writer.

To generate the reports, see [Generating SNMP Poll Reports](#).

Report Title	Description
Non-Responding DHCTs - SNMP Poll	Data listed: All DHCTs that did not respond to one of three SNMP "get" requests.
OS/App Version*	Data listed: The PowerTV® Operating System and Resident Application versions installed in each DHCT. Notes: <ul style="list-style-type: none">■ SARA is a Cisco resident application that is run on the DHCT that provides all basic functionality for the DHCT, including navigation, changing channels, volume control, etc.■ Set-tops manufactured by other vendors have a different resident application installed to handle this functionality.
Memory*	Data listed: The total memory in each DHCT, and the amount of memory currently free.
DHCT Uptime*	Data listed: The amount of time since each DHCT last rebooted.

*The OS/App Version, Memory, and DHCT Uptime reports display data collected from both the SNMP "get-next" request and from the EC database. The OS/App Version, Memory and DHCT Uptime reports show 0 records when no Host/DHCT responded to the SNMP query.

About System Information Reports

The following table provides a description of each of the reports that collect and display information to provide a quick overview of the health of the EC system. These reports are listed in the order in which you will see them when you open the EC System Reports link in Report Writer.

To generate the reports, see Generating System Reports.

Report Title	Description
General System Information	Data listed: Processor information and Top Processes.
File System Information	Data listed: Disk Space used, available, and mount points.
Network Information	Data listed: Network interfaces and the IPv4 routing table.
Database Information	Data listed: DB Spaces and DB Chunks information about the INFORMIX database on the EC. Note: This is the database used by the EC.

Report Formats

HTML Format

The HTML format allows you to view and/or print reports from any workstation on your network. You can view reports generated in HTML format online with any web browser and print them from the web browser.

Note: If the web browser is unable to display all of the columns and rows on your screen, a message will appear on the screen. When this occurs, it is recommended that you view the DAT file. For more information about DAT files, see Pipe-Delimited Text (.dat) File Format (next in this document) and *Browser Unable to Display Data* (on page 17).

Pipe-Delimited Text (.dat) File Format

Pipe-delimited text files have a .dat extension. For example, ZeroCredit.html.dat is the pipe-delimited Report Writer file for the Zero Credit report.

Report Writer automatically generates pipe-delimited text files for internal processing and/or importing into other software programs such as Excel. The "pipe" delimiter is the | symbol. Each field in the pipe-delimited text files has the pipe symbol separating it from the next field. Pipe-delimited text files reside in the /dvs/RepWriter/current/webospace/reports directory on the hard drive, and you can view them as text files using a text editor.

Generating Reports

This section describes the different report categories and provides instructions for generating the reports. This section also provides detailed descriptions of the reports within each category.

Reports Overview

Before you read about each type of report and its description, you need to understand that some of the reports refer to the DHCT (set-top) administrative status.

Each DHCT stored in the EC database has an associated administrative status, assigned through the Business Operations Support System (BOSS) Application Programming Interface (API). The administrative status can be set by the billing systems or through the EC Administrative Console.

The four DHCT administrative statuses are as follows:

- Out of Service
- Deployed
- In Service-One Way
- In Service-Two Way

Generating Database Reports

- 1 From the EC Reports page, click one of the EC Database reports. Did the selected report appear?
 - If **yes**, this indicates that this report has been generated at some point in the past. The date and time that the report was last generated appears just beneath the report title (**Data Refreshed on MM/DD/YYYY @ HH:MM**). The HH:MM portion of the date/time stamp is in 24-hour time.
 - If **no**, continue with the next step.
- 2 Click **Run Report**. While the report is being generated, you may see the following message: **Running [report name]. Please wait**. When the report is generated, the message appears stating that the report is completed and the number of records processed. The following illustration shows an example of most report formats and summarizes ways you can interact with the report.
Note: If there is no data for the report, the message **Report Finished. 0 Records Processed. Report contains no data.** appears beneath the report title.
 - To filter for categories of data, use the **By Field** option to select the type of field you want to view, then enter a unique value in the **By Value** field. Report Writer displays only that data you selected.

- To regenerate a new report and display the most recent data, click **Run Report**.
- To see specific data, enter data in the **Search** field and click **Go**. The system displays the pages that contain the data you entered.
- Click a column in the results table to sort the data by that heading. This does **NOT** regenerate the report.

Generating SNMP Poll Reports

- 1 From the EC Reports page, click **SNMP Poll Reports**.
- 2 Click one of the SNMP Poll Reports.
- 3 Does the report appear on the screen?
 - If **yes**, the data is from the last run of the SNMP Poll Report. Click **SNMP Reports** link to return to the SNMP Poll Reports page; then click **Run Report** to refresh the report data.
 - If **no**, go to the next step.
- 4 Does the following message appear on the screen?
This report has not yet been generated on your system. Please press the back button on your browser to return to the SNMP page.
 - If **yes**, click the back button on your browser to return to the SNMP Poll Reports page.
 - If **no**, click **Run Report** to generate all of the SNMP Poll Reports.

Important: The SNMP Poll Reports can take a significant amount of time to complete, depending on the number of DHCTs in the system. While the SNMP Poll Reports are being generated, do not exit your web browser. Exiting the web browser while the reports are being generated can cause errors in the Report Writer software that will require some manual clean-up steps (see *Troubleshooting* (on page 15)). It is also recommended that you do not click anywhere in your web browser until the SNMP Poll Reports are completely generated.

Notes:

 - While the reports are being generated, the following message appears:
Running [report name]. Please wait.
 - Concurrently, a table appears on the screen, and as each SNMP Poll report is generated, its status is updated from *working* to *complete*.
- 5 When all the SNMP Poll reports are generated, click the web browser **SNMP Reports** link button.
- 6 Click a specific SNMP Poll Report.
- 7 Does the report appear on the screen?
 - If **yes**, you have completed this procedure and all of the SNMP Poll Reports have been generated.
 - If **no**, repeat this procedure.

Generating System Reports

- 1 From the EC Reports page, click **EC System Reports**.
- 2 The data for all the following reports are on this page. Click the link on the EC to view the report.
 - General System Information
 - File System Information
 - Network Information
 - Database Information

Troubleshooting

This section describes the most common situations that may cause errors with the Report Writer software and provides troubleshooting guidelines and possible solutions.

Report Writer Not Installed Properly

If Report Writer is not functioning as expected, verify that the Report Writer software is installed on the EC server and that the installation successfully completed.

- 1 Log in to the EC server as **dncs** and type the password.
- 2 Type `rpm -qi CSCOrptwrt` and press **Enter**. The Report Writer installation status and version number appear on the screen.

Web Server Not Running

To run Report Writer, the Apache HTTP Server must be running on the EC server.

- 1 Log in to the EC server as **root**.
- 2 Type `service httpd status` and press **Enter**.
- 3 Do the results indicate online as shown in the example below?

Example:

```
svcs: -a ignored when used with arguments.
STATE          STIME      FMRI
online         0:08:08   svc:/network/http:apache2
```

- If **yes**, then Apache is up and running.
- If **no**, then execute the following steps:
 - Type `svcadm clear http` and press **Enter**.
 - Type `svcadm enable http` and press **Enter**.
 - Type `ps -ef | grep httpd` and press **Enter**.
 - Repeat steps 2 and 3.

No Data or Old Data in the Report

No Data in Report

Occasionally, after you run a report, the resulting web page displays only the name of the report, a timestamp, and the Run Report button. If you believe that the report should contain data, use the following procedure to determine if EC is connecting to the EC database.

- 1 Log in to the EC server and enter the password.
- 2 Open an xterm window on the EC.

Troubleshooting

- 3 Type `cd /tmp` and press **Enter**.
- 4 Type `ls *.err` and press **Enter**.
Note: The "l" in `ls` is a lowercase letter L.
- 5 Type `cat [report_name].err` and press **Enter**. Replace [report_name] with the name of the report you are requesting. Do not type the brackets [] in the command.
- 6 Locate the [report_name] / open Db() error: + an error msg. Exiting line in the list. The [report_name] represents the name of the requested report.
- 7 Does the **ERROR: failed to connect!** message appear on your screen?
 - If **yes**, Report Writer could not connect to the EC database; this is the reason that the reports do not contain data.
 - If **no**, Report Writer is connected to the EC database, and there is no data to report or some other error has occurred.

Old Data in Report

If a report contains old data, click **Run Report** to refresh the report with current data.

Regenerating SNMP Poll Report Data

If the SNMP Poll Reports do not appear to be regenerating data, complete the following steps to correct the situation.

- 1 Close your web browser.
- 2 Log into the EC as root.
- 3 Type `cd /dvs/RepWriter/current/webpace/gen` and press **Enter**.
- 4 Type `ls` and press **Enter**.
Note: The "l" in `ls` is a lowercase letter L.
- 5 Does the file **snmprunning** appear on the screen?
 - If **yes**, type `rm snmprunning` and press **Enter** to delete the file.
 - If **no**, then the failure of SNMP Poll Reports to regenerate is not the problem. Review other sections in this chapter and try another resolution.
- 6 Type `cp snmp.html.refresh snmp.html` and press **Enter**.
- 7 Type `exit` and press **Enter**.



CAUTION:

Before running Report Writer, exit all instances of your web browser associated with your UNIX user ID. When you try to run Report Writer with more than one instance of your web browser associated with your UNIX user ID, a message appears on the screen stating that your browser has detected a lock file. Do not continue. If you attempt to continue, Report Writer may exhibit unpredictable behavior.

Is the above warning still relevant to EC?

- 8 Launch your web browser, and run the SNMP Poll Reports.

Important: Do not attempt to use the web browser until the SNMP Poll Reports are complete.

Runtime Errors

Runtime errors generated by Report Writer are displayed in the browser. The display includes the name of the file that contains the errors, along with the error messages.

To exit the error display, click the browser **Back** button.

Important: We recommend that you get assistance from your system administrator to resolve runtime errors.

Browser Unable to Display Data

Some reports generate a large amount of data. Due to its limitations, your browser may not be able to display very large reports.

To view the data files of reports that have large amounts of data, use a text editor. You can find the data files for each report generated by Report Writer in the `/dvs/RepWriter/current/webospace/reports` directory.

Data Files

The following tables list the data files generated for each type of report.

Database Reports	File Generated
PPV Events	PPVEvents.html.dat
Zero Credit	ZeroCredit.html.dat
CableCARD Report	CableCard.html.dat
Channels, Sources, and Sessions Report	CSSReport.html.dat
DHCT Report	Converters.html.dat
DHCT Packages Report	DhctPkg.html.dat
EC Packages Report	DNCSPkg.html.dat
Service Group Report	SvcGroup.html.dat
QAMS Report	Qams.html.dat
PCG Report	Pcg.html.dat
NetCrypt Report	NetCrypt.html.dat
SDV Servers Report	SDV Servers.html.dat
QPSK Modems	QPSKMods.html.dat
QPSK Demods	QPSKDemods.html.dat

Database Reports	File Generated
In Service One-Way	InServOneWay.html.dat
Non-Responding DHCTs – Never Connected	NRNeverConn.html.dat
Non-Responding DHCTs – Lost Connection	NRLostConn.html.dat
DHCT Sign-on Failed Report	DhctSignOnFailed.html.dat
PCG Sessions Report	PcgSession.html.dat
SNMP Poll Reports	File Generated
Non Responding DHCTs – SNMP Poll	NRSNMPPoll.html.dat
OS/App Version	ResAppVersion.html.dat
Memory	FreeMem.html.dat
DHCT Uptime	Uptime.html.dat
System Reports	File Generated
No file generated	

SNMP Poll Reports Do Not Regenerate Data

Occasionally, the Report Writer software assumes that the SNMP Poll Reports are in the process of running, when in fact they are not. This situation can occur if you exit your browser while the SNMP Poll Reports are running.

Important: The SNMP Poll Reports can take a significant amount of time to complete, depending on the number of set-tops in the system. While the SNMP Poll Reports are being generated, do not exit your browser. Exiting the web browser while the reports are being generated can cause errors in the Report Writer software that will require some manual clean-up steps. We also recommend that you do not click any buttons on your browser until the SNMP Poll Reports are completely generated.

Notes:

- While the reports are being generated, the following message appears on the screen: `Running [report name]. Please wait.` In this message, `[report name]` represents the name of the SNMP Poll report being generated.
- Concurrently, a table appears on the screen, and as each SNMP Poll report is generated, its status is updated from working to complete.

General Troubleshooting

If errors occur while Report Writer is generating a report, those errors are logged into one or more files, depending on the report type. By examining the contents of these files, it may be possible to determine why Report Writer is not providing the results you expect.

Error Files

The Report Writer creates one or more of the following files if errors occur while Report Writer is generating a report. Examine the contents of these files to determine why Report Writer is not providing the results you expect.

Report	File
All Reports	/tmp/PPVEvents.err
	/tmp/ZeroCredit.err
	/tmp/CableCard.err
	/tmp/CSSReport.err
	/tmp/Converters.err
	/tmp/DhctPkg.err
	/tmp/DNCSPkg.err
	/tmp/Qams.err
	/tmp/NetCrypt.err
	/tmp/Pcg.err
	/tmp/SDVServers.err
	/tmp/QPSKMods.err
	/tmp/QPSKDemods.err
	/tmp/InServOneWay.err
	/tmp/NRNeverConn.err
	/tmp/NRLOstConn.err
	/tmp/SvcGroup.err
/tmp/DhctsignOnFailed.err	
tmp/PcgSession.err	
SNMP Poll Reports	/tmp/NRSNMPPoll.err
	/tmp/ResAppVersion.err
	/tmp/FreeMem.err
	/tmp/Uptime.err
	/tmp/asnmp.err
	/tmp/getdhcts.err

Troubleshooting

Determining if Error Files Exist

When you successfully generate a report, the files listed in the Error Files table are either non-existent or exist but have been cleared (zero content).

- 1 To determine if an error file exists, log in to the EC server and enter the password.
- 2 Open an xterm window.
- 3 Type `cd /tmp` and press **Enter**.
- 4 Type `ls -l *.err` and press **Enter**.
Note: The "l" in `-l` is a lowercase letter L.
- 5 Type `cat [filename].err` and press **Enter**. The [filename] represents one of the error file names listed in Error Files. If the file contains errors, its contents will appear on the screen.

Displaying the Web Browser Toolbar

If the web browser Navigation Toolbar is not displayed (Back, Forward, etc.), click **View > Toolbars > Navigation Toolbar** in the browser. The Navigation Toolbar appears.

For Information

If You Have Questions

If you have technical questions, contact Cisco Services for assistance. Follow the menu options to speak with a service engineer.



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