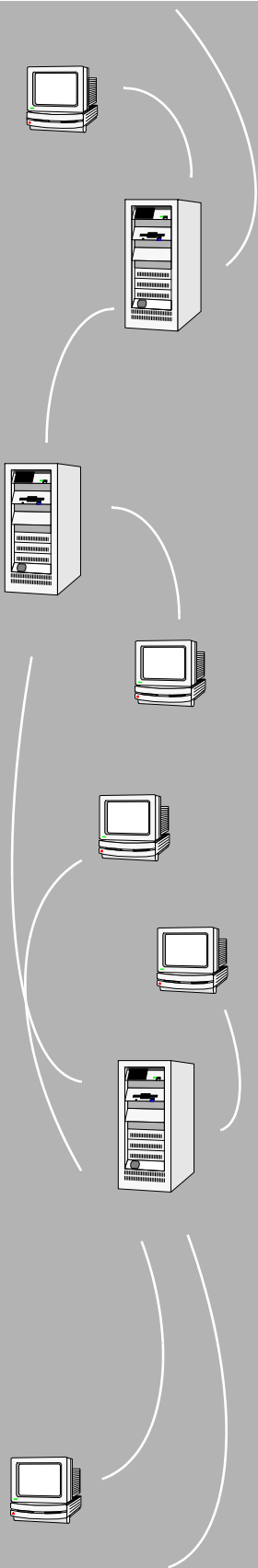


SAMreport-Lite™

USER'S GUIDE





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Contents

Chapter 1	Introduction	1
	Intended Audience2
	About This Manual2
	What is License Management? . . . . .	.2
	What is SAMreport-Lite? . . . . .	.3
Chapter 2	Getting Started	5
	Overview of SAMreport-Lite . . . . .	.6
	System Requirements . . . . .	.6
	Installing SAMreport-Lite . . . . .	.6
	Obtain a License File. . . . .	.7
	Install Java Runtime Environment . . . . .	.7
	Install SAMreport-Lite . . . . .	.7
	Set Up an Options File . . . . .	.8
	Using SAMreport-Lite . . . . .	.9
	Starting SAMreport-Lite . . . . .	.9
	Exiting SAMreport-Lite	10
	Tour of the SAMreport-Lite Interface.	10
	Generating a Report	11
	Upgrading to SAMreport	12
Chapter 3	Basics of Generating a Report.	13
	Generate a Usage Summary Report	14

Chapter 4	Usage Summary Report	17
	Output Arrangement and Detail	21
Chapter 5	Report Input and Output	23
	Specifying Input Report Logs	24
	Displaying Output to the Viewer Window.	24
	Navigating the <i>SAMreport-Lite</i> Viewer Window	25
	Selecting Output Type and Output File Names	25
	Output Formats	26
	Data Filters.	27
	Reports and Time Zones	28
	Setting Start and End Dates for a Report	29
Appendix A	Enabling and Managing Report Logs.	31
	How to Turn on a Report Log	32
	Size of the Report Log	33
	Flushing Data to a Report Log.	33
	Managing Report Logs	33
	Finding the Version of the Vendor Daemon and <i>lmswitchr</i>	35
	Rotating a Report Log with <i>lmswitchr</i>	35
	Avoiding Corruption in Report Logs	36
Appendix B	<i>SAMreport-Lite</i> Error Messages	37
	Index	41

Introduction

This chapter contains introductory information about license management, a description of *SAMreport-Lite*[™] and explanatory information about this guide.

In this chapter

- Intended Audience
- About This Manual
- What is License Management?
- What is *SAMreport-Lite*?

Intended Audience

SAMreport-Lite and this manual are intended for use by system administrators, system analysts, and managers who use FLEXlm[®] license management to produce usage reports for your software.

About This Manual

This manual is divided into five chapters and two appendixes:

- This chapter defines license management and introduces SAMreport-Lite.
- Chapter 2, Getting Started, provides an overview of SAMreport-Lite's capabilities and provides instructions for installing and using the program.
- Chapter 3, Basics of Generating a Report, contains instructions for generating a Usage Summary report from the SAMreport-Lite interface.
- Chapter 4, Usage Summary Report, describes the Usage Summary report, and describes how to arrange report output.
- Chapter 5, Report Input and Output, shows how to specify input and output files and describes output formats.
- Appendix A, Enabling and Managing Report Logs, provides guidelines for enabling and managing report logs.
- Appendix B, SAMreport-Lite Error Messages, lists some errors that you might get while running SAMreport-Lite.

What is License Management?

License management is a set of technologies that monitors the use of software. In some cases, it may also limit use of a product or record usage of a product.

Most software companies have legal agreements that detail the obligations of the manufacturer and user to each other. These agreements are often referred to as "licenses." Some companies also include license management technology to simplify the legal use of their products. Throughout this documentation, the term "license" refers to a "token" obtained through some electronic technology, not the legal agreement between a customer and a software vendor.

License management is embedded into a software product by the software vendor.

What is SAMreport-Lite?

SAMreport-Lite, a member of the GLOBEtrout family of Software Asset Management (SAM) Solutions, is a report generator that helps you monitor the usage of applications that use FLEXlm. SAMreport-Lite complements FLEXlm by providing a graphical user interface (GUI) from which to run usage reports. SAMreport-Lite can help you make better decisions about your software assets.

SAMreport-Lite generates reports based on the license usage activity recorded in FLEXlm report logs. FLEXlm report logs are produced by vendor daemons and maintain a record of the activity of the vendor daemon. “Enabling and Managing Report Logs” on page 31 describes how to start and manage report log files.

The SAMreport-Lite report generator comes with a predefined report type, which allows you to quickly start generating reports. The report summarizes data from your report logs into categories.

SAMreport-Lite processes the data from one or more report log files and writes the results to a file and/or displays results on the screen. The Usage Summary report produces a textual output that summarizes the usage statistics of each feature. The output of this report can be saved to files in text, HTML, or Report Interchange Format (RIF). RIF can be used to export report data to another software program, such as a spreadsheet.

Getting Started

2

SAMreport-Lite™ creates a customizable activity report summarizing usage statistics for FLEXIm network licenses. This chapter provides an overview of SAMreport-Lite's capabilities and provides instructions for installing and using the program.

In this chapter

- Overview of SAMreport-Lite
- System Requirements
- Installing SAMreport-Lite
- Using SAMreport-Lite
- Starting SAMreport-Lite
- Exiting SAMreport-Lite
- Tour of the SAMreport-Lite Interface
- Upgrading to SAMreport

Overview of SAMreport-Lite

Using *SAMreport-Lite*, you can generate a network license-usage report, called Usage Summary, for Autodesk® software that uses *FLEXlm* licensing technology.

You can customize the Usage Summary report. For example, you can

- Define the start and end dates for any reporting period covered by a log file.
- Sort and summarize reports by feature, user name, or user host name.
- Combine a number of log files into a single report.
- Specify filters to generate a report about specific users or features.

You can save a Usage Summary report as an HTML, Text, or RIF (Report Interchange Format) file.

SAMreport-Lite provides some of the features from *SAMreport*, the report-writing product made by GLOBEtrouter Software™. Autodesk (not GLOBEtrouter) provides support for *SAMreport-Lite*. If you have any support issues concerning *SAMreport-Lite*, use the same channels for support that you use for your Autodesk product.

System Requirements

SAMreport-Lite is a Java-based application that requires the Java Runtime Environment (JRE). *SAMreport-Lite* runs best on systems with at least 64MB of memory. Running with less memory can slow performance when generating large reports.

SAMreport-Lite was designed for a display setting of 800 × 600 pixels or greater. Use Windows® Control Panel to set your display settings.

Installing SAMreport-Lite

There are three steps you need to perform when you install *SAMreport-Lite*:

- 1 Obtain a License File.
- 2 Install Java Runtime Environment.
- 3 Install *SAMreport-Lite*.

Obtain a License File

You cannot install *SAMreport-Lite* until you receive a license file for the product. You are asked for the location of this file during installation. For a link to the GLOBEtrotter Software Web page where you can register *SAMreport-Lite* and request a license file, visit the Autodesk website at:

www.autodesk.com/samreportlite

You can choose the type of server model you will use to generate a report log:

- Single license server
- Redundant license server
- Distributed license server

You need to enter the host IDs for each server that generates a report log for *SAMreport-Lite*. For more information about report logs, see “Report Input and Output” on page 23.

For more information about network licensing, see the *Autodesk Network Licensing Guide*, located on your product’s CD Browser or in the Help system.

After you receive the license file, be sure to note where you saved the file and what you named it. You are prompted for the location of the license file during the installation process.

Install Java Runtime Environment

SAMreport-Lite requires the Java Runtime Environment (JRE) for some of its processing. If you already have JRE 1.4.1_01 installed on your computer, you do not need to install the JRE supplied on the Autodesk product CD Browser.

Install SAMreport-Lite

To install *SAMreport-Lite*

- 1 Insert the product CD into your CD-ROM drive.
- 2 On the CD Browser, click Network Deployment to access network-related material.
- 3 In Step 4, Install Supplemental Tools, click *SAMreport-Lite* 3.2.
- 4 If the Java Runtime Environment is not installed on your computer, click InstallJRE 1.4.1_01, and follow the on-screen instructions for that product.
- 5 Click Install, and follow the on-screen instructions for installing *SAMreport-Lite*.

Set Up an Options File

The Options file in the Network License Manager controls various license management parameters, including enabling the creation of a report log for SAMreport-Lite. You need to create a file named *adskflex.opt*.

Note Complete instructions for setting up an options file are located in the *Autodesk Network Licensing Guide*. You can access the guide from your product's CD Browser or in the Help system.

To create a report log

- 1 In a text editor, open the *adskflex.opt* file.
- 2 In the Options file, enter the following syntax on its own line:

```
REPORTLOG [+]report_log_path
```

Note REPORTLOG must be uppercase, as shown. In addition, path names that contain spaces must be enclosed in quotation marks.

In the REPORTLOG syntax, “[+]” means that entries to the log file you create are appended rather than replaced each time the Network License Manager is restarted. (It is recommended that you use this option so that you retain a history of log entries.)

For example, the syntax “REPORTLOG +c:\My Documents\report.rl” means that a report log named *report.rl* is located in the folder *c:\My Documents*.

- 3 Save the *adskflex.opt* file to the same location where you license file exists.
- 4 Stop and then restart the Network License Manager.

Using SAMreport-Lite

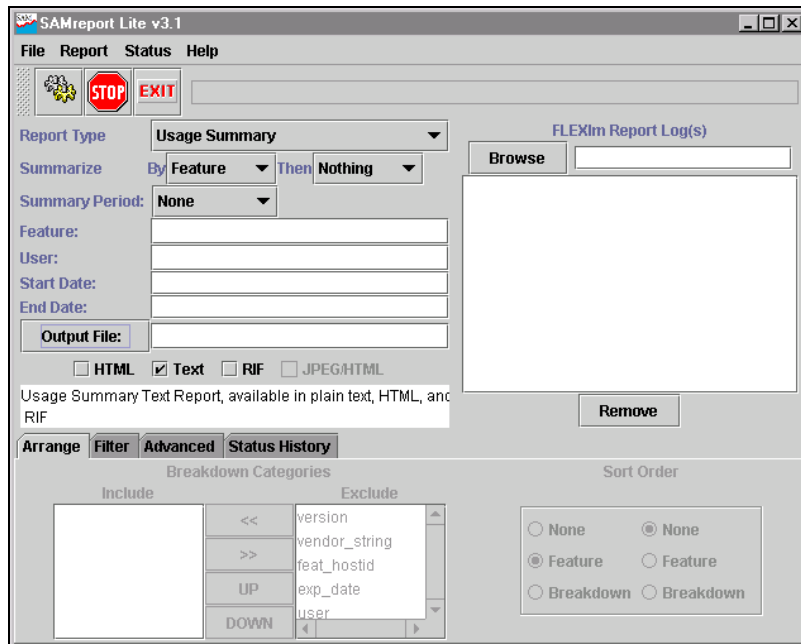
Because SAMreport-Lite is a Java-based application, it does not have the look and feel of standard Windows applications. The topics in this section help you get started in producing your first report.

Starting SAMreport-Lite

To start SAMreport-Lite, do one of the following:

- **For Windows XP.** On the Start menu (Windows), click Start ► All Programs ► SAMreport ► SAMreport.
- **For Windows 2000 or Windows NT 4.0.** On the Start menu (Windows), click Start ► Programs ► SAMreport ► SAMreport.

After a few seconds, the SAMreport-Lite logo screen appears; after a few more seconds, the SAMreport-Lite main window appears.

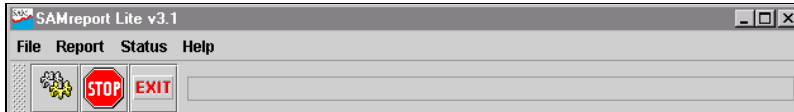


Exiting SAMreport-Lite

Select *File* ► *Exit* or click the *Exit* button to close the SAMreport-Lite interface.

Tour of the SAMreport-Lite Interface

The top portion of the SAMreport-Lite main window contains three menus.



File Command to exit SAMreport-Lite. The command to exit is also found on a button on the toolbar.

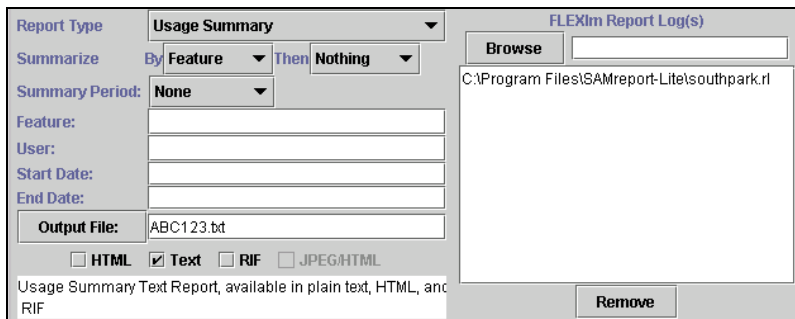
Report Commands to start and stop generating reports. These commands are also found on buttons on the toolbar.

Status Commands to clear the entries in the Status History pane or to save the status entries to a file.

The SAMreport-Lite toolbar contains three shortcut buttons, whose functions are also available in menus:

- Generate Report
- Stop Report Generator
- Exit SAMreport-Lite

To the right of the toolbar is a text box that displays the most recent status message. The history of status messages is available in the Status History pane.



Default settings that depend on report type are provided in the middle portion of the SAMreport-Lite main window.

- The *Browse* field can be used to manually enter a path to a report log. The *Browse* button can be used to bring up a file selection browser to select a report log. The text area below the *Browse* field contains a list of the report logs that you have selected to generate a report.
- The *Remove* button removes a highlighted report log from the list of report logs that you have selected to generate a report.
- *Feature* and *User* fields provide shortcuts for setting commonly used filters. Multiple feature or user entries can be separated by a space.
- *Start Date* and *End Date* fields can be used to limit the report to a subset of the time covered by a report log.
- The *Output File* field can be used to enter the path to the file name base of one or more output files. The *Output File* button can be used to bring up a file selection browser to select or assign a file name base for one or more output files. SAMreport-Lite adds a file name extension to the file name base, depending on the report format selected. An output file must be specified for any report that is generated in text, HTML, or RIF format. Check boxes are used to select output file formats. Available formats are selectable; unavailable formats are not.

Generating a Report

After starting SAMreport-Lite, you can quickly generate a report using the program's default settings. You must specify two items before you can generate the report:

- The report log file or files containing your FLEXlm license usage data
- The location for report output files

To specify a report log file

- 1 In the SAMreport-Lite window, choose the Browse button.
- 2 In the Report Log dialog box, locate and open your report log.

Note By default, the Report Log dialog box lists only files named with a *.rl* file name extension. If your report log file has a different extension, such as *.log*, open the Files of Type list and select All Files to list all files in a folder.

To specify the location of report output files

- 1 In the SAM*report*-Lite window, in the Output File box, specify the folder location and file name for your report output files.
- 2 Omit the file name extension when specifying a file name; the extension is automatically added to the name you supply based on the output formats you select. For example, if you select HTML and Text output formats and specify *c:\my documents\report* in Output File, the following report files are generated:

c:\my documents\report.html

c:\my documents\report.txt

Note Be sure to specify the full path name for your output files. If you do not specify the path, output files are written to the current working directory, which may be the Windows desktop. Specifying a full path name ensures that your report files are saved in the folder you choose.

To generate the Usage Summary report

- From the Report menu, choose Generate.
The report you specified is generated.

Upgrading to SAM*report*

The full-featured SAM*report* product provides additional types of reports and options, and includes additional features such as command line batch processing. Upgrading to the full version of SAM*report* does not require a new installation, just a new license file. To learn about the full-featured version of SAM*report*, go to the GLOBEtrotter Software website at:

www.globetrotter.com

Basics of Generating a Report

3

This chapter shows you how to generate a Usage Summary report using the *SAMreport-Lite™* user interface. You'll find a detailed explanation of the report in "Usage Summary Report" on page 17.

In this chapter

- Generate a Usage Summary Report

Generate a Usage Summary Report

Using SAMreport-Lite, you can generate a network license-usage report, called Usage Summary, for Autodesk® software that uses FLEXlm licensing technology.

To generate a Usage Summary report from the SAMreport-Lite interface

- 1 Start SAMreport-Lite.
- 2 Select Usage Summary from the *Report Type* list.
- 3 Specify one or more report log files.
- 4 Using one of the following two methods, specify the location of each of the report logs you want to run with SAMreport-Lite.
 - Type the path to the report log in the text field to the right of the *Browse* button. Press *Enter*. Repeat this process for each report log that you want to add.
 - Click the *Browse* button and use the report log file browser to select a report log from your system. Double-click the report log file. You can repeat this process to select more than one report log from the browser.

After you select a report log, the report log file name appears in the text box above the *Remove* button. To remove a report log from the list, click to highlight the report log, then click the *Remove* button.

There is no fixed limit on the size of a report log that you run through SAMreport-Lite, but the execution time of a report is proportional to the amount of report log data that is processed.

- 5 Specify an output format and/or an output file name base.

A Usage Summary report is displayed on the screen from a file. Therefore, if you want to display a Usage Summary report on the screen, you must specify an output file format and output file name base.

Unavailable output formats are grayed out. All reports written to files require an output file name base and at least one output format selection.

The file name base can be entered in one of two methods:

- Type the path and file name base in the text field to the right of the *Output File* button. If no path is specified, the files are written to the current working directory.
- Click the *Output File* button to open a file selection browser. Find and double-click the directory in which you want to save the output file. Type the file name base in the file selection browser. Click the *Save* button.

Note Do not type a file extension (such as *.txt*). *SAMreport-Lite* adds the appropriate file extension based on the file type that you chose.

6 Specify how you want the report data summarized and arranged.

7 Specify the start and end dates for the report output.

Use these fields to limit the date range of data to include in a report. To include data from the entire report log(s) in your report, leave these fields blank. See “Setting Start and End Dates for a Report” on page 29.

8 Select *Report* ► *Generate* or click the *Generate Report* button.

A *SAMreport-Lite* Viewer window will appear and the report progress indicator moves from 0–100% as the report runs. Status messages, including any errors that occurred during report processing, are written in the Status History pane. You should see a status message indicating whether a report was produced. Even if a report was generated, there may be warnings or errors that are displayed here.

If you want to stop generating a report, click the *Stop* button on the toolbar or select *Report* ► *Stop*.

After a report is generated, the *SAMreport-Lite* Viewer window contains one or more pages of the report output.

Usage Summary Report

4

A Usage Summary report produces textual output that summarizes the usage statistics of each feature in the report log(s). The output of a Usage Summary report can be saved to files in HTML, text, or RIF format. The header of a Usage Summary report provides a summary of information about the report log and the parameters of the report:

In this chapter

- Output Arrangement and Detail

FLEXIm License Usage Report *date time*

Produced by SAMreport-Lite *version*

Input Report Log:	List of input report log(s)
Output File Name:	Name of report output file
Report Log(s) Start:	Earliest start date in any report log
Report Log(s) End:	Latest end date in any report log
Report Start Date:	Date to begin report—either a filter start date or the starting date of the earliest report log
Report End Date:	Date to end the report—either a filter end date or the ending date of the latest report log
Uptime:	Duration in real clock time between the report start and end dates that a license server was up
Vendor:	Vendor daemon name(s)
Breakdown by:	Report breakdown categories, if any
Filter Start Date:	Date set to start report, if any
Filter End Date:	Date set to end report, if any
Event Filters:	List of event filters for the report, if any
Time Period Filters:	List of time period filters for the report, if any
Features With Usage:	List of features in the scope of this report (that is, not filtered out) that have license activity displayed in the report
Features Without Usage:	List of features in the scope of this report (that is, not filtered out) that do not have license activity displayed in this report

A Usage Summary report with default settings contains one line per feature and 11 columns per line. From left to right in the report, the columns are:

Time Period	--Available--		-----License Requests-----						-----Used-----		
	max	hours	total	used	que	den	unsup	%den	max	hours	%hrs
Summary For: GLOBEclient											
Total	50	4677	423	423	0	0	0	0	35	1269	27.1
Summary For: FLEXadmin											
Total	20	1871	37	37	0	0	0	0	6	58.7	3.1
Summary For: FLEXexpress											
Total	50	4677	257	257	0	0	0	0	31	911.5	19.5

Category	Column Heading	Description
Available	max	Maximum number of available licenses. Includes overdraft licenses.
	hours	Number of available hours of license usage.
License Requests	total	Total number of license requests.
	used	Number of licenses requests fulfilled.
	que	Number of license requests queued.
	den	Number of license requests denied.
	unsup	Number of license requests not fulfilled because the feature is unsupported.
	%den	Percent of license requests that were denials.
Used	max	Maximum number of licenses used simultaneously. Includes overdraft licenses.
	hours	Number of available license hours used.
	%hrs	Percent of available license hours used.

HTML Summary: C:\Examples\SA
Text Summary: C:\Examples\SA

Features With Usage:
GLOBEclient, FLEXadmin, FLEXexpress, FLEXreport, GLOBEserver, GLOBEtrack

Features Without Usage: none

Time Period	Available max hours	-----License Requests----- total used que den unsup %den	---Used--- max hours hrs
Summary For: GLOBEclient			
Total	50 4677	423 423 0 0 0 0 35	1269 27.1
Summary For: FLEXadmin			
Total	20 1871	37 37 0 0 0 0 6	58.7 3.1
Summary For: FLEXexpress			
Total	50 4677	257 257 0 0 0 0 31	911.5 19.5
Summary For: FLEXreport			
Total	20 1871	9 9 0 0 0 0 2	23.6 1.3
Summary For: GLOBEserver			
Total	4 374	61 59 0 2 0 3 4	214.9 57.4
Summary For: GLOBEtrack			
Total	50 4677	253 253 0 0 0 0 33	1207 25.8

Possible explanations for denials in reports where the maximum available number of licenses were never used include:

- The number of available licenses changed during the report period.
For example, you start your report log when you have 10 licenses of FeatureA, then a few months later, still writing to the same report log, you add 10 more FeatureA licenses. Your report might show the max available licenses = 20, max used licenses = 18, and denials. Remember that the denials may have occurred when you only had 10 licenses available.
- Licenses are reserved for particular users.
Even though all licenses for a feature are not checked out, they are not available to all users. If someone outside the reservation group tries to check out a reserved license, that user will be denied a license. License reservations are set in a vendor daemon's options file.
- Users are excluded from the group of users who can check out a license.
Even though all licenses for a feature are not checked out, a particular user may be excluded from using a license and gets a denial when trying to check out a license. Exclusions are set in a vendor daemon's options file.

Output Arrangement and Detail

The Usage Summary report shows license usage by feature. To create a report that shows more detail about the nature of license usage, you can use a combination of:

- Summary period
- Breakdown category
- Sort order specification
- Feature description

Using these controls, you can decompose the usage of each feature into useful groupings according to your particular reporting requirements.

You may use the *Summary* choice lists in the SAMreport-Lite main window, which provide easy access to the Feature, User Name, and User Host Name breakdown categories. You will notice that changing the breakdown settings automatically changes the sort order to defaults that correspond to your breakdown settings.

If you specify multiple breakdown categories, the resulting report shows use of features by each unique combination of breakdown categories.

Report Input and Output

5

You can create reports using one or more report logs from one or more *FLEXlm* vendor daemons, as long as each report log is written by a single vendor daemon running on a single host. (Each redundant vendor daemon must write to its own report log.)

In this chapter

- Specifying Input Report Logs
- Displaying Output to the Viewer Window
- Navigating the SAMreport-Lite Viewer Window
- Selecting Output Type and Output File Names
- Output Formats
- Data Filters
- Reports and Time Zones
- Setting Start and End Dates for a Report

Specifying Input Report Logs

The only valid input files are FLEXlm report logs. These report logs may have been produced by redundant license servers or distributed license servers, or they may simply be archived report logs from one or more license servers. Report logs must be accessible to SAMreport-Lite™.

“Enabling and Managing Report Logs” on page 31 describes how to start and manage report log files.

You must specify at least one report log before running a report. You must specify the location of each of the report logs you want to run with SAMreport-Lite using one of the following two methods.

- Type the path to the report log in the text field to the right of the *Browse* button. Press *Enter*. Repeat this process for each report log that you want to add.
- Click the *Browse* button and use the report log file browser to select a report log from your system. Double-click the report log file. You can repeat this process to select more than one report log from the browser.

After you select a report log, the report log file name appears in the text box above the *Remove* button. To remove a report log from the list, click to highlight the report log, then click the *Remove* button.

There is no fixed limit on the size of a report log that you run through SAMreport-Lite, but the execution time of a report is proportional to the amount of report log data that is processed.

Displaying Output to the Viewer Window

All reports generated in the SAMreport-Lite interface are displayed on the screen in a SAMreport-Lite Viewer window, even if you specify one or more output files.

Navigating the SAMreport-Lite Viewer Window

The SAMreport-Lite Viewer window is divided into two sections. A list of the titles of individual pages of a report or a list of output formats is displayed in the left side of the SAMreport-Lite Viewer. A textual page of a report is displayed in the right side of the Viewer. If the displayed page is longer than the display space (often the case with textual report output), you can read the rest of the page by moving the scrollbar at the right margin of the Viewer. A navigation toolbar and report progress indicator are displayed at the top of the Viewer.

You can display different pages or output formats of a report in one of three ways:

- Click the page name in the left side of the window.
- Click the *Back* and *Forward* buttons in the toolbar.
- Select Next or Previous from the *Page* menu.

Selecting Output Type and Output File Names

Different output formats are available; unavailable output formats are grayed out. All reports written to files require an output file name base and at least one output format selection.

The file name base can be entered in one of two methods:

- Type the path and file name base in the text field to the right of the *Output File* button. If no path is specified, the files are written to the current working directory.
- Click the *Output File* button to open a file selection browser. Find and double-click the directory in which you want to save the output file. Type the file name base in the file selection browser. Click the *Save* button.

The appropriate file name extension is automatically appended to a file name base, depending on the files's output format:

Output Format	File Name Extension
HTML	.html
Text	.txt
Report Interchange Format See a description of RIF in "Output Formats" on page 26."	.rif

SAMreport-Lite will not warn you if the output file that you are defining already exists and that you are about to overwrite it.

Output Formats

Usage Summary reports are available in the following formats:

- **Text** This format is suitable for printing and reading, but not for parsing.
- **HTML** This format is suitable for posting textual reports to a web page.
- **Report Interchange Format (RIF)** This format is a simple, flexible, plain text format that is designed to pass tabular information between the report generator and another program, such as a spreadsheet. Fields are delimited by multiple spaces.

Textual reports are written to a single RIF file; each page of a multipage graphical report is written to a separate RIF file. Sequential numbers (starting with 0) are appended to the file name base of the RIF files and they have the extension `.rif`. A Table of Contents RIF file is generated for each RIF report and is named `output_filename_base_toc.rif`.

Format Specification:

#BEGIN HEADER

header lines

#END HEADER

#cols [#rows] *name of dataset* // These lines contain

column labels // info for the first

[rows] // table.

If you break down data by more than one category in a Usage Summary report written in RIF, each of the categories is presented in its own column.

More than one table may be contained in a RIF file. The *#rows* entry is not present if the file contains rows from only one table. If the *#rows* entry is missing, read all of the rows until the end of the file. If there is more than one table in the RIF file, the table-specific portion of the format is repeated for each additional table.

#cols [#rows] *name of dataset* // These lines contain

column labels // the first table.

[rows] //

Data Filters

Some of the information contained in the report log is subject to filtering. Two filters can be specified for a Usage Summary report—feature and user.

Multiple filter categories for one report are applied with a Boolean AND operation—all the specified conditions must be satisfied. If a report is filtered on *user==User1* and *feature==Feature2*, the resulting report contains usage of Feature2 by User1.

Multiple instances of a single filter category are applied with a Boolean OR operation. If a report is filtered on `user==User1` and `user==User2`, the resulting report contains usage of features by either User1 or User2.

Multiple filter values for the same filter category can be specified on the same line separated by a space or on separate lines. For example, `user==User1 User2` is equivalent to `user==User1` and `user==User2`.

Reports and Time Zones

Timestamps in a report log are determined by the clock on the license server machine. The times are converted from the time zone of the license server machine and stored in the report log in Greenwich Mean Time (GMT), also known as Universal Time (UTC). Therefore, the data in a report log is insensitive to time zones, and you can run a report using report logs that were written on machines in different time zones without compensating for time differences. Reports, on the other hand, show time using the time zone set on the machine where the report was generated. *SAMreport-Lite* translates times in UTC from the report log using the offset for the time zone of the machine on which *SAMreport-Lite* is running.

For example, if you have an event in a report log that was written at 1pm by a vendor daemon running on a license server in the US Eastern time zone, its timestamp in the report log would be written as 6pm GMT. If an event in a report log was written at 10am by a vendor daemon running on a license server in the US Pacific time zone, its timestamp would also be written as 6pm GMT. If those two report logs were used to generate a report in the US Pacific time zone, those two events would both be reported at 10am. If the same report were generated on a computer in the US Eastern time zone, the events would both be reported at 1pm.

Possible causes for the times in reports that are different than you expect are:

- The time zone on the license server machine is set incorrectly. If the time zone is not set correctly, and the system clock has been set to show local time, an error is introduced into the UTC timestamps recorded in the report log.
- The time zone on the machine where *SAMreport-Lite* is running is set incorrectly. Even if the clock time looks correct, the time zone may not be set correctly.

Setting Start and End Dates for a Report

Start and end dates for report output can be set in text fields in the middle portion of the *SAMreport-Lite* main window. Times can be included. If no start and end dates are set, the report is generated with data from the entire report log. If no time is specified, days begin at midnight, 00:00:00.

The following formats are accepted for 3:30pm on January 31, 1999:

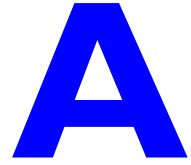
MM/dd/yyyy HH:mm:ss	1/31/1999 15:30:00
MM/dd/yyyy HH:mm	1/31/1999 15:30
MM/dd/yyyy	1/31/1999
yyyyMMdd HHmmss	19990131 153000
yyyyMMdd HHmm	19990131 1530
yyyyMMdd	19990131
MMM dd, yyyy HH:mm:ss	Jan 31, 1999 15:30:00
MMM dd, yyyy HH:mm	Jan 31, 1999 15:30
MMM dd, yyyy	Jan 31, 1999

HH is measured by a 24-hour clock (0-23). MMM can be either the three-letter abbreviation for the name of a month or the full name of the month (Jan, January, jan, january, JAN, JANUARY).

Enabling and Managing Report Logs

In order to use *SAMreport-Lite*[™] you need one or more report log files that are accessible to *SAMreport-Lite*. Each report log must be written by a single vendor daemon on a single host. (Vendor daemons running on more than one server must each write to their own report logs.).

SAMreport-Lite cannot produce reports from debug log files (*lmgrd*'s standard output).



In this appendix

- How to Turn on a Report Log
- Size of the Report Log
- Flushing Data to a Report Log
- Managing Report Logs
- Avoiding Corruption in Report Logs

How to Turn on a Report Log

SAMreport-Lite can read report logs that are accessible to the machine where SAMreport-Lite runs—either by being located on the machine where SAMreport-Lite runs or via a network share.

After you enable report logging with the following method, your vendor daemon will be writing a report log from which you can generate a report with SAMreport-Lite. Depending on your license usage, you should wait a few hours or a few days before generating a report from this report log.

The options files and license files for each license server in a redundant license server configuration must also be set up in order for report logging to continue when the master changes. If a master license server goes down, the new master will read its license and options files and write to its own report log.

To enable report logging for one of your FLEXlm vendor daemons

- 1 Create an options file for the vendor daemon, if one doesn't already exist. The options file is a plain text file with any name (we recommend an `.opt` extension).

For example, for a vendor daemon called `vend`, the options file could be:

`C:\GSI\options\vend.opt`

- 2 In the options file, enter a line of the following form:

`REPORTLOG +path\ReportLogFileName`

Note The line `+path\ReportLogFileName` cannot contain any spaces unless the entire line is contained within quotation marks, as in: `" +path\ReportLogFileName "`

The leading `+` character tells the vendor daemon to append output to the report log each time the vendor daemon starts, rather than clearing and overwriting the report log. There is no space after the `+` character.

Each vendor daemon must write its own report log. Do not direct multiple vendor daemons to write to the same report log. SAMreport-Lite (starting with v3.0d) will not process any report log that has been written by more than one vendor daemon on more than one host.

- 3 Add the path and file name of the options file to the end of the DAEMON line in the license file.
- 4 Restart the license server.

- 5 When you change or create an options file, you must restart the license server in order for those changes to take effect. Rereading the license file is not sufficient.

Size of the Report Log

A good estimate of the size of your report logs (from FLEXlm pre-v5 vendor daemons) is 100 bytes per checkout or checkin, or about 20-25% bigger than the portion of the debug log pertaining to that vendor daemon. FLEXlm v5+ daemons generate report log files that are approximately 25% of the size of pre-v5 report log files.

Flushing Data to a Report Log

For efficiency, the license server periodically flushes usage events to the report log. The frequency of these flushes depends on the activity level of the license server as well as on the version and configuration of the vendor daemon. To run a report with up-to-the-minute usage information, before running the report, manually flush data from the buffer to the report log by causing the vendor daemon to reread its license file with the FLEXlm utility, `lmreread`.

You can issue an `lmreread` command by clicking the *Reread License File* button in the *Stop/Reread* tab of `lmttools`.

Managing Report Logs

Remember that you can produce a report from multiple report logs as long as each report log is written by a single vendor daemon running on a single machine. (Vendor daemons running on more than one redundant server must write to their own report logs.) Therefore, to keep the size of report logs manageable, you should regularly close out a current report log and begin to write to a new one. This process is known as rotating report logs. A recommended method for rotating report logs is provided later in this section.

You may want to automate the process of managing each license server's report logs. The following steps can be performed on a regular basis:

- 1 Rotate a report log. To avoid corruption in your report logs, we recommend that you rotate your logs with the *FLEXlm* utility, `lmswitchr` (found in the `lmtools` interface).
- 2 Update the vendor daemon's options file(s).
- 3 Move the older report log to a designated location.
- 4 Archive (and probably compress) a report log when it is no longer needed to run reports.

You *must* rotate a report log at the following times:

- If you move the license server to a new machine.
If *SAMreport-Lite* detects that the license server `hostid` changes in a report log used to generate a report, it will stop processing the report log and include only the data preceding the `hostid` change in the report.
- If a vendor daemon name changes.
If *SAMreport-Lite* detects that the vendor daemon name changes in the report log used to generate a report, it will stop processing the report log and include only the data preceding the vendor daemon name change in the report.

You may want to rotate a report log at a regular time interval, such as weekly or monthly, depending on how quickly the report log grows. The rotation of a report log does not need to be tied to the interval over which you run your reports—remember that you can run a report on multiple report logs and that you can filter report data with designated start and end dates. You may also want to rotate report logs when the license limit for a feature changes, but alternatively, you can also set start and end date filters to isolate usage for given license limits.

Note You can corrupt a report log by rotating it incorrectly. A report log must begin with a header that is written by the vendor daemon. Without this header, the report log is corrupted. The data in the report log is unusable and unsalvageable from the start of the report log until the first time in that report log that the license server is restarted.

The report log will have no header and will be corrupted if you manually copy an active report log to a new file name, delete the original active report log, and keep the vendor daemon writing to the original active report log file name.

Finding the Version of the Vendor Daemon and lmswitchr

How you are able to rotate report logs depends on the version of the vendor daemon and `lmswitchr` that you use. The `-switchlog` batch option in *SAMsuite* uses `lmswitchr`.

Find the version of the vendor daemon. To find the version of a vendor daemon, start `lmttools`, the *FLEXlm* utility. Select the Utilities tab where you can find the version of *FLEXlm* that is built into a file. Enter or browse to the vendor daemon and click the Find Version button. The *FLEXlm* version will be displayed at the bottom of the `lmttools` window.

`lmswitchr` is found in the `lmttools` interface. Check the version of `lmttools` (and therefore `lmswitchr`) by selecting Help ► About.

Rotating a Report Log with lmswitchr

This method of rotating a report log is recommended if you are not using *SAMsuite*.

- 1 Start `lmttools`. In the Service/License File tab, select the license server whose report log you want to rotate. Click the Switch Report Log tab. Type the Vendor Name and the New Report Location. Be sure to specify a new file name (do not reuse the old file name) for the new report log. Click the Switch Report Log button.
- 2 Edit the options file with the new report log path and file name. If the license server goes down and comes back up, the vendor daemon will read its options file and will continue to write to the new report log. For redundant license servers, update each of the three options files.
- 3 Move the closed report log to where it can be accessed for reporting and storage. You will move one report log for a single license server and up to three report logs for a redundant license server.
- 4 Eventually you will not need to run reports on some of your old report logs. Those report logs can be compressed and archived to a location that does not necessarily need to be accessed by *SAMreport-Lite*.

Avoiding Corruption in Report Logs

FLEXlm has been improved from version to version to make report logging more robust. Nevertheless, particularly in older versions of the vendor daemon, corruption can occur in the report log.

Follow these guidelines to avoid corrupt report log files:

- Run your license servers with the latest available versions of `lmgrd` and your vendor daemons. Newer versions provide bug fixes and enhanced behavior. Regularly visit GLOBEtrötter's website to check for the latest versions of `lmgrd` and `lmutil`: <http://www.globetrotter.com/lmgrd.htm>. Check with your software vendors for the newest available versions of their vendor daemons.
- In pre v 5.1 vendor daemons, rereads and shutdowns could possibly introduce corruption, particularly if the server is busy. With these older vendor daemons, the best policy is to issue reread or shutdown when no licenses are checked out, if possible.
- Issuing an `lmdown` command while the server is shutting down can cause corruption.
- Don't move, copy, or edit the report log file while the server is running.
- Never configure more than one license server to write to the same report log file. In the case of a redundant server, each vendor daemon must write to a distinct file, preferably one which is local to the server machine. Even if the report log is not corrupted, *SAMreport-Lite* will not run a report using a report log that has been written by a vendor daemon running on more than one license server machine.
- Never configure different vendor daemons to write to the same report log file. Even if the report log is not corrupted, *SAMreport-Lite* will not run a report using a report log that has been written by more than one vendor daemon.
- Do not use `lmswitchr` or `-switchlog` to switch the report log to an existing report log file. Switch to a file with a new name.
- Never hand-edit a report log or combine report logs together into the same file.
- If you change a server host name, make sure you stop the license manager and create a new report log when the name change is complete.

SAMreport-Lite Error Messages

B

The following runtime error messages may be written to the Status History tab of the SAMreport-Lite™ interface or to a terminal window:

Error	Output Report Log
Error: Report log has been corrupted (-4) <i>file line no</i> (id 50)(minor -1) (Invalid key found, record lost)	Corrupt report log event found in a report log. May be associated with a vendor daemon crash.
Error: Internal Error (-7) <i>file line no</i> (id 54)(minor 0) <i>feature key</i>	Indicates an unexplained problem in SAMreport-Lite. This error should be reported to Autodesk.
Error: A reportlog is missing (-9) <i>file line no</i> (id 40)(minor 0) <i>feature key</i>	Report log contains a gap of significant duration between an end (or lmswitchr) and the following start event.
Error: Reportlog is truncated (-11) <i>file line no</i> (id 48)(minor -5) (Vendor daemon crashed and restart)	Report log event fragment is seen immediately followed by a restart. The feature corresponding to the event fragment is undetermined. Usually caused by vendor daemon crash.
Error: Reportlog is truncated (-11) <i>file line no</i> (id 48)(minor -5) (Vendor daemon crashed and restart) <i>feature key</i>	Report log event fragment is seen immediately followed by a restart. The feature corresponding to the event fragment is shown. This event is unusable. Usually caused by vendor daemon crash.
Error: Reportlog is truncated (-11) <i>file line no</i> (id 42)(minor 0) <i>feature key</i>	Report log file ends abruptly. Probably caused by reading or copying the report log while the vendor daemon is running. Could also be the result of a vendor daemon crash with no subsequent restart.
Error: An error was found in the reportlog (-13) <i>file line no</i> (id 51)(minor -4) (Checkout occurred without checkin, recovery attempted) <i>feature key</i>	No matching checkin event found for a checkout event. Because the error is reported much later than the actual error occurred, the line number is not particularly relevant. Sometimes this error is reported in error.
Error: An error was found in the reportlog (-13) <i>file line no</i> (id 37)(minor -7) (A data field is corrupted, record recovered, field recovery attempted) <i>feature key</i>	Indicates corruption in one of the report event fields.
Error: end date may be using 2 digit year instead of 4 digits Error occurred: gsi.SAMreport-Lite .JrepException: Unable to generate report.	This is an example of an error that occurs when a parameter or an argument is invalid and a report cannot be generated. The first line describes which parameter or argument is invalid.
Error: In <i>file</i> vendor changed from <i>vendor_name1</i> (hostid1) to <i>vendor_name2</i> (hostid2). No further events will be read from this file.	This report log has been written by more than one vendor daemon or by a vendor daemon running on more than one hostid.

Error

Error reporting threshold of 2000 has been reached.
No further errors will be reported.

Output Report Log

Corruption: Significant corruption in the input report log(s) has rendered parts of this report suspect. Please contact your Autodesk dealer or reseller.

Index

C

combining report logs, 23

D

date formats, for reports, 29

E

enable a report log, 32

F

formats, date, 29

M

manage report log, 33

merging report logs, 23

R

redundant servers

report logs, 24

report log file

enable, 32

from redundant servers, 24

manage, 33

size, 33

time zones, 28

using multiple, 23

reports

combining report logs, 23

date formats, 29

errors/warnings, 15

start and end dates, 29

using multiple report logs, 23

rotate report log, 33

S

size of report log, 33

T

time zones, 28

