



Log Central

Online Help

BEA Log Central 5.0
Document Edition 5.0
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Log Central Online Help

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About This Online Help

This help guide describes how to use the BEA® Log Central application to manage log messages. The guide is organized as follows:

- Chapter 1, “Overview,” describes the Log Central architecture.
- Chapter 2, “Introducing the Log Central Console,” explains how to start the Log Central Console.
- Chapter 3, “Managing Log Messages,” explains how to monitor log messages.
- Chapter 4, “Changing Message Definitions and Subsystem Descriptions,” explains how to modify message definitions and subsystem descriptions.
- Chapter 5, “Generating Reports,” explains how to generate reports.
- Chapter 6, “Configuring SNMP Traps,” explains how to configure SNMP traps.
- Chapter 7, “Managing the Database and Intermediate Files,” explains how to manage database files and intermediate files.
- Chapter 8, “Testing and Debugging,” explains how to test and debug.
- Appendix A, “Log Central Message and Message Definition Formats,” describes the Log Central message format.
- Appendix B, “Commands,” describes the Log Central commands.
- Appendix C, “SNMP Traps,” describes the SNMP traps that Log Central defines.

What You Need to Know

This document is written for system administrators and network administrators who set up and manage Log Central. It assumes a working knowledge of relational databases and JDBC. If you use the SNMP feature, then you also need to have a working knowledge of SNMP.

e-docs Web Site

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If you do not have the Adobe Acrobat Reader, you can get it for free from the Adobe Web site at <http://www.adobe.com/>.

Related Information

For more information about Log Central, see the Log Central online documentation set which is available on the Log Central product CD and at the e-docs Product Documentation page at <http://e-docs.bea.com/>.

Contact Us!

Your feedback on the BEA Log Central documentation is important to us. Send us e-mail at docsupport@bea.com if you have questions or comments. Your comments will be reviewed directly by the BEA professionals who create and update the Log Central documentation.

In your e-mail message, please indicate that you are using the documentation for the BEA Log Central 5.0 release.

If you have any questions about this version of BEA Log Central, or if you have problems installing and running BEA Log Central, contact BEA Customer Support through BEA WebSupport at <http://www.bea.com>. You can also contact Customer Support by using the contact information provided on the Customer Support Card, which is included in the product package.

When contacting Customer Support, be prepared to provide the following information:

- Your name, e-mail address, phone number, and fax number
- Your company name and company address
- Your machine type and authorization codes
- The name and version of the product you are using
- A description of the problem and the content of pertinent error messages

Documentation Conventions

The following documentation conventions are used throughout this document.

Convention	Item
boldface text	Indicates terms defined in the glossary.
Ctrl+Tab	Indicates that you must press two or more keys simultaneously.
<i>italics</i>	Indicates emphasis or book titles.
monospace text	Indicates code samples, commands and their options, data structures and their members, data types, directories, and file names and their extensions. Monospace text also indicates text that you must enter from the keyboard. <i>Examples:</i> <pre>#include <iostream.h> void main () the pointer psz chmod u+w * \tux\data\ap .doc tux.doc BITMAP float</pre>
monospace boldface text	Identifies significant words in code. <i>Example:</i> <pre>void commit ()</pre>
<i>monospace italic text</i>	Identifies variables in code. <i>Example:</i> <pre>String <i>expr</i></pre>
UPPERCASE TEXT	Indicates device names, environment variables, and logical operators. <i>Examples:</i> <pre>LPT1 SIGNON OR</pre>

Convention	Item
{ }	Indicates a set of choices in a syntax line. The braces themselves should never be typed.
[]	Indicates optional items in a syntax line. The brackets themselves should never be typed. <i>Example:</i> buildobjclient [-v] [-o name] [-f file-list]... [-l file-list]...
	Separates mutually exclusive choices in a syntax line. The symbol itself should never be typed.
...	Indicates one of the following in a command line: <ul style="list-style-type: none"> ■ That an argument can be repeated several times in a command line ■ That the statement omits additional optional arguments ■ That you can enter additional parameters, values, or other information The ellipsis itself should never be typed. <i>Example:</i> buildobjclient [-v] [-o name] [-f file-list]... [-l file-list]...
.	Indicates the omission of items from a code example or from a syntax line. The vertical ellipsis itself should never be typed.



1 Overview

The following sections provide an overview of Log Central:

- Log Messages in System Management
- Log Messages in Log Central
- Log Central Architecture
 - Overview of Log Central Architecture
 - Data Collection Agent
 - Log Monitor
 - Message Sender
 - Central Collector
 - Message Receiver
 - Message Processor
- Construction of Log Messages
- Log Central Processes
 - Overview of the Log Central Processes
 - Process Monitor
- SNMP Integration
- Fault Tolerance
- Log Central Console

Log Messages in System Management

Log messages are typically used as a system management tool: to detect problems, track down the source of a fault, or track system performance. Distributed systems include a variety of software components that generate message logs, such as operating systems and relational database management systems (RDBMS). In the absence of an industry-wide standard, software makers use different practices for message logging.

Log Messages in Log Central

Log Central extracts information from different kinds of logs and maps the information into a common format. Log Central stores the reformatted log messages in a relational database, which gives you a single point of access and a unified view of the log messages. Thus, Log Central makes it easier for you to manage your distributed systems.

A single failure, such as a file system filled to capacity, can generate multiple log messages as the problem ripples through the affected software. A unified view of the log messages lets you diagnose the source of a problem more rapidly.

Log Central helps you manage BEA products such as BEA Tuxedo®, BEA WebLogic Enterprise™, and BEA WebLogic Server™. You can also use Log Central to manage databases, operating systems, and any other software programs that generate log messages.

Log Central Architecture

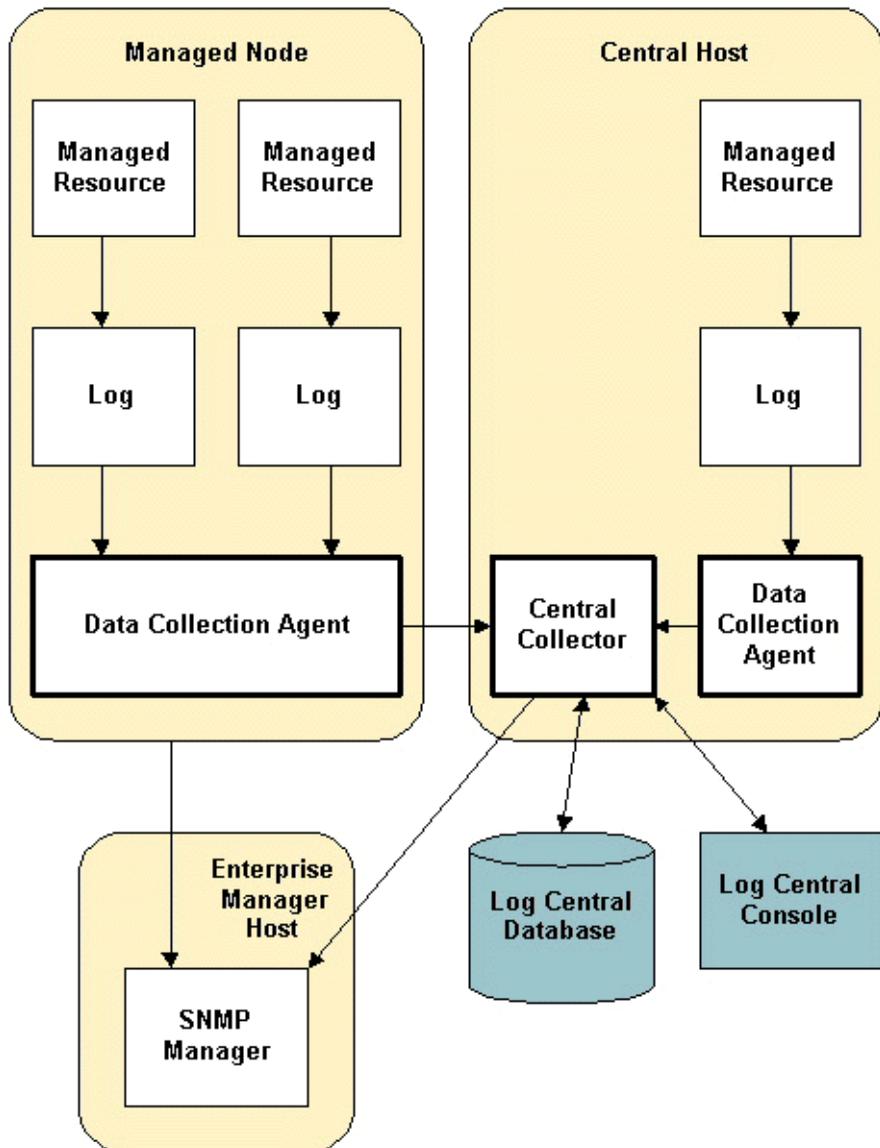
The following sections describe the Log Central architecture:

- Overview of Log Central Architecture
- Data Collection Agent
- Log Monitor
- Message Sender
- Central Collector
- Message Receiver
- Message Processor

Overview of Log Central Architecture

Log Central is based on an agent/manager architecture as shown in the following figure. A *managed node* is a machine that has resources that need to be managed. A *managed resource* is a software component such as a BEA Tuxedo application, an operating system, or an RDBMS. The central host and each managed node has a Log Central Data Collection Agent. The Data Collection Agents forward log messages to the Central Collector, which stores log messages in a database and provides information to the Log Central Console. Data Collection Agents and the Central Collector can generate SNMP traps. The Log Central Console, the Central Collector, and the Log Central database play the manager role in the Log Central architecture.

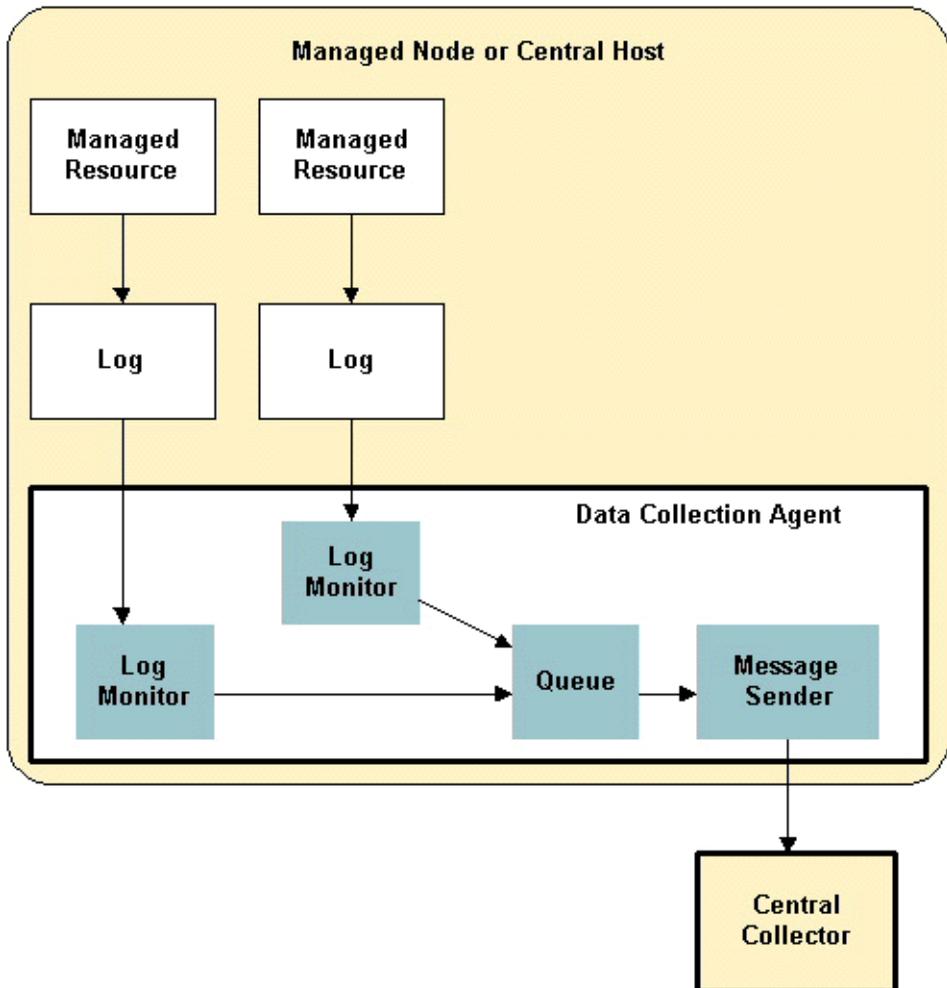
Figure 1-1 Log Central Architecture



Data Collection Agent

A Data Collection Agent resides on a managed node or the central host. A Data Collection Agent consists of a Message Sender, a queue, and one or more Log Monitors. The following figure shows the flow of log information from managed resources through a Data Collection Agent to the Central Collector.

Figure 1-2 Data Collection Agent



Log Monitor

A Data Collection Agent needs a Log Monitor for each managed resource. The Log Monitor receives log messages from the managed resource and maps these messages into the Log Central message format before putting them in the queue. For information about mapping, see Chapter 5, “Creating Log Mappings,” in the *Log Central Configuration Guide*.

Message Sender

The Message Sender reads messages from the queue and forwards them to the Central Collector. You can create filters that direct the Message Sender to do the following:

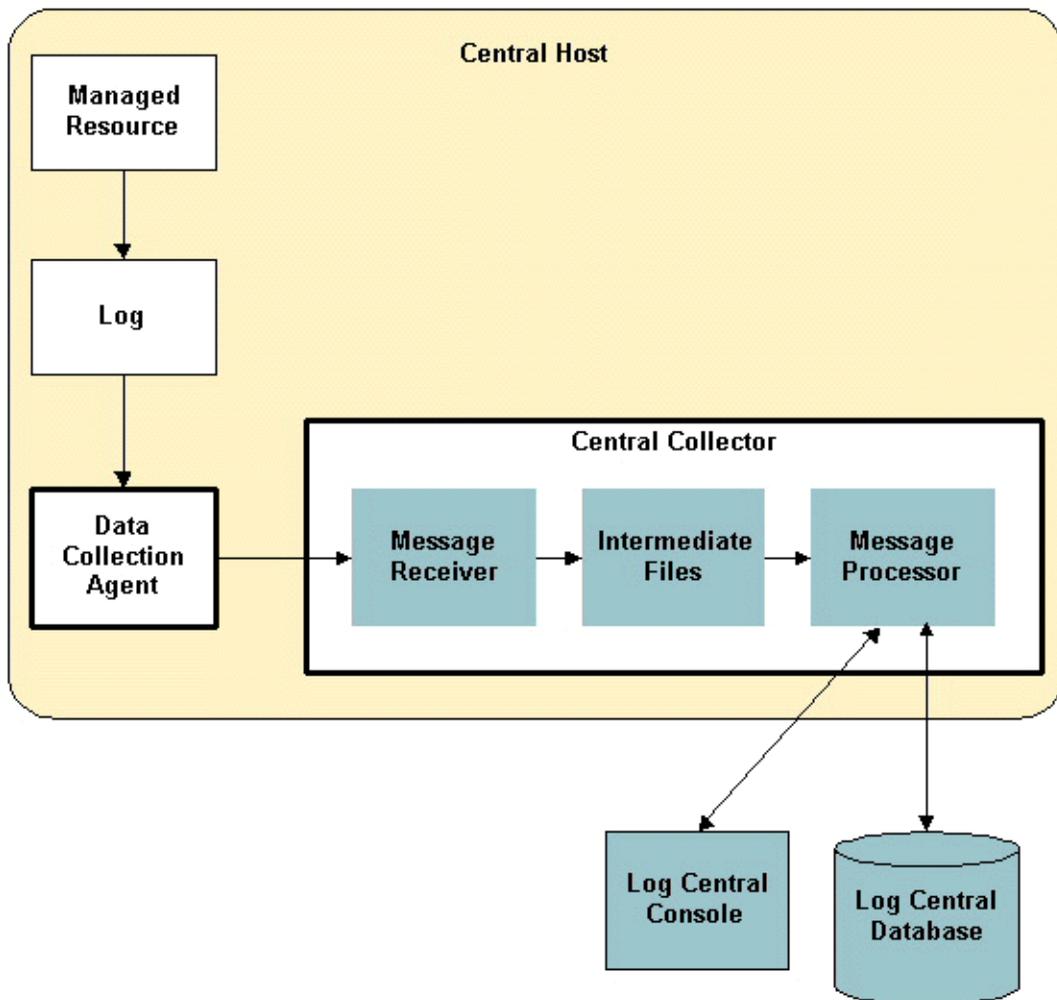
- Discard (not forward) specified messages.
- Save specified message to a file.
- Send an SNMP trap when a specified message is received.
- Run a script or program when a specified message is received.

For information about creating filters, see Chapter 7, “Creating Filters,” in the *Log Central Configuration Guide*.

Central Collector

The Central Collector resides on the central host and consists of a Message Receiver, intermediate files, and a Message Processor. The following figure shows the flow of log information in the Central Collector.

Figure 1-3 Central Collector



Message Receiver

After receiving a log message from a Data Collection Agent, the Message Receiver puts the message in an intermediate file. The Message Receiver creates a new intermediate file every hour. Use the Storage Maintenance tool, which is in the Log Central Console, to control how frequently the Message Receiver deletes intermediate files.

Message Processor

The Message Processor performs the following functions:

- Retrieves log messages from the intermediate files and puts them in the Log Central database
- Handles requests from the Log Central Console, such as database queries or forwarding of incoming messages for online monitoring
- Generates SNMP trap notifications for log messages that are mapped to SNMP traps

Construction of Log Messages

Log Central constructs log messages as described in the following steps and diagram:

1. When a Log Monitor receives a log message, it maps the message header and message body into the Log Central message format. Then the Log Monitor forwards the message to the Message Sender, which forwards the message to the Central Collector.

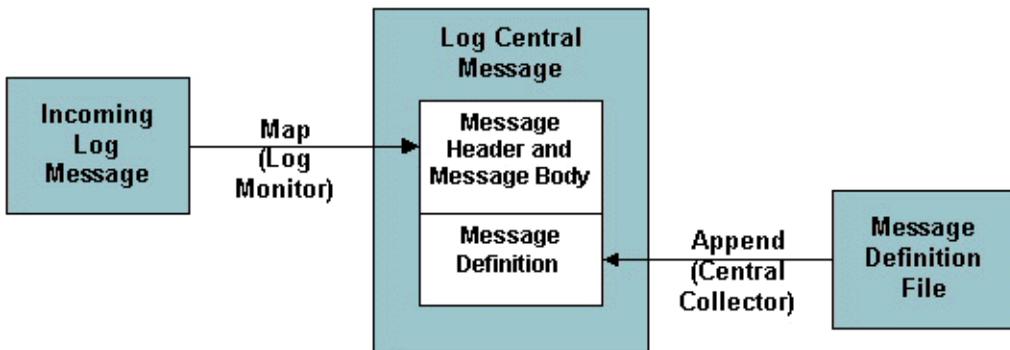
For information about how the Log Monitor maps messages, see Chapter 5, “Creating Log Mappings,” in the *Log Central Configuration Guide*. For information about the Log Central message format, see Appendix A, “Log Central Message and Message Definition Formats.”

2. When the Central Collector receives the reformatted log message from the Message Sender, it uses the message's subsystem and message ID fields to find a corresponding message definition in a message definition file. Message definition files are in the Log Central database.

For information about message definitions, see Chapter 6, "Creating Message Definitions," and Appendix A, "Log Central Message and Message Definition Formats," in the *Log Central Configuration Guide*.

3. The Central Collector appends the message definition to the message.

Figure 1-4 Construction of Log Messages



Log Central Processes

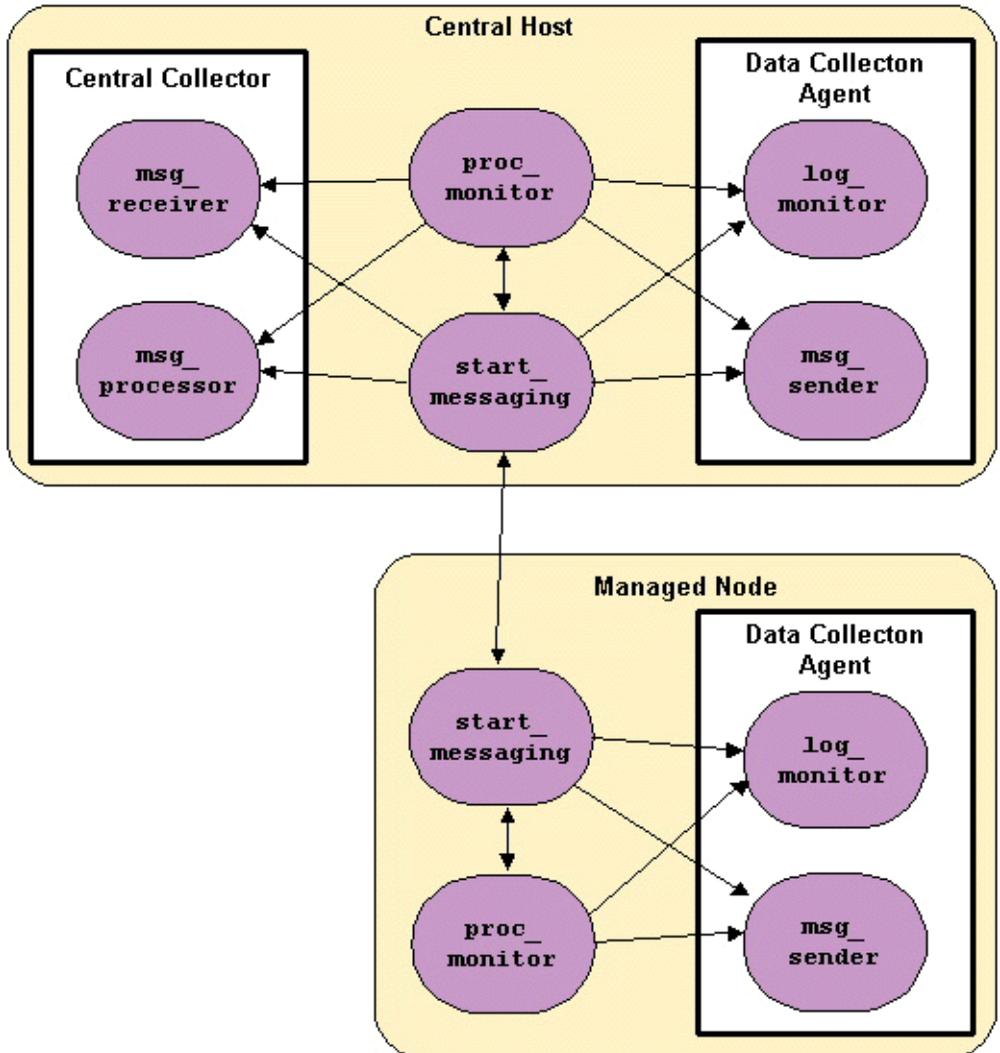
The following sections describe the Log Central processes:

- Overview of the Log Central Processes
- Process Monitor

Overview of the Log Central Processes

The following figure shows the Log Central processes.

Figure 1-5 Log Central Processes



When you call the `start_messaging` process on the central host, it starts the following processes:

- Message Receiver (`msg_receiver`)
- Message Processor (`msg_processor`)
- Process Monitor (`proc_monitor`)
- Message Sender (`msg_sender`)
- Log Monitors (`log_monitor`) if you included `LOG_MONITOR` statements in the `MANAGED_NODE` entry in the messaging configuration file.

When you call the `start_messaging` process on a managed node, it starts the following processes:

- Message Sender (`msg_sender`)
- Process Monitor (`proc_monitor`)
- Log Monitors (`log_monitor`) if you included `LOG_MONITOR` statements in the `MANAGED_NODE` entry in the messaging configuration file.

The `start_messaging` process on a managed node connects to the `start_messaging` process on the central host.

Process Monitor

The Process Monitor is a daemon that runs on the central host and each managed node. The following processes register with the Process Monitor at startup:

- `start_messaging`
- Log Monitor (`log_monitor`)
- Message Sender (`msg_sender`)
- Message Receiver (`msg_receiver`)
- Message Processor (`msg_processor`)

At fixed intervals, the Process Monitor checks all registered processes. If configured to do so, it restarts dead processes with the user and group IDs that were passed to it at startup.

SNMP Integration

Log Central enables you to use Simple Network Management Protocol (SNMP) to integrate information from logs into an enterprise management system. You can specify the following kinds of traps:

- Basic traps

You use the Basic Trap Configuration window, which is part of the Log Central Console, to map log messages to SNMP traps. The Central Collector generates an SNMP trap when it receives a log message that is mapped to an SNMP trap.

- Advanced traps

You can create filters in the Log Central messaging configuration file to specify advanced criteria for triggering SNMP traps. A Data Collection Agent generates an SNMP trap when it receives a message that matches the criteria. For information about creating filters, see Chapter 7, “Creating Filters,” in the *Log Central Configuration Guide*.

Fault Tolerance

You can configure a secondary Central Collector as a backup for the primary Central Collector. If the primary Central Collector becomes unavailable, the Data Collection Agents automatically send the log messages to the secondary Central Collector. Control automatically switches back to the primary Central Collector when it becomes available. The primary Central Collector can access the messages that were sent to the secondary Central Collector if both collectors use the same database. For information about configuring a secondary Central Collector, see Chapter 3, “Configuring the Central Host,” in the *Log Central Configuration Guide*.

If none of the Central Collectors configured for a Data Collection Agent are accessible, the Data Collection Agents save the log messages to a temporary local file. When the Central Collector becomes available, the Data Collection Agents recover the messages from the temporary files and forward them to the Central Collector. During recovery, new incoming messages have the highest priority and recovered messages are forwarded when the Data Collection Agents are not handling new messages. The Data Collection Agents delete the temporary files after the messages have been forwarded.

Log Central Console

The Log Central Console is a graphical user interface that lets you access the log messages that the Central Collector receives. You can use the Log Central Console to analyze problems and track trends. For more information about the console, see Chapter 2, “Introducing the Log Central Console.”

2 Introducing the Log Central Console

The Log Central Console is a graphical user interface that provides tools for:

- Managing Log Messages
- Changing Message Definitions and Subsystem Descriptions
- Generating Reports
- Configuring SNMP Traps
- Managing the Database and Intermediate Files

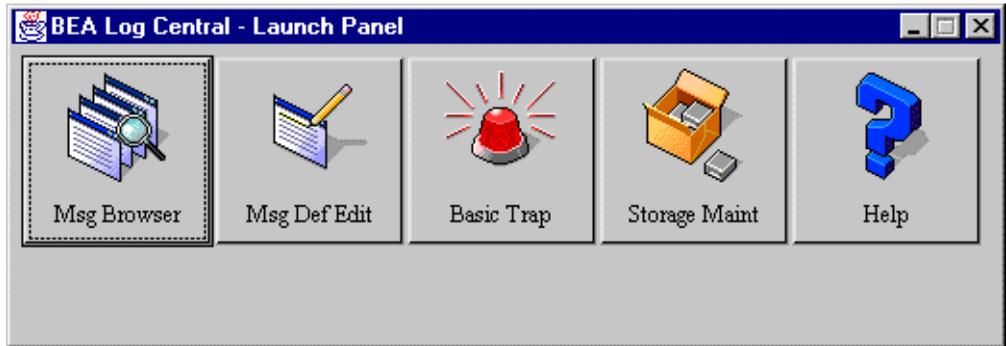
To configure and start the Log Central Console:

1. Modify `PATH` to include the directory that contains a Web browser. By default, the Log Central Console uses Netscape Navigator to display the online help. To use a non-default browser, set the `-b` option when you start the Log Central Console.
2. Run `start_messaging` on the central host.
3. Wait approximately one minute. This wait time allows the Log Central processes to start.
4. Run `lc_launch` on the central host.

For information about the `start_messaging` and `lc_launch` commands, see Appendix B, “Commands.”

When you start the Console, the Launch Panel appears first.

Figure 2-1 Launch Panel



The following table describes the buttons on the Launch Panel.

Table 2-1 Buttons on the Launch Panel

Button	What the Button Does	More Information
Msg Browser	Starts the Message Browser, which enables you to monitor and filter log messages.	Chapter 3, “Managing Log Messages.”
Msg Def Edit	Starts the Message Definition Editor which enables you to modify and filter message definitions and modify subsystem descriptions.	Chapter 4, “Changing Message Definitions and Subsystem Descriptions.”
Basic Trap	Starts the Basic Trap Configuration window, which enables you to configure basic traps.	Chapter 6, “Configuring SNMP Traps.”
Storage Maint	Starts the Storage Maintenance tool, which enables you to manage the Log Central database and intermediate files.	Chapter 7, “Managing the Database and Intermediate Files.”
Help	Displays the Log Central Online Help.	—

3 Managing Log Messages

The following sections describe the functions of the Message Browser:

- Working with the Message Browser
- Monitoring Incoming Log Messages
- Querying the Database
- Filtering Log Messages
- Deleting Log Messages
- Acknowledging Log Messages
- Removing Acknowledgments
- Viewing Log Message Definitions

For a description of the log messages, see Appendix A, “Log Central Message and Message Definition Formats.”

Working with the Message Browser

The following sections explain how to use the Message Browser:

- Starting the Message Browser
- Main Components of the Message Browser
- Message Browser Toolbar
- Message Browser Menus
- Changing the Log Message Layout
- Changing Severity Colors

Starting the Message Browser

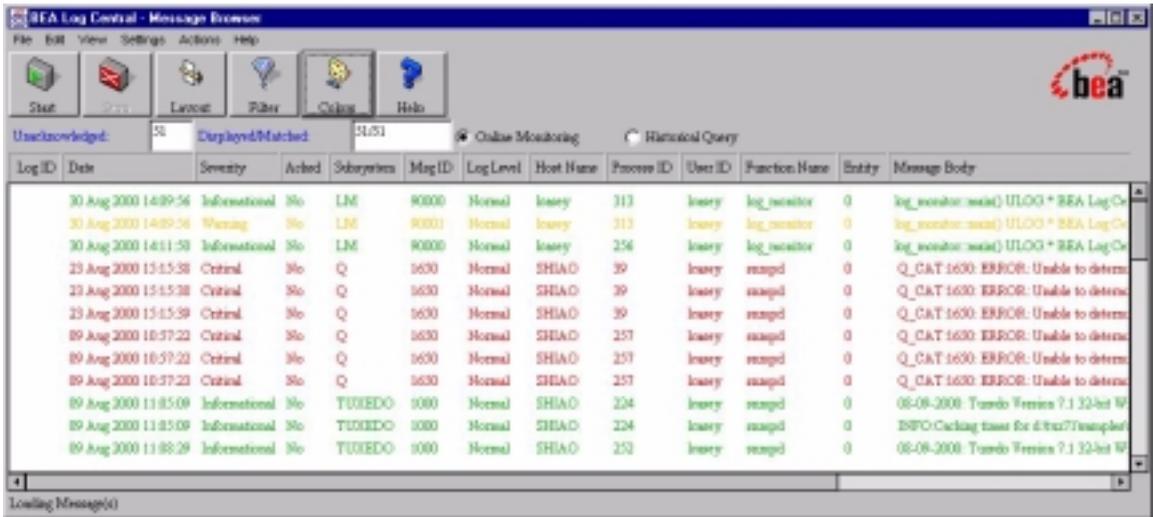
To start the Message Browser:

1. Start the Log Central Console by running `lc_launch` on the central host.

For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”

- Click Msg Browser. Log Central displays the Message Browser.

Figure 3-1 Message Browser



Main Components of the Message Browser

The following table describes the main components of the Message Browser.

Table 3-1 Main Components of the Message Browser

Component	Description
Menu bar	Provides the menus for the Message Browser. For more information, see “Message Browser Menus.”
Toolbar	Provides access to frequently used actions. For more information, see “Message Browser Toolbar.”
Unacknowledged field	Displays the number of messages in the message pane that have not been acknowledged. The Message Browser displays a value in this field when you perform online monitoring or query the database.

3 Managing Log Messages

Table 3-1 Main Components of the Message Browser

Component	Description
Displayed/Matched field	When you query the database, this field displays the number of messages that satisfy the filter settings and the number of messages displayed. These numbers differ if the query found more messages than the maximum that can be displayed. To configure the maximum number of messages that can be displayed, use the <code>-n</code> option when you start the Log Central Console. For information about filter settings, see “Filtering Log Messages.” For information about the <code>-n</code> option, see the description of the <code>lc_launch</code> command in Appendix B, “Commands.”
Online Monitoring button	When you click Start, directs the Log Central Console to monitor and display log messages in real time as they arrive at the Central Collector. The Message Browser displays real-time incoming messages that satisfy the filter settings, with the most recent message displayed at the top of the message pane. For information about the filter settings, see “Filtering Log Messages.”
Historical Query button	When you click Start, directs the Log Central Console to query the Log Central database. The Message Browser displays messages in the database that satisfy the filter settings, with the most recent message displayed at the top of the message pane. For information about the filter settings, see “Filtering Log Messages.”
Message pane	Displays log messages.

Message Browser Toolbar

The following table describes the Message Browser toolbar. On the toolbar, all options except Stop and Help are inactive if the Message Browser is receiving real-time incoming messages or querying the database.

Table 3-2 Message Browser Toolbar

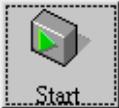
Button	Action
	Retrieves and displays real-time incoming messages or messages that are in the Log Central database, depending on whether you selected Online Monitoring or Historical Query in the Message Browser. The Message Browser displays messages that satisfy the filter settings, with the most recent message displayed at the top of the message pane. For information about the filter settings, see “Filtering Log Messages.”

Table 3-2 Message Browser Toolbar

Button	Action
	<p>Stops retrieval of messages. This button is inactive if messages are not being retrieved.</p>
	<p>Displays the Layout Definition window, in which you specify the message fields to display and the order in which to display them. For information about using the Layout Definition window, see “Changing the Log Message Layout.” You can also use the Layout Definition command in the Settings menu to display the Layout Definition window.</p>
	<p>Displays the Filter Settings window, in which you can:</p> <ul style="list-style-type: none"> ■ Define the criteria for determining which messages to display in the message pane ■ Select the sort order for messages from a database query <p>For information about using the Filter Settings window, see “Filtering Log Messages.” You can also use the Browser Filter command in the Settings menu to display the Filter Settings window.</p>
	<p>Displays the Message Colors window, which enables you to change the colors for the severity levels. For information about using the Color Settings window, see “Changing Severity Colors.” You can also use the Message Colors command in the Settings menu to display the Message Colors window.</p>
	<p>Displays the Log Central Online Help. You can also use the commands in the Help menu to display the Log Central Online Help.</p>

Message Browser Menus

The following table describes the Message Browser menus.

Table 3-3 Message Browser Menus

Menu	Commands
File	<p><i>Reports</i>—Generates a report of the messages retrieved from a database query. This option is inactive if the Message Browser is in online monitoring mode. A submenu lets you generate a summary report or a detail report. A summary report groups messages by subsystem and presents the message totals for each severity level and log level. A detail report provides most of the message fields for each message. For more information about generating reports, see Chapter 5, “Generating Reports.”</p> <p><i>Close</i>—Exits the Message Browser.</p>
Edit	<p><i>Delete</i>—Deletes the selected messages.</p>
View	<p><i>Message Details</i>—Displays the Message Details window, which displays the message body and message definition for the selected message.</p>
Settings	<p><i>Browser Filter</i>—Displays the Filter Settings window, in which you can:</p> <ul style="list-style-type: none">■ Define the criteria for determining which messages to display in the message pane■ Select the sort order for messages from a database query <p>For information about using the Filter Settings window, see “Filtering Log Messages.” You can also use the Filter button in the toolbar to display the Filter Settings window.</p> <p><i>Layout Definition</i>—Displays the Layout Definition window, in which you can specify the message fields to display and the order in which to display them. For information about using the Layout Definition window, see “Changing the Log Message Layout.” You can also use the Layout button in the toolbar to display the Layout Definition window.</p> <p><i>Message Colors</i>—Displays the Message Colors window, which enables you to change the colors for the severity levels. For information about using the Color Settings window, see “Changing Severity Colors.” You can also use the Colors button in the toolbar to display the Message Colors window.</p>

Table 3-3 Message Browser Menus

Menu	Commands
Actions	<p><i>Start</i>—Retrieves and displays real-time incoming messages or messages that are in the Log Central database, depending on whether you selected Online Monitoring or Historical Query in the Message Browser. The Message Browser displays messages that satisfy the filter settings, with the most recent message displayed at the top of the message pane. For information about the filter settings, see “Filtering Log Messages.”</p> <p><i>Stop</i>—Stops the database query or online monitoring.</p> <p><i>Acknowledge</i>—Acknowledges the selected messages.</p> <p><i>Clear Acknowledgment</i>—Clears the acknowledgments for the selected messages.</p>
Help	Displays the Log Central Online Help for various Message Browser help topics. You can also use the Help button in the toolbar to display the Log Central Online Help.

Changing the Log Message Layout

You can change the fields to display in the Message Browser message pane. You can also change the order in which the fields are displayed.

To change the message layout:

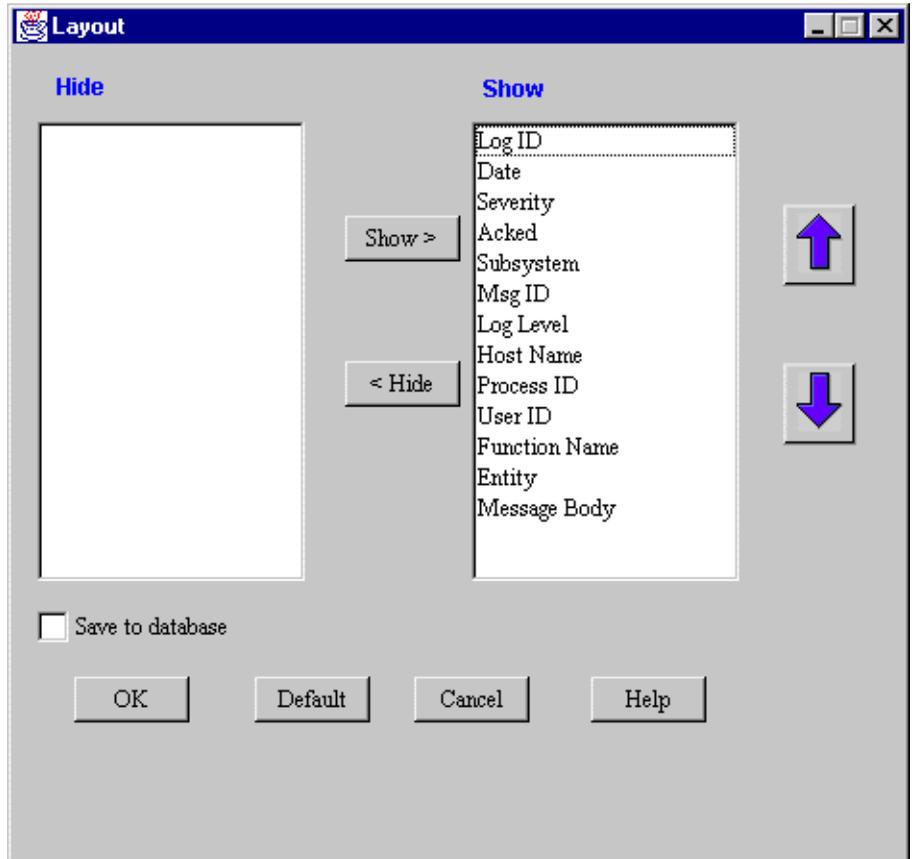
1. Start the Message Browser:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Browser. Log Central displays the Message Browser.

3 Managing Log Messages

2. Click Layout.

The Message Browser displays the Layout window.

Figure 3-2 Message Browser Layout Window



3. Select the fields to show or hide.

Use the Show and Hide buttons to move selections from one list to the other.

4. Use the up and down arrows to change the order in the Show list.

5. To save these settings as the default for the current database user, select Save to Database.
6. Click OK.

Changing Severity Colors

The following table shows the default severity colors.

Table 3-4 Default Severity Colors

Severity	Default Color
Informational	Green
Warning	Yellow
Minor	Blue
Major	Magenta
Critical	Red

To change the severity colors:

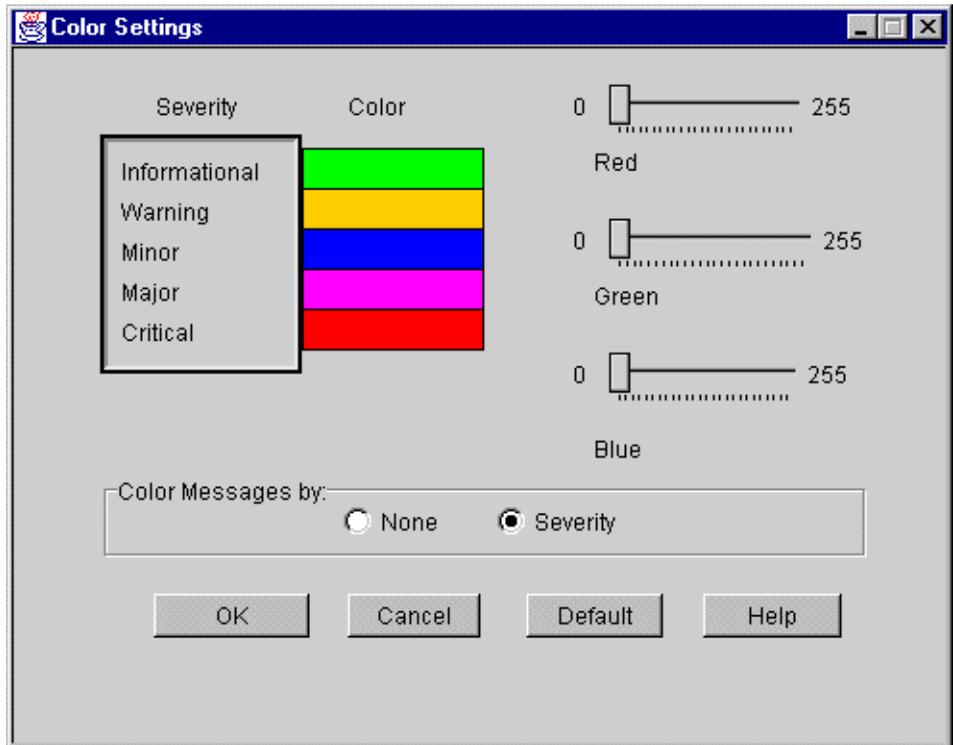
1. Start the Message Browser or the Message Definition Editor:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Browser or Msg Def Edit. Log Central displays the Message Browser or Message Definition Editor.

3 *Managing Log Messages*

2. Click Colors.

The Log Central Console displays the Color Settings window.

Figure 3-3 Color Settings Window



3. Select the severity level to change.
4. Move the Red, Green, and Blue sliders to get the color you want.
If you do not want to map colors to severity levels, select the None button.
5. Click OK.

Monitoring Incoming Log Messages

To monitor log messages in real time:

1. Start the Message Browser:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Browser. Log Central displays the Message Browser.
2. Select Online Monitoring.
3. Click Start.

The Log Central Console monitors log messages in real time as they arrive at the Central Collector. The Message Browser displays messages that satisfy the filter settings you defined in the Filter Settings window, with the most recent message displayed at the top of the message pane. For information about the filter settings, see “Filtering Log Messages.”

Querying the Database

To query the Log Central database:

1. Start the Message Browser:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Browser. Log Central displays the Message Browser.
2. Select Historical Query.

3. Click Start.

Queries the Log Central database. The Message Browser displays messages that satisfy the filter settings you defined in the Filter Settings window, with the most recent message displayed at the top of the message pane. For information about the filter settings, see “Filtering Log Messages.”

Filtering Log Messages

The Message Browser enables you to set filter criteria that:

- Define which real-time incoming messages to display during online monitoring
- Define which messages to retrieve in a database query

You can also set filters that the data collection agents use. For more information, see Chapter 7, “Creating Filters,” in the *Log Central Configuration Guide*.

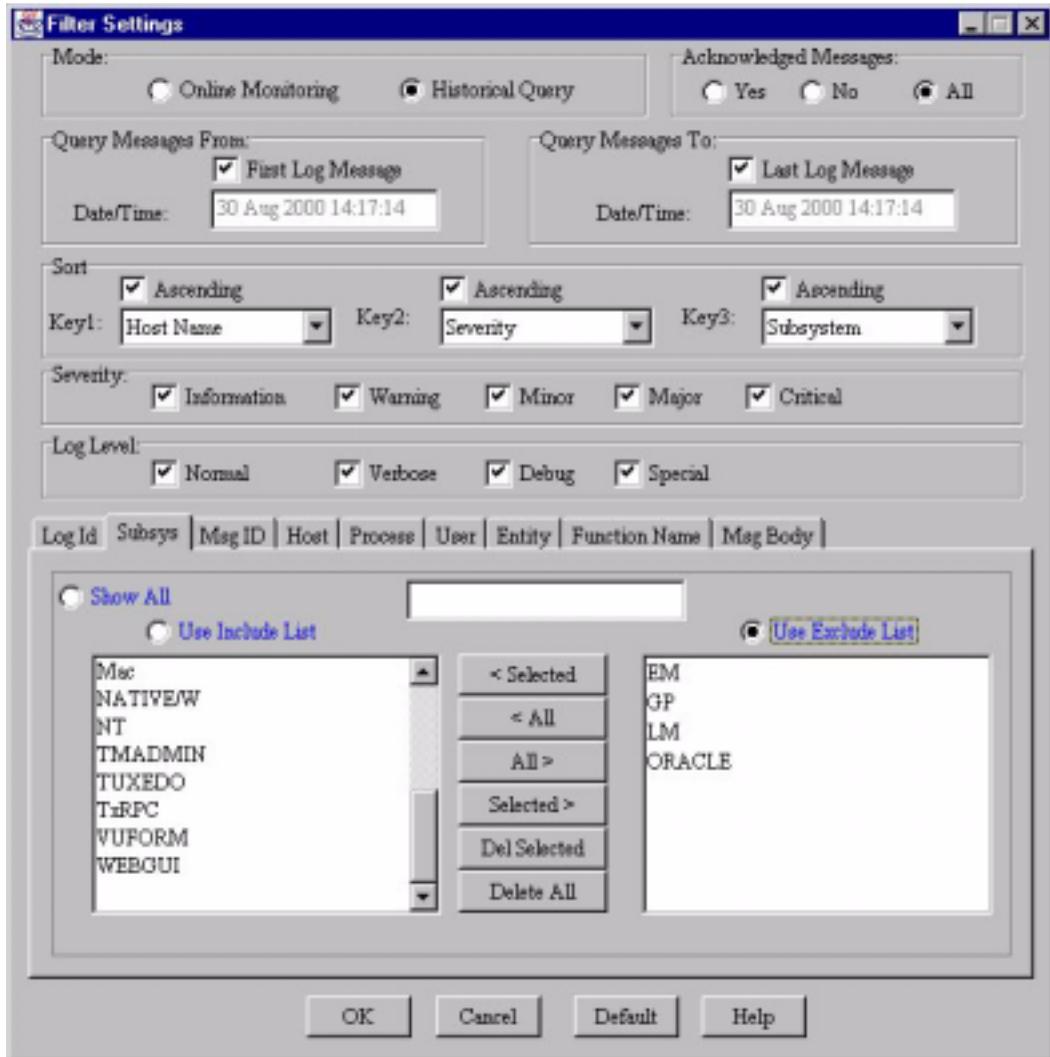
To filter messages:

1. Start the Message Browser:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Browser. Log Central displays the Message Browser.

2. Click Filter.

The Message Browser displays the Filter Settings window.

Figure 3-4 Filter Settings Window



3. Select Online Monitoring or Historical Query.

The Filter Settings window displays the current filter settings for online monitoring or database queries. When you select Online Monitoring in the Message Browser and click Start, the Message Browser uses the online monitoring filter settings to display real-time incoming messages. When you select Historical Query in the Message Browser and click Start, the Message Browser uses the database query filter settings to retrieve and display messages that are in the Log Central database.

4. Select one of the Acknowledged Messages buttons:

- Yes—Display only acknowledged messages.
- No—Display only unacknowledged messages.
- All—Display acknowledged and unacknowledged messages.

5. If you are filtering a database query:

- Optionally, specify the first message by checking First Log Message and setting a date and time for the first message.
- Optionally, specify the last message by checking Last Log Message and setting a date and time for the last message.

6. If you are filtering a database query, optionally set the sort order based on message fields.

You can configure up to three sorts, using ascending and descending sort order. To configure a sort:

- Select or deselect Ascending. If you deselect Ascending, the Log Central Console sorts the messages in descending order. Ascending or descending order is determined by the alphabetical or numerical values in the selected message field. If a message field can contain both alphabetical and numerical values, the numerical values come first when sorted in ascending order.
- Choose a message field in the Key drop-down list. Log Central sorts based on Key1 if it is set, then based on Key2 if it is set, and finally based on Key3 if it is set. The result is one list. For example, if Key1 is Date and Key2 is Subsystem, Log Central sorts by date and then by subsystem. The resulting list is ordered by subsystem, with the messages for a given subsystem ordered by date.

7. Optionally, select the severity levels and log levels to include.

8. Optionally, set filter criteria for the message fields:
 - a. Select the tab for a message field. (There is a tab for most of the message fields.)

Note: Even though the Filter Settings window displays the Trans Id tab, this tab is inactive because Transaction ID has been removed from the Log Central message format.
 - b. Decide which of the following types of filter criteria to use for this field:
 - Include messages that contain any values for this field (Show All).
 - Include messages that contain values in the Use Include List.
 - Exclude messages that contain values in the Use Exclude List.

In the example in the preceding figure, Log Central excludes messages for which the Subsystem value is EM, GP, LM, or ORACLE.
 - c. If you decided to use the Use Include List or Use Exclude List:
 - To move values from one list to the other, highlight the values and click the appropriate Selected button (Selected < or Selected >).
 - To move all values from one list to the other, click the appropriate All button (All < or All >).
 - To delete values from a list, select the values and click Del Selected. To delete all values in both lists, click Delete All.
 - To add a new value to a list, select the Use Include List or the Use Exclude List, enter the value in the text field above the buttons, and press Enter.
 - d. Select the Show All, Use Include List, or Use Exclude List button depending on the type of filter criteria you are using.
 - e. Repeat steps a through d for other tabs (fields) as desired.
9. Click OK.

The Log Central Console preserves these message definition editor filter settings until the next time that you modify them as long as you keep the Log Central Console running. Filter settings are lost when you exit the Log Central Console.

Deleting Log Messages

To delete messages from the Log Central database:

1. Start the Message Browser:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Browser. Log Central displays the Message Browser.

2. Select Online Monitoring or Historical Query.

3. Click Start.

If you selected Online Monitoring, the Log Central Console monitors log messages in real time as they arrive at the Central Collector. If you selected Historical Query, the Log Central Console queries the Log Central database.

The Message Browser displays messages that satisfy the filter settings you defined in the Filter Settings window, with the most recent message displayed at the top of the message pane. For information about the filter settings, see “Filtering Log Messages.”

4. Click Stop.
5. If you are not going to delete all messages, select the messages to delete.

Note: The option to delete all messages is available only for historical queries. It is not available for real-time incoming messages.

6. From the Edit menu, choose Delete.

A submenu lets you delete the selected messages or all messages that were returned in the last database query.

Acknowledging Log Messages

Message acknowledgment is a feature that you can use to keep track of system problems that are currently being resolved or actively investigated. The Message Browser displays each message's acknowledgment status (Yes or No) in the Acked column in the Message pane. When you view the messages, you can see which ones are being worked on and which ones are not being handled yet.

To acknowledge messages:

1. Start the Message Browser:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, "Introducing the Log Central Console." For the `lc_launch` command syntax, see Appendix B, "Commands."
 - b. Click Msg Browser. Log Central displays the Message Browser.
2. Select Online Monitoring or Historical Query.
3. Click Start.

If you selected Online Monitoring, the Log Central Console monitors log messages in real time as they arrive at the Central Collector. If you selected Historical Query, the Log Central Console queries the Log Central database.

The Message Browser displays messages that satisfy the filter settings you defined in the Filter Settings window, with the most recent message displayed at the top of the message pane. For information about the filter settings, see "Filtering Log Messages."

4. Click Stop.
5. If you are not going to acknowledge all messages, select the messages to acknowledge.

Note: The option to acknowledge all messages is available only for historical queries. It is not available for real-time incoming messages.

6. From the Actions menu, choose Acknowledge.

A submenu lets you acknowledge the selected messages or all messages that were returned in the last database query.

Removing Acknowledgments

You might want to remove an acknowledgment if a message was acknowledged when it should not have been, or if a problem that was thought to be resolved is still occurring.

To remove message acknowledgments:

1. Start the Message Browser:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Browser. Log Central displays the Message Browser.
2. Select Online Monitoring or Historical Query.
3. Click Start.

If you selected Online Monitoring, the Log Central Console monitors log messages in real time as they arrive at the Central Collector. If you selected Historical Query, the Log Central Console queries the Log Central database.

The Message Browser displays messages that satisfy the filter settings you defined in the Filter Settings window, with the most recent message displayed at the top of the message pane. For information about the filter settings, see “Filtering Log Messages.”

4. Click Stop.
5. If you are not going to remove acknowledgments for all messages, select the desired messages.

Note: The option to remove acknowledgments for all messages is available only for historical queries. It is not available for real-time incoming messages.

6. From the Actions menu, choose Clear Acknowledgment.

A submenu lets you remove the acknowledgments from the selected messages or all messages that were returned in the last database query.

Viewing Log Message Definitions

To view the message definition fields associated with a message:

1. Start the Message Browser:
 - a. Start the Log Central Console by running `lc_launch` on the central host.

For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”

- b. Click Msg Browser. Log Central displays the Message Browser.
2. Select Online Monitoring or Historical Query.
3. Click Start.

If you selected Online Monitoring, the Log Central Console monitors log messages in real time as they arrive at the Central Collector. If you selected Historical Query, the Log Central Console queries the Log Central database.

The Message Browser displays messages that satisfy the filter settings you defined in the Filter Settings window, with the most recent message displayed at the top of the message pane. For information about the filter settings, see “Filtering Log Messages.”

-
4. Click Stop.
5. Select a message.

6. From the View menu, choose Message Details.

The Message Browser displays the Message Details window. This window displays the message body and the message definition fields.

To change a message definition, see Chapter 4, “Changing Message Definitions and Subsystem Descriptions.”

4 Changing Message Definitions and Subsystem Descriptions

A message definition provides static information about log messages, such as recommendations for responding to errors. The Central Collector appends a message definition to each log message based on the message ID and subsystem values in the message.

The following sections describe the functions of the Message Definition Editor:

- Working with the Message Definition Editor
- Displaying Message Definitions
- Filtering Message Definitions
- Adding a Message Definition
- Changing a Message Definition
- Deleting Message Definitions
- Changing a Subsystem Description

For more information about message definitions, see Chapter 6, “Creating Message Definitions,” in the *Log Central Configuration Guide*.

Working with the Message Definition Editor

The following sections explain how to use the Message Definition Editor:

- Starting the Message Definition Editor
- Main Components of the Message Definition Editor
- Message Definition Editor Toolbar
- Message Definition Editor Menus
- Changing the Message Definition Layout
- Working with the Message Definition Details File Menu

Starting the Message Definition Editor

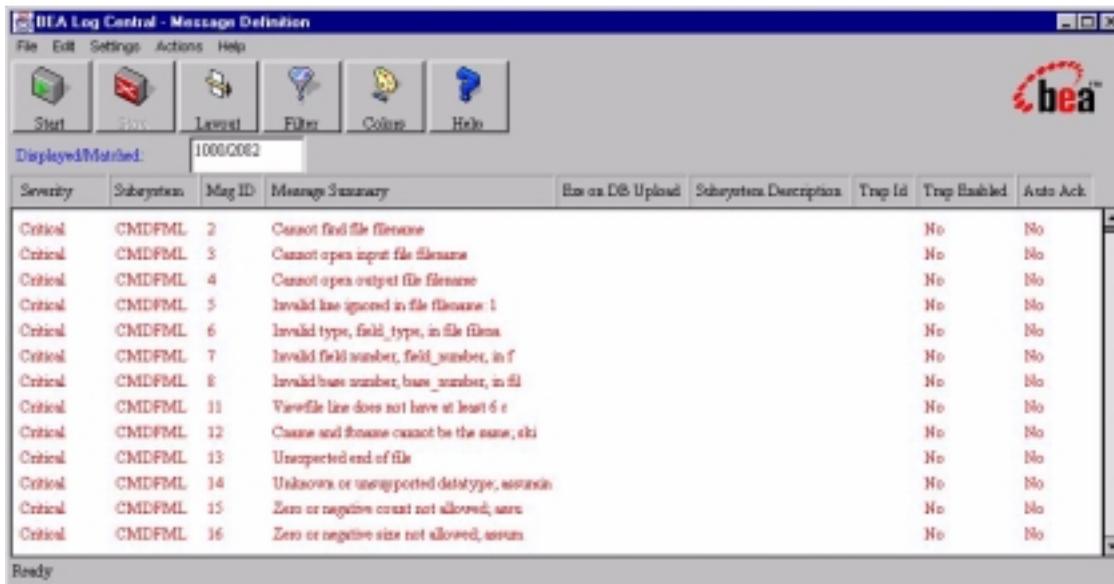
To start the Message Definition Editor:

1. Start the Log Central Console by running `lc_launch` on the central host.

For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”

2. Click Msg Def Edit. Log Central displays the Message Definition Editor.

Figure 4-1 Message Definition Editor



Main Components of the Message Definition Editor

The following table describes the main components of the Message Definition Editor.

Table 4-1 Main Components of the Message Definition Editor

Component	Description
Menu bar	Provides the menus for the Message Definition Editor. For more information, see “Message Definition Editor Menus.”
Toolbar	Provides access to frequently used actions. For more information, see “Message Definition Editor Toolbar.”

4 Changing Message Definitions and Subsystem Descriptions

Table 4-1 Main Components of the Message Definition Editor

Component	Description
Displayed/Matched field	<p>When you query the database, this field displays the number of message definitions that satisfy the message definition filter settings and the number of message definitions displayed. These numbers differ if the query found more message definitions than the maximum that can be displayed. To configure the maximum number of message definitions that can be displayed, use the <code>-n</code> option when you start the Log Central Console.</p> <p>For information about message definition filter settings, see “Filtering Message Definitions.” For information about the <code>-n</code> option, see the description of the <code>lc_launch</code> command in Appendix B, “Commands.”</p>
Message definition pane	Displays message definitions.

Message Definition Editor Toolbar

The following table describes the Message Definition Editor toolbar.

Table 4-2 Message Definition Editor Toolbar

Button	Action
	Retrieves and displays message definitions from messages that are in the Log Central database. The Message Definition Editor displays message definitions that satisfy the message definition filter settings, with the most recent message definitions displayed at the top of the message definition pane. For information about the message definition filter settings, see “Filtering Message Definitions.”
	Stops retrieval of message definitions. This button is inactive if message definitions are not being retrieved.
	Displays the Message Definition Editor Layout window, in which you specify the message definition fields to display and the order in which to display them. For information about using the Message Definition Editor Layout window, see “Changing the Message Definition Layout.” You can also use the Layout Definition command in the Settings menu to display the Message Definition Editor Layout window.

Table 4-2 Message Definition Editor Toolbar

Button	Action
 Filter	<p>Displays the Message Definition Editor Filter Settings window, in which you can:</p> <ul style="list-style-type: none">■ Define the criteria for determining which message definitions to display in the message definition pane■ Select the sort order for message definitions from a database query <p>For information about using the Message Definition Editor Filter Settings window, see “Filtering Message Definitions.” You can also use the Editor Filter Settings command in the Settings menu to display the Message Definition Editor Filter Settings window.</p>
 Colors	<p>Displays the Message Colors window, in which you can change the colors for the severity levels. For information about using the Color Settings window, see “Changing Severity Colors” in Chapter 3, “Managing Log Messages.” You can also use the Message Colors command in the Settings menu to display the Message Colors window.</p>
 Help	<p>Displays the Log Central Online Help. You can also use the commands in the Help menu to display the Log Central Online Help.</p>

Message Definition Editor Menus

The following table describes the Message Definition Editor menus.

Table 4-3 Message Definition Editor Menus

Menu	Commands
File	<p><i>New Message Definition</i>—Displays the Message Definition Details window with blank fields in which you can enter a new message definition. You can also enter a new message definition by selecting the Message Definition command from the Edit menu (which displays the Message Definition Details window) and then selecting New from the File menu.</p> <p><i>Reports</i>—Generates a report of the message definitions retrieved from a database query. This option is inactive if the Message Definition Editor is processing a query. A submenu enables you to generate a summary report or a detail report. A summary report groups message definitions by subsystem and presents the message definition totals for each severity level and log level. A detail report provides most of the message definition fields for each message. For more information about generating reports, see Chapter 5, “Generating Reports.”</p> <p><i>Close</i>—Exits the Message Definition Editor.</p>
Edit	<p><i>Message Definition</i>—Displays the Message Definition Details window in which you can edit the selected message definition. For more information, see “Working with the Message Definition Details File Menu.”</p> <p><i>Subsystem Description</i>—Displays the Subsystem Definition window in which you can edit the description for a subsystem that has an entry in the Log Central database.</p> <p><i>Delete</i>—Displays a submenu that allows you to delete selected message definitions or all the message definitions.</p>

Table 4-3 Message Definition Editor Menus

Menu	Commands
Settings	<p><i>Editor Filter Settings</i>—Displays the Message Definition Editor Filter Settings window in which you can:</p> <ul style="list-style-type: none"> ■ Define the criteria for determining which message definitions to display in the message definition pane ■ Select the sort order for message definitions from a database query <p>For information about using the Message Definition Editor Filter Settings window, see “Filtering Message Definitions.” You can also use the Filter button in the toolbar to display the Message Definition Editor Filter Settings window.</p> <p><i>Layout Definition</i>—Displays the Message Definition Editor Layout window, which lets you specify the message definition fields to display and the order in which to display them. For information about using the Message Definition Editor Layout window, see “Changing the Message Definition Layout.” You can also use the Layout button in the toolbar to display the Message Definition Editor Layout window.</p> <p><i>Message Colors</i>—Displays the Message Colors window, which lets you change the colors for the severity levels. For information about using the Color Settings window, see “Changing Severity Colors” in Chapter 3, “Managing Log Messages.” You can also use the Colors button in the toolbar to display the Message Colors window.</p>
Actions	<p>This menu works only for database queries, not for online monitoring.</p> <p><i>Start</i>—Starts a database query.</p> <p><i>Stop</i>—Stops the database query.</p>
Help	<p>Displays the Log Central Online Help for various Message Definition Editor help topics. You can also use the Help button in the toolbar to display the Log Central Online Help.</p>

Changing the Message Definition Layout

You can change the fields to display in the Message Definition Editor's message definition pane. You can also change the order in which the fields are displayed.

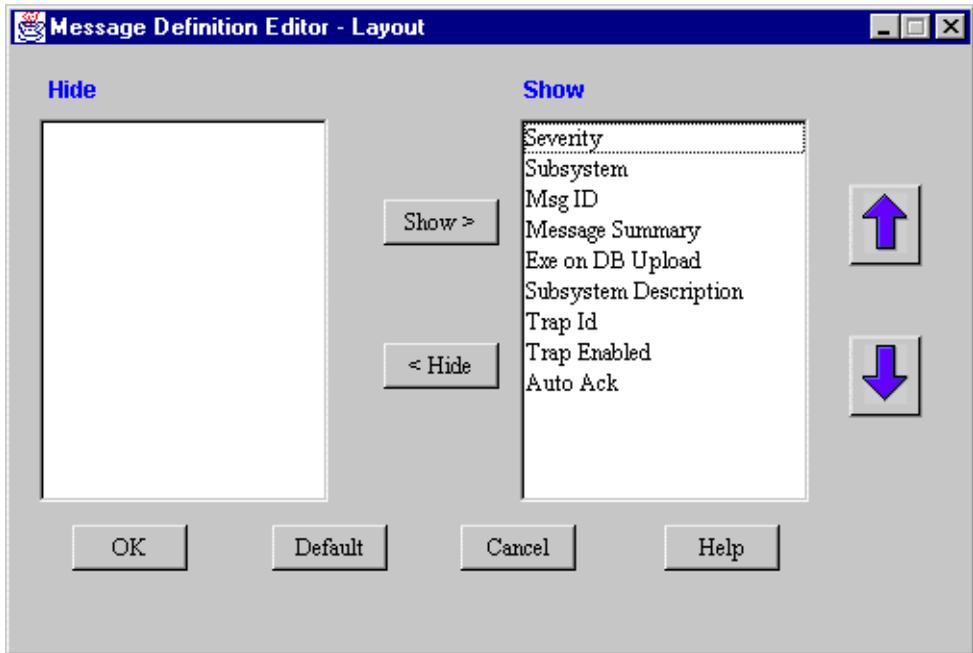
To change the message definition layout:

1. Start the Message Definition Editor:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, "Introducing the Log Central Console." For the `lc_launch` command syntax, see Appendix B, "Commands."
 - b. Click Msg Def Edit. Log Central displays the Message Definition Editor.

2. Click Layout.

The Message Definition Editor displays the Message Definition Editor Layout window.

Figure 4-2 Message Definition Editor Layout Window



3. Select the fields to show or hide.

Use the Show and Hide buttons to move selections from one list to the other.

4. Use the up and down arrows to change the order in the Show list.
5. Click OK.

Working with the Message Definition Details File Menu

The following table describes the Message Definition Details File menu.

Table 4-4 Message Definition Details File Menu

Command	Description
View to Window	Displays the message definition in a separate window. You can then copy the window content to a file.
New	Displays a new Message Definition Details window with blank fields in which you can define a new message definition. You can also enter a new message definition by displaying the Message Definition Editor and then selecting New Message Definition from the File menu.
Save	Saves your changes.
Delete	Deletes the message definition. Alternatively, you can delete message definitions by displaying the Message Definition Editor and then selecting Delete from the Edit menu.
Close	Closes the Message Definition Details window.

Displaying Message Definitions

To display message definitions:

1. Start the Message Definition Editor:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Def Edit. Log Central displays the Message Definition Editor.

2. Click Start.

The Message Definition Editor displays message definitions that satisfy the message definition filter settings you defined in the Message Definition Filter Settings window, with the most recent message definition displayed at the top of the message definition pane. For information about the message definition filter settings, see “Filtering Message Definitions.”

Filtering Message Definitions

Use the Message Definition Editor to specify filter criteria that define which message definitions to display.

To filter message definitions:

1. Start the Message Definition Editor:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Def Edit. Log Central displays the Message Definition Editor.

4 Changing Message Definitions and Subsystem Descriptions

2. Click Filter.

The Message Definition Editor displays the Message Definition Editor Filter Settings window.

Figure 4-3 Message Definition Editor Filter Settings Window

Message Definition Editor - Filter Settings

Severity:
 Information Warning Minor Major Critical

Auto Acknowledge Flag:
 Yes No All

Sort
 Ascending Ascending Ascending

Key1: Severity Key2: Subsystem Key3: Trap Id

Subsystem	Msg ID
<input type="radio"/> Show All	
<input type="radio"/> Use Include List	
<input checked="" type="radio"/> Use Exclude List	
CMDDES	WEBGUI
CMDFML	VUFORM
CMDGW	TxRPC
CMTUX	
CORBA	
EM	
GP	
LIBFML	
LIBGW	

< Selected
< All
All >
Selected >
Del Selected
Delete All

OK Cancel Default Help

3. Optionally, select the severity levels to include.
4. Select one of the Auto Acknowledge Flag buttons:
 - Yes—Display only message definitions in which Auto Acknowledge is YES.
 - No—Display only message definitions in which Auto Acknowledge is NO.
 - All—Display message definitions with either value for Auto Acknowledge.
5. Optionally, set the sort order based on message definition fields.

You can configure up to three sorts, using ascending and descending sort order. To configure a sort:

- Select or deselect Ascending. If you deselect Ascending, the Log Central Console sorts the messages in descending order. Ascending or descending order is determined by the alphabetical or numerical values in the selected message field.
 - Choose a message definition field in the Key drop-down list. Log Central sorts based on Key1 if it is set, then based on Key2 if it is set, and finally based on Key3 if it is set. The result is one list. For example, if Key1 is Summary and Key2 is Severity, Log Central sorts by summary and then by severity. The resulting list is ordered by severity, with the messages for a given severity ordered by summary.
6. Optionally, set filter criteria for the Subsystem and Message ID fields:
 - a. Select the Subsystem or Message ID tab.
 - b. Decide which of the following types of filter criteria to use for this field:
 - Include message definitions that contain any values for this field (Show All).
 - Include message definitions that contain values in the Use Include List.
 - Exclude message definitions that contain values in the Use Exclude List.In the example in the preceding figure, Log Central excludes message definitions for which the Subsystem value is WEBGUI, VUFORM, or TxRPC.
 - c. If you decided to use the Use Include List or Use Exclude List:
 - To move values from one list to the other, highlight the values and click the appropriate Selected button (Selected < or Selected >).

To move all values from one list to the other, click the appropriate All button (All < or All >).

To delete values from a list, select the values and click Del Selected. To delete all values in both lists, click Delete All.

To add a new value to a list, select the Use Include List or the Use Exclude List, enter the value in the text field above the buttons, and press Enter.

- d. Select the Show All, Use Include List, or Use Exclude List button depending on the type of filter criteria you are using.
 - e. Optionally, repeat steps a through d for other tab.
7. Click OK.

The Log Central Console preserves these Message Definition Editor filter settings until the next time that you modify them as long as you keep the Log Central Console running. Filter settings are lost when you exit the Log Central Console.

Adding a Message Definition

This procedure explains how to add one message definition. To add multiple message definitions at one time, create a message definition file and run `msgdef_import`. For information about message definition files, see Chapter 6, “Creating Message Definitions,” in the *Log Central Configuration Guide*. For the `msgdef_import` command syntax, see Appendix B, “Commands.”

To add a message definition:

1. Start the Message Definition Editor:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Def Edit. Log Central displays the Message Definition Editor.

- From the File menu, choose New Message Definition.

The Message Definition Editor displays the Message Definition Details window.

Figure 4-4 Message Definition Details Window

The screenshot shows a window titled "Message Definition Details" with a "File" menu. The window contains the following fields and controls:

- Subsystem Name:** A dropdown menu with "CMDTUX" selected.
- Message Summary:** A text box containing "Memory allocation failure".
- Execute on DB Upload:** An empty text box.
- Severity:** A dropdown menu with "Critical" selected.
- Auto Ack:** A dropdown menu with "No" selected.
- Message ID:** A text box containing "163".
- Trap ID:** An empty text box.
- Trap Enabled:** A dropdown menu with "No" selected.
- Description:** A text area containing the text: "An attempt to dynamically allocate memory from the operating system using malloc() failed while setting up storage to keep track of LMID names."
- Recommendation:** A text area containing the text: "Ensure that the operating system parameters are set correctly for the amount of memory on the machine and the amount of memory that can be used by a process. Reduce the memory usage on the machine or increase the amount of physical memory on the machine."
- Buttons:** "Save", "Cancel", and "Help" buttons are located at the bottom of the window.

3. Enter values in the fields.

For a description of the message definition fields, see Appendix A, “Log Central Message and Message Definition Formats.”

For information about the File menu in the Message Definition Details window, see “Working with the Message Definition Details File Menu.”

4. Click Add.

Changing a Message Definition

To modify a message definition:

1. Start the Message Definition Editor:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Def Edit. Log Central displays the Message Definition Editor.

2. Double-click on the message definition to modify.

The Message Definition Editor displays the Message Definition Details window.

Figure 4-5 Message Definition Details Window

The screenshot shows a window titled "Message Definition Details" with a menu bar containing "File". The window is divided into several sections:

- Subsystem Name:** A dropdown menu showing "CMDTUX -".
- Message Summary:** A text field containing "Memory allocation failure".
- Execute on DB Upload:** An empty text field.
- Severity:** A dropdown menu showing "Critical".
- Auto Ack:** A dropdown menu showing "No".
- Message ID:** A text field containing "163".
- Trap ID:** An empty text field.
- Trap Enabled:** A dropdown menu showing "No".
- Description:** A text area containing the text: "An attempt to dynamically allocate memory from the operating system using malloc() failed while setting up storage to keep track of LMID names."
- Recommendation:** A text area containing the text: "Ensure that the operating system parameters are set correctly for the amount of memory on the machine and the amount of memory that can be used by a process. Reduce the memory usage on the machine or increase the amount of physical memory on the machine."
- Buttons:** Three buttons labeled "Save", "Cancel", and "Help" are located at the bottom of the window.

3. Modify the values.

For a description of the message definition fields, see Appendix A, “Log Central Message and Message Definition Formats.”

For information about the File menu in the Message Definition Details window, see the earlier section “Working with the Message Definition Details File Menu.”

4. Click Save.

Deleting Message Definitions

To delete message definitions:

1. Start the Message Definition Editor:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Def Edit. Log Central displays the Message Definition Editor.
2. If you are not going to delete all message definitions, select the message definitions to delete.
3. From the Edit menu, choose Delete.

A submenu lets you delete the selected message definitions or all message definitions.

Changing a Subsystem Description

Note: You create a subsystem description when you use the `subsystem_create` command to create a subsystem. You delete a subsystem description when you use the `subsystem_delete` command to delete a subsystem. For information about these commands, see Appendix B, “Commands.”

To change a subsystem description:

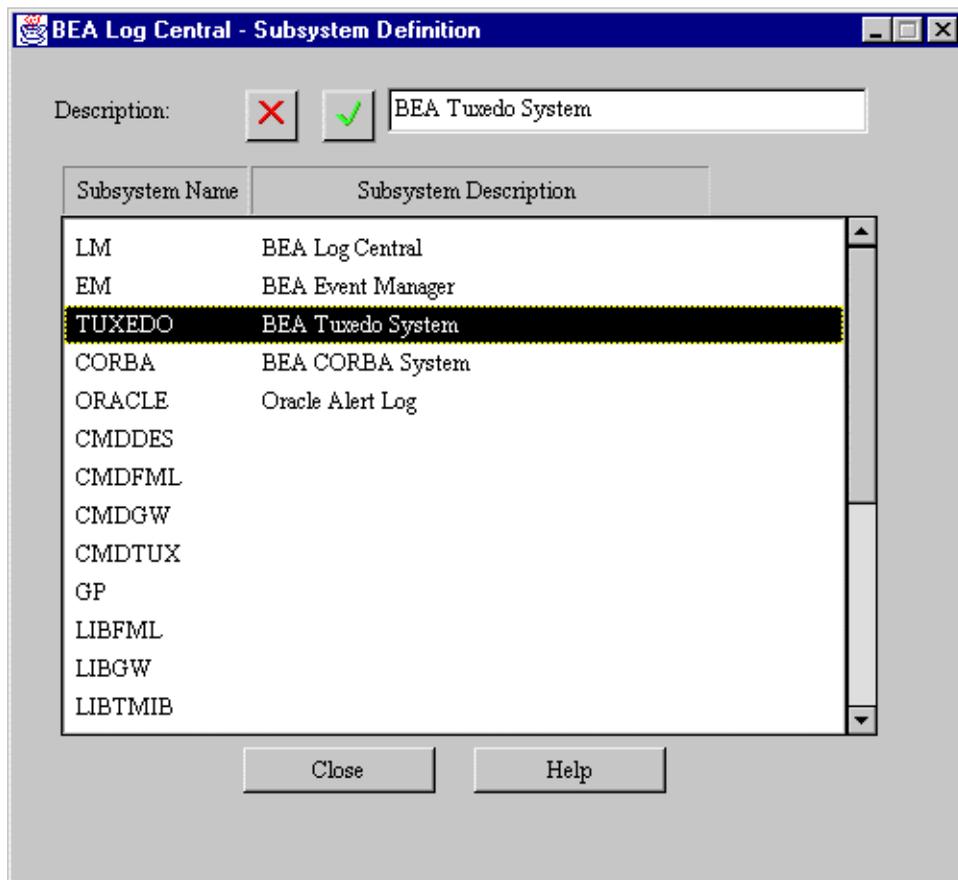
1. Start the Message Definition Editor:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Msg Def Edit. Log Central displays the Message Definition Editor.

4 Changing Message Definitions and Subsystem Descriptions

2. From the Edit menu, choose Subsystem Definition.

The Message Definition Editor displays the Subsystem Definition window.

Figure 4-6 Subsystem Definition Window



3. Select the subsystem to change.
4. Enter the new description in the Description field.
5. To save the change, select the green checkmark. To undo the change, select the red X.
6. Click Close.

5 Generating Reports

The following sections explain how to generate reports:

- Generating a Message Report
- Generating a Message Definition Report

Generating a Message Report

To generate a message report:

1. Set the message filtering criteria. For information, see “Filtering Log Messages” in Chapter 3, “Managing Log Messages.”
2. Query the database. For information, see “Querying the Database” in Chapter 3, “Managing Log Messages.”
3. From the File menu, choose Reports.

A submenu lets you generate a summary report or a detail report:

- Summary report—groups messages by subsystem and presents the message totals for each severity level and log level.
- Detail report—provides most of the message fields for each message.

The generated report is an HTML file that Log Central creates in `install_dir/web/applet`, where `install_dir` is the directory where you installed Log Central. To view this file, you need a Web browser that the Log Central Console can access. To specify a Web browser, use the `-b` option when you start the Log Central Console. For more information, see the description of the `lc_launch` command in Appendix B, “Commands.”

Generating a Message Definition Report

To generate a message definition report:

1. Set the message definition filtering criteria. For information, see “Filtering Message Definitions” in Chapter 4, “Changing Message Definitions and Subsystem Descriptions.”
2. Click Start.
3. From the File menu, choose Reports.

A submenu lets you generate a summary report or a detail report:

- Summary report—groups message definitions by subsystem and presents the message definition totals for each severity level and log level.
- Detail report—provides most of the fields for each message definitions.

The generated report is an HTML file that Log Central creates in *install_dir/web/applet*, where *install_dir* is the directory where you installed Log Central. To view this file, you need a Web browser that the Log Central Console can access. To specify a Web browser, use the `-b` option when you start the Log Central Console. For more information, see the description of the `lc_launch` command in Appendix B, “Commands.”

6 Configuring SNMP Traps

You use the Basic Trap Configuration tool in the Log Central Console to configure basic SNMP traps, which are generated by the Central Collector. For information about SNMP traps and to set up SNMP management, see Chapter 8, “Integrating SNMP,” in the *Log Central Configuration Guide*. To configure advanced traps, see Chapter 7, “Creating Filters,” in the *Log Central Configuration Guide*.

To configure a basic SNMP trap:

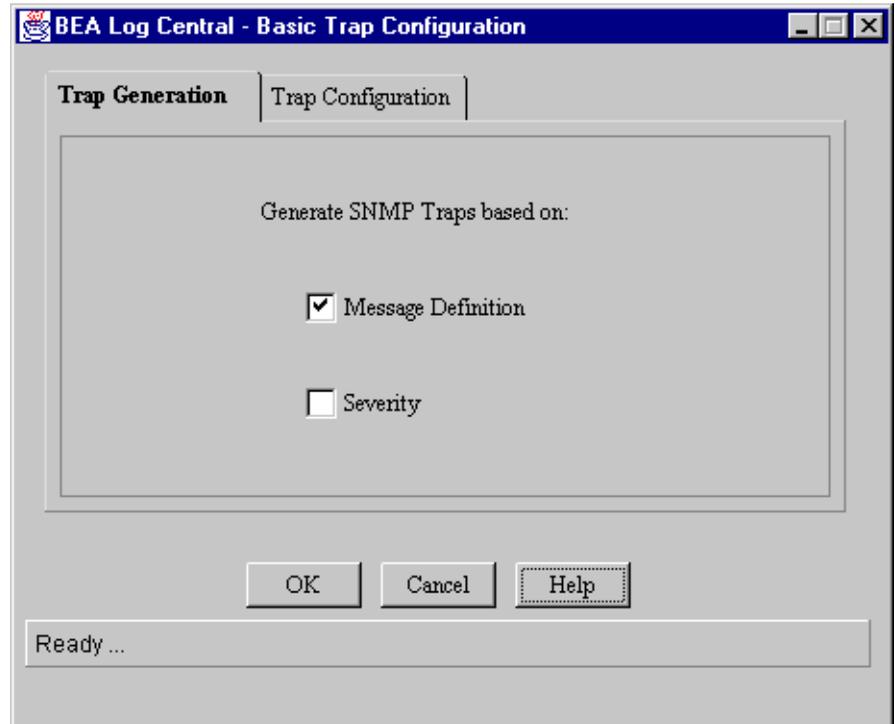
1. Start the Log Central Console by running `lc_launch` on the central host.

For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”

2. Click Basic Trap.

The Log Central Console displays the Basic Trap Configuration tool.

Figure 6-1 Basic Trap Configuration Tool



3. Select the Trap Generation tab.
4. Select Message Definition or Severity or both.

If you enable trap generation based on message definition, the Central Collector generates a trap for an incoming message if the Trap Enabled field in the associated message definition is `YES`. The Trap ID in the message definition specifies the trap number that is generated. For descriptions of the Trap Enabled and Trap ID fields, see Appendix A, “Log Central Message and Message Definition Formats.”

If you enable trap generation based on severity, the Central Collector generates a trap for an incoming message if the message meets the trap configuration criteria as described in the next step.

5. If you enabled traps based on severity:
 - a. Select the Trap Configuration tab.

Figure 6-2 Trap Configuration Tab



- b. Select which severities will generate traps.
- c. If traps are not also enabled based on message definitions, enter a trap number for each selected severity in the ID of Resulting Trap field.

By default, the Trap Configuration tab displays the trap IDs described in Appendix C, “SNMP Traps.” You can change these values in the tab.

Note: If you enabled traps based on message definitions, the Central Collector uses the message definition’s Trap ID field as the trap number even if the trap is generated based on severity.

6. Click OK.

7 Managing the Database and Intermediate Files

The following sections describe how to manage the Log Central database and the Central Collector intermediate files:

- Working with the Storage Maintenance Tool
- Deleting Database Records
- Deleting Intermediate Files
- Creating a Processing Script
- Processing Records on a One-Time Basis
- Processing Records and Files on a Schedule

Working with the Storage Maintenance Tool

The Storage Maintenance tool enables you to delete and to execute processing scripts for database records and intermediate files.

The following sections explain how to use the Storage Maintenance tool:

- Starting the Storage Maintenance Tool
- Main Components of the Storage Maintenance Tool
- Storage Maintenance Tool Toolbar
- Storage Maintenance Tool Menus

Starting the Storage Maintenance Tool

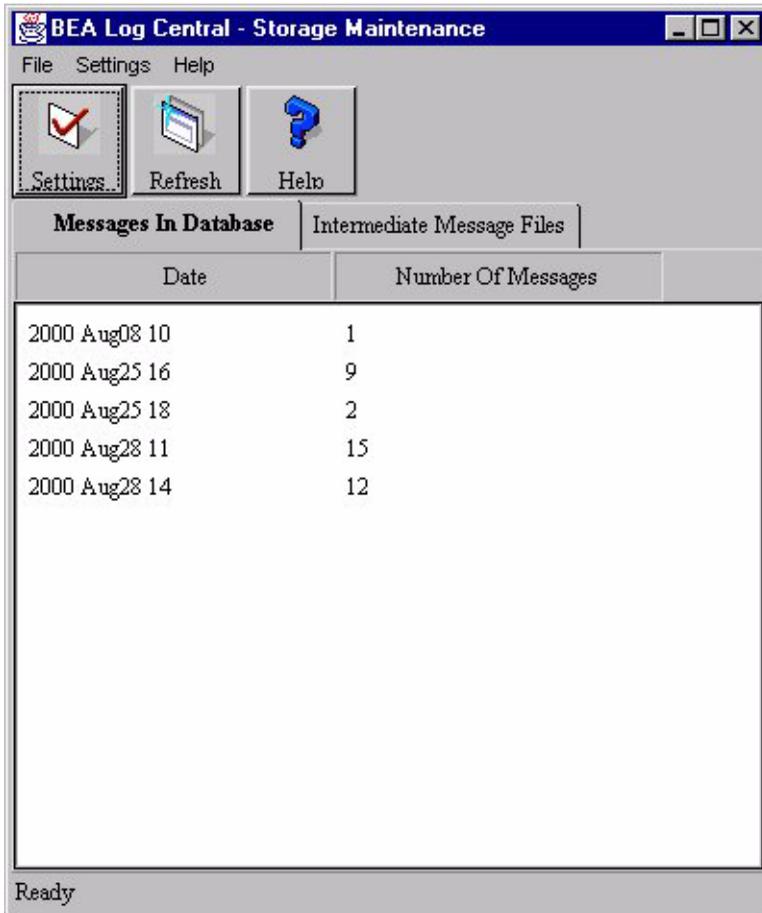
To start the Storage Maintenance tool:

1. Start the Log Central Console by running `lc_launch` on the central host.

For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”

2. Click Storage Maint. Log Central displays the Storage Maintenance tool.

Figure 7-1 Storage Maintenance Tool



Main Components of the Storage Maintenance Tool

The following table describes the main components of the Storage Maintenance tool.

Table 7-1 Main Components of the Storage Maintenance Tool

Component	Description
Menu bar	Provides the menus for the Storage Maintenance tool. For more information, see “Storage Maintenance Tool Menus.”
Toolbar	Provides access to frequently used actions. For more information, see “Storage Maintenance Tool Toolbar.”
Message Tabs	The Messages in Database tab displays the number of messages delivered to the database during each hour of the day. The Intermediate Message Files tab displays the names of the Central Collector’s intermediate files.

Storage Maintenance Tool Toolbar

The following table describes the Storage Maintenance tool toolbar.

Table 7-2 Storage Maintenance Tool Toolbar

Button	Action
	<p>Displays the Operations Settings window. This window enables you to:</p> <ul style="list-style-type: none"> ■ Delete database records. See “Deleting Database Records.” ■ Delete intermediate files. “Deleting Intermediate Files.” ■ Configure a schedule for processing database records and intermediate files. “Processing Records and Files on a Schedule.” <p>You can also use the Operations command in the Settings menu to display the Operations Settings window.</p>
	<p>Refreshes the display to show the current database records and intermediate files.</p>

Table 7-2 Storage Maintenance Tool Toolbar

Button	Action
	Displays the Log Central Online Help. You can also use the commands in the Help menu to display the Log Central Online Help.

Storage Maintenance Tool Menus

The following table describes the Message Browser menus.

Table 7-3 Storage Maintenance Tool Menus

Menu	Commands
File	<p><i>Process Records</i>—Executes the <code>process_dbrec</code> script for the selected database records. This command is available only if the Messages in Database tab is selected. For more information about <code>process_dbrec</code>, see “Creating a Processing Script.”</p> <p><i>Delete</i>—Deletes the selected database records and intermediate files. You can delete an intermediate file only after all the associated messages have been uploaded to the Log Central database.</p> <p><i>Close</i>—Exits the Storage Maintenance tool.</p>
Settings	<p><i>Operations</i>—Displays the Operations Settings window. This window enables you to:</p> <ul style="list-style-type: none"> ■ Delete database records. See “Deleting Database Records.” ■ Delete intermediate files. See “Deleting Intermediate Files.” ■ Configure a schedule for processing database records and intermediate files. See “Processing Records and Files on a Schedule.” <p>You can also use the Settings button in the toolbar to display the Operations Settings window.</p>
Help	Displays the Log Central Online Help for various Storage Maintenance tool help topics. You can also use the Help button in the toolbar to display the Log Central Online Help.

Deleting Database Records

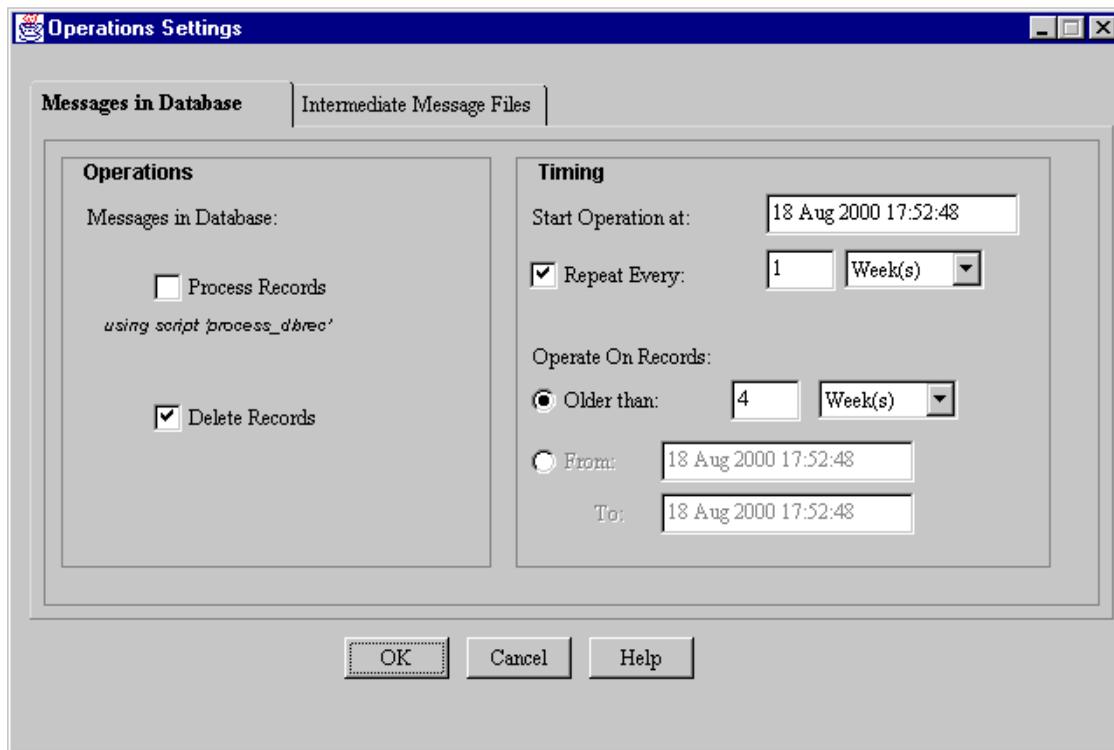
To schedule the deletion of database records:

1. Start the Storage Maintenance tool:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Storage Maint. Log Central displays the Storage Maintenance tool.

2. Click Settings.

The Storage Maintenance tool displays the Operations Settings window.

Figure 7-2 Operations Settings Window



3. Select the Messages in Database tab.
4. Select the Delete Records checkbox.
5. Set the start time for the deletion.
6. Specify how often to repeat the deletion.

To perform the deletion only once, deselect the Repeat Every checkbox.

7. Specify which records to delete.

You can instruct Log Central to delete records based on age or based on a range of dates.

8. Click OK.

Deleting Intermediate Files

Log Central deletes intermediate files only after all their messages have been stored in the database.

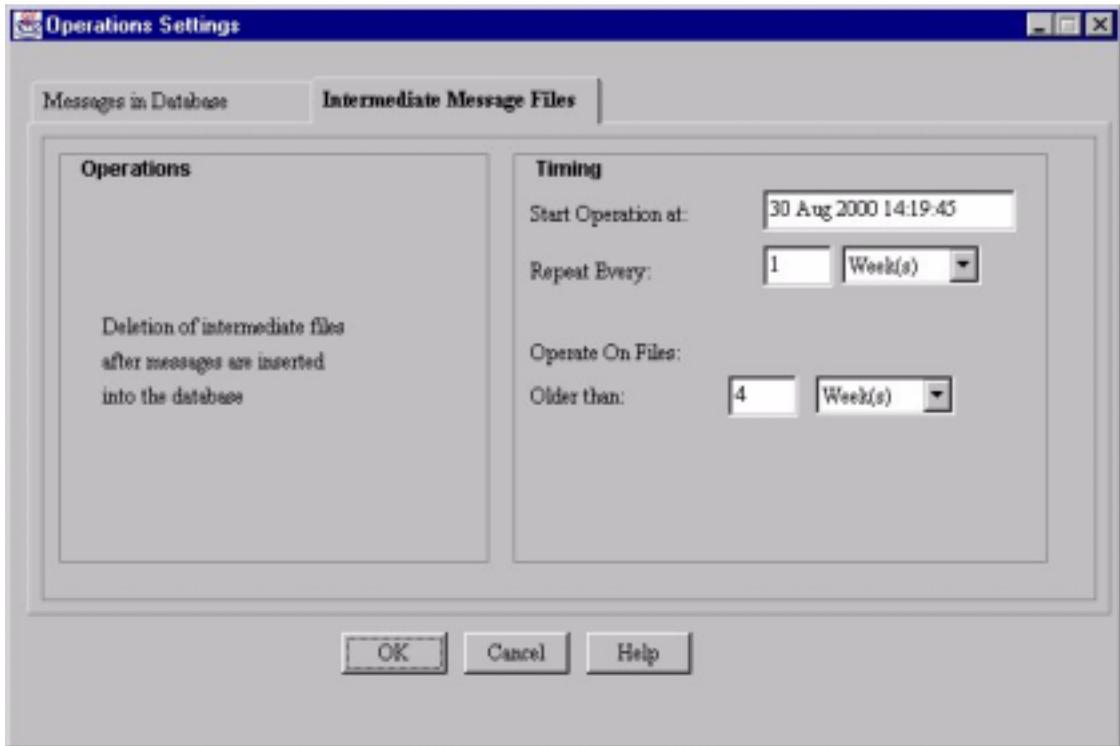
To schedule the deletion of intermediate files:

1. Start the Storage Maintenance tool:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Storage Maint. Log Central displays the Storage Maintenance tool.

2. Click Settings.

The Storage Maintenance tool displays the Operations Settings window.

Figure 7-3 Operations Settings Window



3. Select the Intermediate Message Files tab.
4. Set the start time for the deletion.
5. Specify how often to repeat the deletion.
6. Set the age of the files to delete.
7. Click OK.

Creating a Processing Script

Log Central can execute a script on its intermediate files and on messages in the database. Log Central provides the `process_dbrec` script as a sample file. The file is a shell script on UNIX machines or a batch file on Windows NT. The file includes comments that describe how to use it. The script does not do anything as shipped. The Storage Maintenance tool lets you specify how frequently to run the script. You can also run the script one time by using the Process Records command in the File menu. See “Processing Records on a One-Time Basis.”

Some of the things you can modify the script to do include:

- Generating an email message that lists which messages were deleted and the date and time of the deletion
- Copying the archive file to a tape
- Using an SQL statement to move records to a different table in the Log Central database

The script uses the following syntax:

```
process_dbrec starttime endtime
```

The following table describes the input arguments.

Table 7-4 Input Arguments for `process_dbrec`

Argument	Description
<i>starttime</i>	The time to start running the script. A value of 0 specifies to process all records before <i>endtime</i> .
<i>endtime</i>	The time to quit running the script.

Your script can use these arguments as needed. To set these arguments, set the From and To fields in the Message in Database tab in the Operations Settings window.

Do not put any commands in the script, such as `echo`, that write to the standard output terminal. The standard output terminal is not available in this context.

Log Central expects the script to return -1 if there is an error or 0 if it runs successfully. Records are deleted only after the script runs successfully, even if you selected the Delete Records option.

To create a processing script:

1. With a text editor, open the file *install_dir/bin/process_dbrec.bat* (NT) or *install_dir/bin/process_dbrec* (UNIX), where *install_dir* is the directory where you installed Log Central.
2. Modify the script.
3. Save the script.

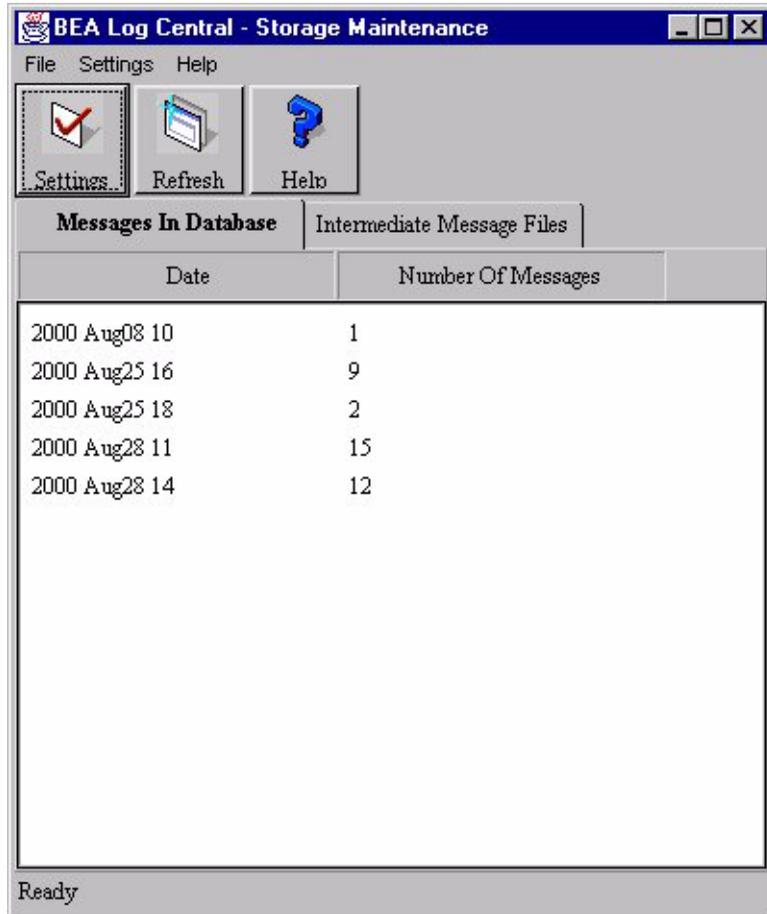
Processing Records on a One-Time Basis

You can run the processing script on selected database records on a “one shot” basis. This operation is not valid for intermediate files.

To run the processing script one time:

1. Create a processing script as described in “Creating a Processing Script.”
2. Start the Storage Maintenance tool:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Storage Maint. Log Central displays the Storage Maintenance tool.
3. Select the Messages in Database tab.

Figure 7-4 Messages in Database Tab



4. Select the records to process.
5. From the File menu, choose Process Records.

Processing Records and Files on a Schedule

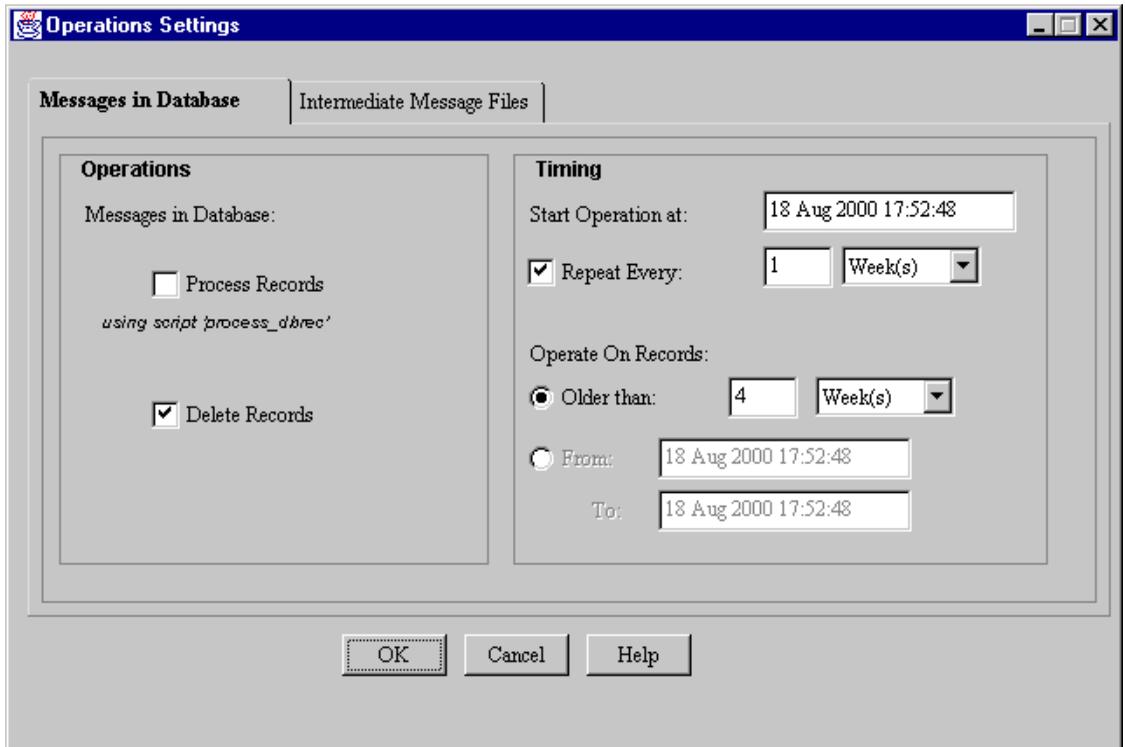
To schedule the processing script:

1. Create a processing script as described in “Creating a Processing Script.”
2. Start the Storage Maintenance tool:
 - a. Start the Log Central Console by running `lc_launch` on the central host.
For detailed information about starting the Console, see Chapter 2, “Introducing the Log Central Console.” For the `lc_launch` command syntax, see Appendix B, “Commands.”
 - b. Click Storage Maint. Log Central displays the Storage Maintenance tool.

3. Click Settings.

The Storage Maintenance tool displays the Operations Settings window.

Figure 7-5 Operations Settings Window



4. Select the Messages in Database tab.
5. Select the Process Records checkbox.
6. Optionally, select the Delete Records checkbox.

Log Central will delete database records after running the script. Log Central deletes intermediate files only after all their messages have been stored in the database.

7. Set the start time for the script.

8. Specify how often to run the script.

To run the script only once, deselect the Repeat Every checkbox.

9. Specify which records to run the script on.

You can tell Log Central to run the script on records based on age or based on a range of dates.

10. Click OK.

8 Testing and Debugging

Use the following commands to test and debug Log Central:

- `msg_test`, which generates test messages.
- `msg_reader`, which displays the current intermediate log file.
- `show_config`, which checks the syntax of the messaging configuration file or displays information about Log Central.

For more information about these commands, see Appendix B, “Commands.”

A Log Central Message and Message Definition Formats

A Log Central message consists of a message header and a message body. A message definition is associated with a message based on the message ID and subsystem values in the message header. The following sections provide detailed descriptions of the Log Central message and message definition formats:

- Example of a Log Central Message and Message Definition
- Message Header
 - Log ID
 - Logging Level
 - Date and Time
 - Subsystem
 - Message ID
 - Host
 - Process ID
 - User ID
 - Function
 - Entity
- Message Body
- Message Definition
 - Summary
 - Severity
 - Description

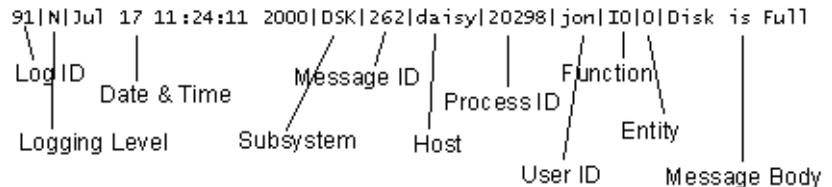
- Recommendation
- Execute on Upload
- Trap ID
- Trap Enabled
- Auto Acknowledge

For information about how Log Central constructs a log message, see “Construction of Log Messages” in Chapter 1, “Overview.”

Example of a Log Central Message and Message Definition

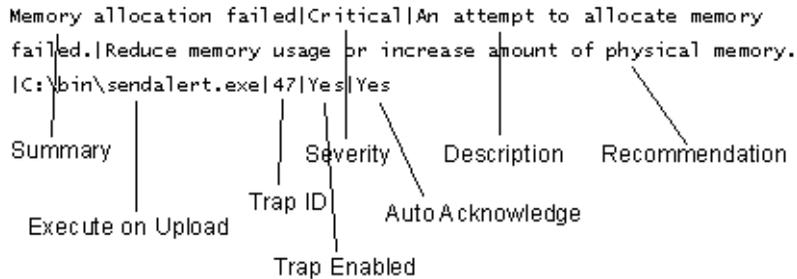
The following figure shows the fields that are in a Log Central message.

Figure A-1 Log Central Message Fields



The following figure shows the fields that are in a Log Central message definition.

Figure A-2 Log Central Message Definition Fields



Message Header

The following sections describe the fields in a message header:

- Log ID
- Logging Level
- Date and Time
- Subsystem
- Message ID
- Host
- Process ID
- User ID
- Function
- Entity

For more information about message headers, see “IL_SM_LOG_TABLE: Message Header” in Appendix E, “Database Schema,” in the *Log Central Configuration Guide*.

Log ID

Description:	Value that distinguishes one set of log messages from another, which lets logically separate log information be stored in one database. For example, the log IDs <code>IRX</code> and <code>DCS</code> might distinguish messages logged by a drug claim system from those logged by a document control system.
Format:	String
Size:	Up to 3 characters
Optional?:	Optional
Corresponding Field:	In the <code>IL_SM_LOG_TABLE</code> database table: <code>MSG_LOG_ID</code>

Logging Level

Description:	Logging level
Format:	Character
Size:	1 character
Range:	Possible values: <ul style="list-style-type: none">■ <code>N</code> = Normal message■ <code>D</code> = Debug message■ <code>V</code> = Verbose message■ <code>S</code> = Special message
Optional?:	Not optional
Corresponding Field:	In the <code>IL_SM_LOG_TABLE</code> database table: <code>MSG_REP_MODE</code>

Date and Time

Description:	Month, day, hour, minute, second, and year on the machine that generated the message.
Format:	Mmm dd hh:mm:ss yyyy
Optional?:	Not optional
Corresponding Field:	In the IL_SM_LOG_TABLE database table: MSG_KEY_TS

Subsystem

Description:	Subsystem that generated the message. The <code>subsystem_create</code> and <code>subsystem_delete</code> commands, which are described in Appendix B, “Commands,” let you add and delete subsystems.
Format:	String
Size:	Up to 8 characters
Optional?:	Not optional. In a message definition file, this field must be in the first definition, and is optional for the succeeding definitions.
Corresponding Field:	In the IL_SM_LOG_TABLE database table: MSG_SS_NAME

Message ID

Description:	Identifies the type of message within a subsystem. Together, the Subsystem and Message ID uniquely identify a message.
Format:	Integer
Range:	1 through 99999
	The convention for message ID values is:
	<ul style="list-style-type: none">■ 1 through 49999 = Activity and error messages defined by application developers■ 50000 through 89999 = Reserved for future use■ 90000 = Startup message■ 90001 = Shutdown message■ 90002 = Transaction processing message■ 90100 = Transaction processing message (NCPDP)■ 90201 through 99999 = Reserved for future use
Optional?:	Not optional
Corresponding Field:	In the IL_SM_LOG_TABLE database table: MSG_ID

Host

Description:	Network host for the system that generated the message. This value can include dots, underscores, and dashes.
Format:	String
Size:	Up to 64 characters

Optional?: Not optional
Corresponding Field: In the IL_SM_LOG_TABLE database table:
MSG_HOST_NAME

Process ID

Description: PID of the process that generated the message.
Format: Integer
Range: 1 through 99999
Optional?: Not optional
Corresponding Field: In the IL_SM_LOG_TABLE database table: MSG_PID

User ID

Description: User ID of the process that generated the message.
Format: String
Size: Up to 8 characters
Optional?: Not optional
Corresponding Field: In the IL_SM_LOG_TABLE database table: MSG_UID

Function

Description:	Internal function that generated the message. The convention for function values is: <ul style="list-style-type: none">■ Function name if logged by a library function■ Process name if logged by a main process function
Format:	String
Size:	Up to 40 characters
Optional?:	Optional
Corresponding Field:	In the IL_SM_LOG_TABLE database table: MSG_FCT_NAME

Entity

Description:	<p>Value that helps correlate a message with messages from other managed nodes. You can use this value to define a domain. The domain can be a Tuxedo domain or WebLogic Enterprise domain, but is not required to be one of these types of domains. The default value is “None.”</p> <p>For example, if a system has three managed nodes and each managed node has a Log Monitor with an entity name of LogMonWLE, these Log Monitors constitute a domain.</p> <p>For another example, if you have a Tuxedo domain for sales information, you can set the entity name to “Sales” for each Log Monitor in the domain.</p> <p>For information about setting and using the entity value, see Chapter 7, “Creating Filters,” and the section “DEFINE_LOG_MONITOR” in Appendix G, “Configuration Files.”</p>
--------------	--

Format:	String
Size:	Up to 21 characters
Optional?:	Optional
Corresponding Field:	In the IL_SM_LOG_TABLE database table: MSG_TRAN_KEY

Message Body

Description:	Text determined by the application developer.
Format:	String
Size:	Up to 2000 characters
Optional?:	Not optional
Corresponding Field:	In the IL_SM_LOG_TABLE database table: MSG_TEXT

Message Definition

The following sections describe the fields in a message definition:

- Summary
- Severity
- Description
- Recommendation
- Execute on Upload
- Trap ID

- Trap Enabled
- Auto Acknowledge

For more information about message definitions, see:

- Chapter 6, “Creating Message Definitions,” in the *Log Central Configuration Guide*.
- “IL_MSG: Message Definition” in Appendix E, “Database Schema,” in the *Log Central Configuration Guide*.
- Chapter 4, “Changing Message Definitions and Subsystem Descriptions.”

Summary

Description:	Summary of the “Description” field which describes the condition or event that the message is reporting.
Format:	String
Size:	Up to 40 characters
Optional?:	Not optional
Corresponding Fields:	In a message definition file: SUMMARY In the IL_MSG database table: LOG_SDESC

Severity

Description:	<p>Possible values:</p> <ul style="list-style-type: none"> ■ <code>Informational</code> = Activity message. ■ <code>Warning</code> = Problem that does not need immediate attention. ■ <code>Minor</code> = Performance or service degradation may result. ■ <code>Major</code> = Problem that needs immediate attention, or the system performance may deteriorate. ■ <code>Critical</code> = Problem that need immediate attention, or the system may crash.
Format:	String
Size:	N/A
Optional?:	Not optional. In a message definition file, this field must be in the first definition, and is optional for the succeeding definitions.
Corresponding Fields:	<p>In a message definition file: <code>SEVERITY</code></p> <p>In the <code>IL_MSG</code> database table: <code>LOG_MSG_SEVERITY</code></p>

Description

Description:	Description of the condition or event that the message is reporting.
Format:	String
Size:	With the Recommendation field, up to 2 Gb.

Optional?:	Optional
Corresponding Fields:	In a message definition file: DESCRIPTION In the IL_MSG database table: LOG_MSG_DESC_REC

Recommendation

Description:	Recommended action for handling the message.
Format:	String
Size:	With the Description field, up to 2 Gb.
Optional?:	Optional
Corresponding Fields:	In a message definition file: RECOMMENDATAION In the IL_MSG database table: LOG_MSG_DESC_REC

Execute on Upload

Description:	Path to a script or executable file that the Central Collector runs when it stores the message in the Log Central database.
Format:	String
Size:	Up to 40 characters
Optional?:	Optional
Corresponding Fields:	In a message definition file: EXECUTE_ON_UPLOAD In the IL_MSG database table: LOG_MSG_PARSE_FNC

Trap ID

Description:	Basic SNMP trap to generate for the message. For information about generating basic SNMP traps, see “Configuring SNMP Traps” in the Log Central Online Help.
Format:	Integer
Range:	1 through 99999
Optional?:	Optional
Corresponding Fields:	In a message definition file: TRAP_ID In the IL_MSG database table: LOG_MSG_TRAP_ID

Trap Enabled

Description:	Flag that indicates whether or not to generate a basic SNMP trap for the message. For information about generating basic SNMP traps, see “Configuring SNMP Traps” in the Log Central Online Help.
Format:	String
Range:	YES NO (default)
Optional?:	Optional
Corresponding Fields:	In a message definition file: TRAP_ENABLED In the IL_MSG database table: LOG_MSG_TRAP_ENABLED

Auto Acknowledge

Description:	Flag that indicates whether or not to automatically acknowledge the message. One reason to acknowledge messages is to keep track of the system problems that are currently being resolved or actively investigated.
Format:	String
Range:	YES NO (default)
Optional?:	Optional
Corresponding Fields:	In a message definition file: AUTO_ACKNOWLEDGE In the IL_MSG database table: LOG_MSG_AUTO_ACK

B Commands

The following table provides an overview of the Log Central commands. The rest of this appendix describes each command in detail.

Table B-1 Commands

Command	Description
lc_config	Runs the Host Configuration utility
lc_create_schema	Creates a database schema
lc_drop_schema	Drops a database schema
lc_launch	Starts the Log Central Console
lc_user_create	Creates a user in the database
lc_user_delete	Deletes a user from the database
lc_user_modify	Changes a user's password in the database
lc_user_list	Lists all the users in the database
log_monitor	Starts a Log Monitor
msgdef_delete	Deletes message definitions from the database
msgdef_export	Copies message definitions from the database to a text file
msgdef_import	Loads a message definition file into the database
msg_reader	Displays the current intermediate log file
msg_test	Generates test messages

B Commands

Table B-1 Commands

Command	Description
<code>show_config</code>	Checks the syntax of the messaging configuration file or displays information about Log Central
<code>start_messaging</code>	Starts the Log Central processes
<code>stop_messaging</code>	Stops the Log Central processes
<code>subsystem_create</code>	Creates a subsystem in the database
<code>subsystem_delete</code>	Deletes a subsystem from the database

lc_config

Summary: Runs the Host Configuration utility. Run this command before starting Log Central.

Syntax: `lc_config [-infile initialization_file] [-conffile configuration_file] [-fn fontname] [-fs fontsize] [-h]`

Options and Arguments:	<p><code>-infile <i>initialization_file</i></code> Path for the initialization file to create. The default is <code>install_dir/etc/msg_processor.ini</code>, where <code>install_dir</code> is the directory where you installed Log Central. If you use a nondefault value, you need to set <code>INIFILE</code> in the messaging configuration file. For a description of the initialization file, see Appendix F, “Initialization File,” in the <i>Log Central Configuration Guide</i>. For a description of the messaging configuration file, see Appendix G, “Configuration Files,” in the <i>Log Central Configuration Guide</i>.</p> <p><code>-conffile <i>configuration_file</i></code> Path for the messaging configuration file to create. The default is <code>install_dir/etc/messaging.conf</code>, where <code>install_dir</code> is the directory where you installed Log Central. If you use a nondefault location, set the <code>BEA_LC_HOST_CONF</code> environment variable. For a description of the messaging configuration file, see Appendix G, “Configuration Files,” in the <i>Log Central Configuration Guide</i>. For a description of <code>BEA_LC_HOST_CONF</code>, see Appendix C, “Environment Variables,” in the <i>Log Central Configuration Guide</i>.</p> <p><code>-fn <i>fontname</i></code> Name of the font to use in the Host Configuration utility.</p> <p><code>-fs <i>fontsize</i></code> Size of the font to use in the Host Configuration utility.</p> <p><code>-h</code> Displays help information about the command.</p>
Description:	<p>This command runs the Log Central Host Configuration utility, which creates the initialization file and the messaging configuration file. For more information, see Chapter 3, “Configuring the Central Host,” in the <i>Log Central Configuration Guide</i>.</p>

lc_create_schema

Summary:	Creates a database schema. Run this command before starting Log Central.
Syntax:	<code>lc_create_schema [-inifile <i>inifilename</i>] [-h]</code>
Options and Arguments:	<code>-inifile <i>inifilename</i></code> Path for the initialization file. The default is <code>install_dir/etc/msg_processor.ini</code> , where <code>install_dir</code> is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, “Initialization File,” in the <i>Log Central Configuration Guide</i> . <code>-h</code> Displays help information about the command.
Description:	This command creates the database table definitions that Log Central uses to store messages and message definitions. For a description of these tables, see Appendix E, “Database Schema,” in the <i>Log Central Configuration Guide</i> . If an error occurs or if <code>lc_create_schema</code> aborts, run <code>lc_drop_schema</code> to clean up files that may have been created, try to correct the problem, and recreate the schema.

lc_drop_schema

Summary:	Drops a database schema. Run this command before starting Log Central.
Syntax:	<code>lc_drop_schema [-inifile <i>inifilename</i>] [-h]</code>

Options and Arguments:	<p><code>-infile <i>inifilename</i></code> Path for the initialization file. The default is <code>install_dir/etc/msg_processor.ini</code>, where <code>install_dir</code> is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, “Initialization File,” in the <i>Log Central Configuration Guide</i>.</p> <p><code>-h</code> Displays help information about the command.</p>
Description:	<p>This command drops the Log Central database schema.</p> <p>If <code>lc_create_schema</code> aborts, you need to call <code>lc_drop_schema</code> before calling <code>lc_create_schema</code> again. Ignore all error messages that <code>lc_drop_schema</code> generates because it may try to drop tables and synonyms that were not created. You might also run <code>lc_drop_schema</code> before reinstalling Log Central.</p> <p>For a description of the database schema, see Appendix E, “Database Schema,” in the <i>Log Central Configuration Guide</i>.</p>

lc_launch

Summary:	Starts the Log Central Console.
Syntax:	<code>lc_launch [-p <i>port</i>] [-h <i>central_host</i>] [-n <i>msgs</i>] [-fn <i>fontname</i>] [-fs <i>fontsize</i>] [-b <i>browser</i>] [-h]</code>

Options and Arguments:	<p><code>-p <i>port</i></code> Message Processor's port number. The default is 7001.</p> <p><code>-h <i>central_host</i></code> Name of the machine that the Central Collector is running on. If you do not provide this value, the machine on which you are running this command is considered to be the central host.</p> <p><code>-n <i>msgs</i></code> Maximum number of messages or message definitions to display. The default is 1000.</p> <p><code>-fn <i>fontname</i></code> Name of the font for displaying text in the Log Central Console. The default is Times Roman.</p> <p><code>-fs <i>fontsize</i></code> Size of the font for displaying text in the Log Central Console. The default is 12 points.</p> <p><code>-b <i>browser</i></code> Web browser for displaying the Log Central Online Help. Use the name of an executable that is available in the current PATH, or provide a complete pathname. The default is Netscape Navigator.</p> <p><code>-h</code> Displays help information about the command.</p>
Description:	This command starts the Log Central Console. For information about the Console, see the Log Central Online Help.

lc_user_create

Summary:	Creates a user in the database. You can run this command while Log Central is running.
Syntax:	<code>lc_user_create -u <i>username</i> -p <i>password</i> [-infile <i>infile</i>] [-h]</code>

Options and Arguments:

- u *username*
Name of the user to create. This value can be up to 10 characters and can contain any alphanumeric character, including a hyphen or underscore.
- p *password*
User password. This value can be up to 10 characters and can contain any printable ASCII character.
- infile *inifilename*
Path for the initialization file. The default is *install_dir/etc/msg_processor.ini*, where *install_dir* is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, “Initialization File,” in the *Log Central Configuration Guide*.
- h
Displays help information about the command.

Description: This command creates a new user in the Log Central database.

lc_user_delete

Summary: Deletes a user from the database. You can run this command while Log Central is running.

Syntax: `lc_user_delete -u username -p password [-infile inifilename] [-h]`

B Commands

Options and Arguments:	<p><code>-u <i>username</i></code> Name of the user to delete.</p> <p><code>-p <i>password</i></code> Password of the user to delete.</p> <p><code>-infile <i>inifilename</i></code> Path for the initialization file. The default is <code>install_dir/etc/msg_processor.ini</code>, where <code>install_dir</code> is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, “Initialization File,” in the <i>Log Central Configuration Guide</i>.</p> <p><code>-h</code> Displays help information about the command.</p>
Description:	This command deleted a user from the Log Central database.

lc_user_modify

Summary:	Changes a user’s password in the database. You can run this command while Log Central is running.
Syntax:	<code>lc_user_modify -u <i>username</i> -p <i>oldpassword</i> -n <i>newpassword</i> [-infile <i>inifilename</i>] [-h]</code>

Options and Arguments:	<p><code>-u <i>username</i></code> Name of the user.</p> <p><code>-p <i>oldpassword</i></code> User's current password.</p> <p><code>-n <i>newpassword</i></code> User's new password. This value can be up to 10 characters and can contain any printable ASCII character.</p> <p><code>-infile <i>inifilename</i></code> Path for the initialization file. The default is <code>install_dir/etc/msg_processor.ini</code>, where <code>install_dir</code> is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, "Initialization File," in the <i>Log Central Configuration Guide</i>.</p> <p><code>-h</code> Displays help information about the command.</p>
Description:	This command changes a user password in the Log Central database.

lc_user_list

Summary:	Lists all the users in the database. You can run this command while Log Central is running.
Syntax:	<code>lc_user_list [-infile <i>inifilename</i>] [-h]</code>

Options and Arguments:	<p><code>-infile <i>inifilename</i></code> Path for the initialization file. The default is <code>install_dir/etc/msg_processor.ini</code>, where <code>install_dir</code> is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, “Initialization File,” in the <i>Log Central Configuration Guide</i>.</p> <p><code>-h</code> Displays help information about the command.</p>
Description:	This command lists all the users in the Log Central database.

log_monitor

Summary:	Starts a Log Monitor or forwards log files.
Syntax:	<p>To start a Log Monitor with predefined mappings:</p> <pre>log_monitor -i filename -P predefined_mapping [-t time] [-p pattern] [-x pattern] [-e entityname] [-h]</pre> <p>To start a Log Monitor with mappings in a message mapping file:</p> <pre>log_monitor -i filename -f mapping_filename [-t time] [-c] [-e entityname] [-h]</pre> <p>To start a Log Monitor with mapping specified on the command line and optional predefined mapping:</p> <pre>log_monitor -i filename [-P predefined_mapping] [-t time] [-e entityname] [-b body] [-D date_and_format] [-d msgid] [-I processID] [-M log_level] [-m subsystem] [-n function] [-o hostname] [-p pattern] [-S separators] [-u userID] [-x pattern] [-h]</pre> <p>To forward log files:</p> <pre>log_monitor -i filename -P predefined_mapping -e entityname [-h]</pre>

- Options and Arguments:
- i *filename*
Incoming log file to use. You can use a hyphen to specify standard input:
-i -
To forward log files, set *filename* to *pathname/file** where *pathname* is the directory that contains the log files and *file* specifies the characters that are the same in each log file name. For example, *filename* could be:
C:\tuxedo\logfiles\ULOG*
 - P *predefined_mapping*
Tells the Log Monitor to use predefined mapping.
Possible values:

LM—Log Central temporary log files. For more information, see “Using the LM Predefined Mapping” in the Description section.

NTEVENT—Windows NT event log

ORACLE—Oracle alert logs

TUXEDO—BEA Tuxedo user logs
 - t *time*
Length of time to wait between forwarding each log message. The default is one second. Use 0 to forward once and then stop. Using 0 causes the Log Monitor to run as a daemon.
 - e *entityname*
Entity name that the Log Monitor uses to register with the `proc_monitor` process. The default is `log_monitor`. Each Log Monitor on one managed node must have a unique entity name. If you run a Log Monitor as a daemon (with `-t 0`), this option is not used.
 - f *mapping_filename*
Message mapping file that contains the mappings.
 - c
Applies the mappings in the message mapping file to a log message only up to the first match.

-h

Displays help information about the command.

For descriptions of the remaining options, see Table 5-2 in Chapter 5, “Creating Log Mappings,” in the *Log Central Configuration Guide*.

Description: This command starts a Log Monitor manually. To start log monitors automatically, use the `start_messaging` command. For information about mapping, see Chapter 5, “Creating Log Mappings,” in the *Log Central Configuration Guide*.

Using the LM Predefined Mapping

Log Central creates temporary log files. There are two abnormal situations where you might need to use Log Monitor to recover the contents of these files:

- A Message Sender writes log messages to a temporary file if the Central Collector is unavailable. When the Central Collector becomes available, the Message Sender automatically forwards the log messages from the temporary file to the Central Collector. If the Message Sender dies before it can recover the file, the temporary file may not be recovered automatically. If this happens, you can use the LM predefined mapping to recover the contents of the temporary file.
- The Message Receiver writes incoming messages to an intermediate file, and the Message Processor reads this file to insert log messages into the database. If the Message Processor does not process an intermediate file, you can use the LM predefined mapping to recover the contents of the intermediate file.

msgdef_delete

- Summary:** Deletes message definitions from the database. Run this command before starting Log Central.
- Syntax:** msgdef_delete [-f *filename*] [-inifile *inifilename*] [-h]
- Options and Arguments:**
- f *filename*
Path for the file that contains the message definitions to delete. Only the subsystem names and message IDs are necessary. If you do not provide a file name, msgdef_delete accepts text from the standard terminal input. For a description of the message definition file, see Chapter 6, “Creating Message Definitions,” in the *Log Central Configuration Guide*.
 - inifile *inifilename*
Path for the initialization file. The default is *install_dir/etc/msg_processor.ini*, where *install_dir* is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, “Initialization File,” in the *Log Central Configuration Guide*.
 - h
Displays help information about the command.
- Description:** This command deletes message definitions from the Log Central database. You can also use the `subsystem_delete` command to delete message definitions.

msgdef_export

- Summary:** Copies message definitions from the database to a text file. You can run this command while Log Central is running.
- Syntax:** `msgdef_export [-f filename] [-s subsystem_name [subsystem_name...]] [-infile inifilename] [-h]`
- Options and Arguments:**
- `-f filename`
Path for the file that contains the message definitions to delete. Only the subsystem names and message IDs are necessary. If you do not provide a file name, `msgdef_export` accepts text from the standard terminal input. For a description of the message definition file, see Chapter 6, “Creating Message Definitions,” in the *Log Central Configuration Guide*.
 - `-s subsystem_name`
Name of the subsystem for which to copy the message definitions. You can provide multiple *subsystem_name* values to copy message definitions for multiple subsystems. If you do not provide a subsystem name, `msgdef_export` copies the message definitions for all the subsystems.
 - `-infile inifilename`
Path for the initialization file. The default is `install_dir/etc/msg_processor.ini`, where *install_dir* is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, “Initialization File,” in the *Log Central Configuration Guide*.
 - `-h`
Displays help information about the command.
- Description:** This command copies message definitions from the Log Central database to a text file.

msgdef_import

Summary:	Loads a message definition file into the database. You can run this command while Log Central is running.
Syntax:	msgdef_import [-f <i>filename</i>] [-infile <i>inifilename</i>] [-h]
Options and Arguments:	<p>-f <i>filename</i> Path for the file that contains the message definitions to delete. If you do not provide a file name, msgdef_export accepts text from the standard terminal input. For a description of the message definition file, see Chapter 6, “Creating Message Definitions,” in the <i>Log Central Configuration Guide</i>.</p> <p>-infile <i>inifilename</i> Path for the initialization file. The default is <i>install_dir/etc/msg_processor.ini</i>, where <i>install_dir</i> is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, “Initialization File,” in the <i>Log Central Configuration Guide</i>.</p> <p>-h Displays help information about the command.</p>
Description:	This command loads a message definition file into the Log Central database.

msg_reader

Summary:	Displays the current intermediate log file.
Syntax:	msg_reader [-e] [-n] <i>pathname</i> [-h]

B Commands

Options and Arguments:	-e	Starts writing from the end of the intermediate file.
	-n	Formats the logged messages before writing them. Do not use this option if you run <code>msg_reader</code> with <code>log_monitor</code> .
	<i>pathname</i>	Pathname of the file to open for reading. The command adds the <code>.cur</code> extension to the pathname before opening the file.
	-h	Displays help information about the command.
Description:		This command continuously reads the current intermediate file that the Message Receiver constructs, and writes the file contents to the standard output.

msg_test

Summary:	Generates test messages.
Syntax:	<code>msg_test [-i] [-l <i>length</i>] [-n <i>messages</i>] [-s <i>subsystem</i>] [<i>subsystem</i>]... [-t <i>interval</i>] [-h]</code>

Options and Arguments:	<p><code>-i</code> Invokes the interactive mode. The <code>-i</code> option overrides the <code>-t</code> option.</p> <p><code>-l <i>length</i></code> Message body length. The default is 40.</p> <p><code>-n <i>messages</i></code> Number of messages to generate. The default is 1.</p> <p><code>-s <i>subsystem</i></code> Subsystem name to use in the message header. You can specify multiple subsystems. The default is LC.</p> <p><code>-t <i>interval</i></code> Time interval, in seconds, to wait between messages. The default is 0.</p> <p><code>-h</code> Displays help information about the command.</p>
Description:	<p>This command tests the flow of messages. You can also use this command to print performance data. Use the Message Browser in the Log Central Console to see the test results.</p> <p>For information about the Log Central Console, see Chapter 2, “Introducing the Log Central Console.”</p>

show_config

Summary:	Checks the syntax of the messaging configuration file or displays information about Log Central.
Syntax:	<code>show_config -c [-f <i>config_file</i>] -g -p -d -n <i>entity_name</i> [-h]</code>

B Commands

Options and Arguments:	<p><code>-c</code> Checks the messaging configuration file for syntax errors.</p> <p><code>-f <i>config_file</i></code> Name of the messaging configuration file. If you do not specify a name, <code>show_config</code> uses <code>messaging.conf</code>.</p> <p><code>-g</code> Displays the Log Central shared memory information to <code>stdout</code>.</p> <p><code>-p</code> Displays the Process Monitor shared memory information to <code>stdout</code>.</p> <p><code>-d</code> Displays the Log Central and Process Monitor shared memory information to <code>stdout</code>. This option is the same as using <code>-g</code> and <code>-p</code>.</p> <p><code>-n <i>entityname</i></code> Displays detailed information about the specified entity (process) to <code>stdout</code>. Possible values for <i>entityname</i>:</p> <ul style="list-style-type: none"><code>log_monitor</code><code>msg_processor</code><code>msg_receiver</code><code>msg_sender</code><code>proc_monitor</code><code>start_messaging</code> <p><code>-h</code> Displays help information about the command.</p>
Description:	<p>This command checks the syntax of the messaging configuration file or displays information about Log Central. For a description of the messaging configuration file, see Appendix G, “Configuration Files,” in the <i>Log Central Configuration Guide</i>.</p>

start_messaging

Summary: Starts the Log Central processes.

Syntax: `start_messaging [-f config_file] [-q] [-v] [central_host] [backup_central_host] [-h]`

Options and Arguments:

- `-f config_file`
Name of the Log Central messaging configuration file to use instead of `messaging.conf`. This option is available only for Central Collectors.
- `-q`
Makes the process quiet, which means that no informational messages are displayed.
- `-v`
Displays informational and debug messages.
- `central_host`
Host name of the machine for the primary Central Collector. If you do not provide this name, the machine on which you are running this command is considered to be the central host. You must provide this name when you run `start_messaging` on a backup host or a managed node.
- `backup_central_host`
Host name of the machine for the secondary Central Collector. You do not need to provide this value for the central host unless you are running a Data Collection Agent on the central host, in addition to the primary Central Collector.
- `-h`
Displays help information about the command.

Description: This command starts the Log Central processes for a Central Collector or a Data Collection Agent.

For a Central Collector, `start_messaging` starts the following processes:

- Message Receiver (`msg_receiver`)
- Message Processor (`msg_processor`)
- Process Monitor (`proc_monitor`)
- Message Sender (`msg_sender`)
- If you included `LOG_MONITOR` statements in the `MANAGED_NODE` entry in the messaging configuration file, then `start_messaging` also starts the specified Log Monitors.

For a Data Collection Agent, `start_messaging` starts the following processes:

- Message Sender (`msg_sender`)
- Process Monitor (`proc_monitor`)
- If you included `LOG_MONITOR` statements in the `MANAGED_NODE` entry in the messaging configuration file, then `start_messaging` also starts the specified Log Monitors.

The `start_messaging` process on a managed node uses the UDP service, which is defined by the `BEA_LC_CONF_SERVICE` environment variable, to connect to the `start_messaging` process on the central host. Then the `start_messaging` process on the central host downloads the local host's messaging configuration. If `BEA_LC_CONF_SERVICE` is not defined, `start_messaging` uses the `lc_conf` service.

The Process Monitor monitors the `start_messaging` process to make sure that it continues to run and restarts it if it dies. The `start_messaging` process monitors the `proc_monitor` process and restarts it if it dies.

stop_messaging

Summary: Stops the Log Central processes.

Syntax: `stop_messaging [-q] [-v] [-h]`

Options and Arguments:

- `-q` Makes the process quiet, which means that no informational messages are displayed.
- `-v` Displays informational and debug messages.
- `-h` Displays help information about the command.

Description: This command stops the Log Central processes.

subsystem_create

Summary: Creates a subsystem in the database. You can run this command while Log Central is running.

Syntax: `subsystem_create -s subsystem_name [subsystem_name]
-d subsystem_description [-infile inifilename]
[-h]`

Options and Arguments:	<p><code>-s <i>subsystem_name</i></code> Name of a subsystem. This value can be up to eight characters, must be entirely in upper case, and must be unique in the Log Central database. You can provide multiple <code>subsystem_name</code> values to create multiple subsystems.</p> <p><code>-d <i>subsystem_description</i></code> Short description of the subsystem. This value can be up to 40 characters. If it contains more than one word, enclose the entire value in double quotes.</p> <p><code>-inifile <i>inifilename</i></code> Path for the initialization file. The default is <code>install_dir/etc/msg_processor.ini</code>, where <code>install_dir</code> is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, “Initialization File,” in the <i>Log Central Configuration Guide</i>.</p> <p><code>-h</code> Displays help information about the command.</p>
Description:	<p>This command creates a subsystem in the Log Central database. You might want to partition the Log Central database, separating various messages (such as NT events, Oracle messages, BEA Tuxedo messages, and so on) into different categories. Each category represents a resource that generates messages. These resources are called subsystems. The subsystem is one of the unique attributes in a log message.</p>

subsystem_delete

Summary:	<p>Deletes a subsystem from the database. You can run this command while Log Central is running.</p>
Syntax:	<pre>subsystem_delete -s <i>subsystem_name</i> [<i>subsystem_name</i>] [-inifile <i>inifilename</i>] [-h]</pre>

Options and Arguments:

- s *subsystem_name*
Name of a subsystem. You can provide multiple *subsystem_name* values to delete multiple subsystems.
- infile *inifilename*
Path for the initialization file. The default is *install_dir/etc/msg_processor.ini*, where *install_dir* is the directory where you installed Log Central. For a description of the initialization file, see Appendix F, “Initialization File,” in the *Log Central Configuration Guide*.
- h
Displays help information about the command.

Description: This command deletes a subsystem from the Log Central database. The command deletes all the message definitions for the subsystem, but does not delete the messages.

C SNMP Traps

The following table describes the SNMP traps that Log Central defines. You can use these trap values when you define basic SNMP traps. For information about basic SNMP traps, see Chapter 6, “Configuring SNMP Traps.” For information about setting up SNMP management, see Chapter 8, “Integrating SNMP,” in the *Log Central Configuration Guide*.

Table C-1 Log Central SNMP Traps

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