Cisco Voice Log Translator 2.7(6) User Guide

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Cisco Voice Log Translator (Cisco VLT) is a troubleshooting tool that reads complex System Diagnostic Interface (SDI) trace log message files from a Cisco Unified Communications Manager and translates them into a user-friendly, English-based format. You can sort, organize, analyze, and interpret messages and display raw or translated message text using offline message files on your system.

Cisco VLT version 2.7(6) provides support for the following features and support:

- Support for Windows Vista Operating System.
- Support for Cisco Unified Communications Manager version 7.1.
- Runs as a standalone application on Linux and Windows systems and as a plug-in in the trace collection tool Cisco Unified Communications Manager Real-Time Monitoring Tool (RTMT) on both Linux and Windows systems.
- Fully supports trace log messages for these additional protocols:
  - H.323 version 5 (Q.931, H.225, ASN.1)
  - Session Initiation Protocol (SIP)
- Continues support of SDI trace log file formats from Cisco CallManager version 3.3, Cisco Unified CallManager versions 4.0, 4.1, 5.0, 5.1, and Cisco Unified Communications Manager 6.0, 7.0, and 7.1.

You can access more information about Cisco VLT, including how to download and install the latest version, in the Cisco VLT Software section. If you require further assistance, send email to: voice-log-translator-support@external.cisco.com.

This document describes how to use Cisco VLT. Primary users include Cisco Systems Engineers, Technical Assistance Center (TAC) Engineers, Channel Partners, and others who perform Cisco Unified Communications Manager administrative tasks or use trace log message files to troubleshoot VoIP network problems.

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Contents

Prerequisites for Cisco VLT

This section provides general information about using and supporting Cisco VLT in your system:

Cisco Unified Communications Manager

To use Cisco VLT with Cisco Unified Communications Manager, follow these steps:

Procedure

Step 1 Download and install one of the following versions: Cisco CallManager 3.3, Cisco Unified CallManager 4.0, 4.1, 5.0, 5.1, and Cisco Unified Communications Manager 6.0, 7.0, or 7.1.

Step 2 Configure Cisco Unified Communications Manager to generate SDI trace log message files. Set the SDI logging level to the highest value.

Collect Cisco Unified Communications Manager message files and store them on your local system—either manually or using Cisco Unified Communications Manager RTMT. For more information, refer to the Cisco Unified Communications Manager RTMT Manual at the following URL: http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/service/7_1_2/rtmt/rtmt.pdf. You can install RTMT, which works for resolutions 800*600 and above, on any of the following platforms:

- Microsoft Windows 98
- Microsoft Windows 2000
- Microsoft Windows XP
- Microsoft Windows Vista
- Red Hat Linux with KDE or Gnome desktop client

System Hardware and Operating System

- Your system memory must meet the following requirements:
  - A minimum of 24MB of free memory for start up operation
  - Must be able to correctly parse a 2MB log file
  - Virtual (swapable) memory must not be lower than the value recommended by Microsoft Windows, if your system has less than 512MB of physical memory.
- Your system must run one of the following platforms (the platform must support the Sun Microsystems Java runtime environment):
  - Red Hat Linux version 9 or Red Hat Enterprise Linux AS 3.0
  - Microsoft Windows Vista
  - Microsoft Windows 2003
  - Microsoft Windows 2000 (including Windows 2000, Windows 2000 Professional, and Windows 2000 Server)
  - Microsoft Windows XP

Note You must install Cisco VLT on a machine other than your Cisco Unified Communications Manager server. Cisco VLT can use significant system CPU and memory resources and, if installed on the same machine, might impact Cisco Unified Communications Manager performance.

Cisco VLT Software

Follow this procedure to download Cisco VLT software and install it on a writable partition.

Note Although earlier versions may be listed on the website, you can download only the latest version. You cannot upgrade from a previous version; you must do a clean install of the latest version, during which you are prompted to manually uninstall any earlier version.

Before You Begin

- Install Cisco Unified Communications Manager RTMT. (Optional)
- Ensure that you have a Cisco login and password.

Procedure

Step 1 Go to the following URL:

http://tools.cisco.com/support/downloads/pub/Redirect.x?mdfid=278875240.

Step 2 Choose **IP Telephony > Call Control > Cisco Unified Communications Manager(CallManager)**.

Step 3 Choose the version of Cisco Unified Communications Manager you need to download Cisco VLT.

Step 4 Choose **Voice Log Translator (VLT) Software**.

The linux or windows installer can be chosen for download.

Step 5 Confirm the location of the executable file. The default location (which can be changed) is as follows:

- Linux: /opt/cisco/vlt
- Windows: C:\Program Files\Cisco\VLT

Step 6 Choose the installation type:

- Standalone
- Plug-in

Note A standalone system can run as a plug-in. A plug-in system cannot run as a standalone.

Step 7 Create a folder to store trace log message files. This folder must be on the same physical or logical network drive or on a network neighborhood path, such as *server-name**folder-name**log-file-name*. It cannot be a URL.

Restrictions for Cisco VLT

The following sections provide information on the restrictions for Cisco VLT version 2.7(6).

Languages

Cisco VLT supports only English operating systems and English locale.

File Types

Cisco VLT supports only Cisco Unified Communications Manager and Java Telephony Application Programming Interface (JTAPI) client message files.

Cisco VLT supports Cisco Unified Communications Manager SDI files but not Signal Distribution Layer (SDL) files.

System Resources

Cisco VLT can use significant system CPU and memory resources, and can potentially impact performance on a shared system. See the note in the System Hardware and Operating System section about the importance of installing Cisco VLT on a machine other than your Cisco Unified Communications Manager server.

Cisco VLT supports a maximum memory usage of 1GB. However, system performance may degrade before reaching the maximum value.

System Instances

You can install only one Cisco VLT in each system.

A maximum of two running instances, one standalone and one plug-in, are allowed at the same time.

System Performance

Cisco VLT installed on a 2.4GHz Intel Pentium 4 CPU performs as follows:

- Installation time—5 minutes (approximate)
- Program startup—20 seconds (approximate)
- Memory consumption—Up to 10MB per 2.5MB of trace log file size
- File loading—10 seconds (approximate) per 2.5MB of trace log file size

Note Cisco VLT may exhaust memory if more than 100 SDI files of at least 2.5MB each are opened.

Display Capabilities

Although Cisco VLT supports both H.225 and H.245 messages, you cannot identify them because the H.245 port information contained in an H.225 message is not available in the Cisco Unified Communications Manager log files.

User Interface

For Cisco VLT running as a plug-in in Cisco Unified Communications Manager RTMT, the following applies:

- There is no Cisco VLT menu bar. Functions that are provided by the menu bar in a standalone Cisco VLT (not running in RTMT) are provided by the Cisco VLT toolbar, pop-up menu on the ‘Messages’ table, or keystroke. To avoid conflict with RTMT functions, some keystrokes, such as F3 and Ctrl-F4, are disabled or behave differently for standalone Cisco VLT.
- There is no Cisco VLT ‘About window’ for version information and ‘Help Topics’ function for online documentation. The online documentation link is referenced in the RTMT documentation launching function and the VLT plug-in version information is shown in the RTMT ‘About window’.
- There are no accessibility options.
- There are no shortcut keys.

Endianness

Cisco VLT supports only little-endian, and is not aware of the endianness of trace files.

Note Endianness refers to the order in which a computer processor stores and transmits the individual bytes of a multiple-byte data item. For more information see the glossary.

Information About Cisco VLT

Cisco VLT enables you to display and filter trace log message lists, display associated raw or translated message texts, and find specific information within those texts.

This section contains these topics:

Cisco VLT Capabilities

This section contains information on these topics:

Signaling Protocols

Cisco VLT handles the following file types (in separate calls or in a single call):

- H.225 and H.245
- JTAPI
- Media Gateway Control Protocol (MGCP) and Call Associated Signaling (CAS)
- Q.931
- Session Description Protocol (SDP)
- Simple Client Control Protocol (SCCP)
- Session Initiation Protocol (SIP)

Search Functions

Cisco VLT offers two search functions:

- The **Filter** function (see the Filtering the Trace Log Message List, page 14) uses the list of messages in the Messages upper pane and the associated raw messages in the Messages Translation lower pane.
- The **Find in Messages Translation** function (see the Finding Information in Trace Log Message Text, page 16) operates on the current message in the Messages Translation lower pane.

Other Functions

You can do the following with Cisco VLT:

- Open trace log message files and display message lists and associated messages for all supported signaling protocols in the same window (see the Displaying a List of Trace Log Messages, page 11).

- Filter a trace log message list to do the following (see the Finding Information in Trace Log Message Text, page 16 section):
  - Display or exclude keepalive messages.
  - Display messages for a particular call (as identified by its call reference) or for all calls involving a particular device IP address, direction (send or receive), protocol, command, message, or channel. For example, you can display all messages related to the T1 1/0:3 on gateway A.B.C.D.
  - Display messages for calls with specified criteria.
  - Display messages by call reference; each message contains show timestamp, protocol, calling number, and called number. For example, you can display all messages for a particular call leg (any supported protocol) or for both legs (SCCP side and MGCP/Q.931 side) of a call.
  - Display messages for calls whose device IP address, direction (send or receive), protocol, command, message, call reference, or channel contains a text string.
- Specify a level of translation (raw, simple, or detailed) for the text of a trace log message (see Finding Information in Trace Log Message Text, page 16). You can copy the message text to the clipboard, export translated messages to a text file, and search for a specific test string in message text.

Note If the signaling protocol for a message is invalid or not supported, you can display the message in raw format only.

Troubleshooting a Typical Cisco VLT Use Scenario

If you are an experienced administrator, familiar with Cisco products (including Cisco Unified Communications Manager, IOS command-line interface, and networking concepts and technologies) and are responsible for post-installation support of enterprise voice installations, use the following procedure to troubleshoot a scenario:

Procedure

Step 1 Receive notification of a problem with a Cisco Unified Communications Manager or JTAPI application.

Step 2 Enable trace logging on relevant Cisco Unified Communications Manager servers or JTAPI clients.

Step 3 Retrieve the following information about the problem call:

- Time of call, including the minutes and seconds
- Called-party and calling-party phone numbers
- Nodes involved (Cisco Unified Communications Manager, gateway, JTAPI application, etcetera)
- Call flow (whether transfer, conference, or forward are involved; whether the call is internal or external; types of devices involved, etcetera)

Step 4 Collect trace log message files from the Cisco Unified Communications Manager or JTAPI client, usually several files surrounding the time of the event.

Step 5 Open the file whose time stamp is closest to the reported trouble time. (Alternatively, depending on circumstances, open the entire collection of trace files at once.)

Step 6 Search each file's translated message text (by using the **Find in Messages Translation** function) until you locate the called or calling phone number for the trouble-causing call. Note the call reference.

Step 7 Filter the display based on call reference to display all messages that pertain to that call.

Step 8 Troubleshoot as needed. Possible actions depend on the type of problem, but include the following:

- Save the one or more trace log message translations that pertain to the call to a flat file, open them with a text editor, and locate the exact timestamp or other helpful information.
- Compare two or more message translations (typically for different calls) by using the **Filter > by Highlighted Rows** function to display the translations together. Comparing the translations for a successful and a failed call is a useful troubleshooting technique.

Cisco VLT GUI Display and Navigation

The Cisco VLT user interface has a toolbar at the top, followed by two display panes (Figure 1 [standalone system] and Figure 2 [plug-in system]):

- Messages upper pane—Displays a list of trace log messages from one or more files.
- Messages Translation lower pane—Displays the raw or translated text of a highlighted message.

Figure 1 Cisco VLT User Interface (Standalone System)

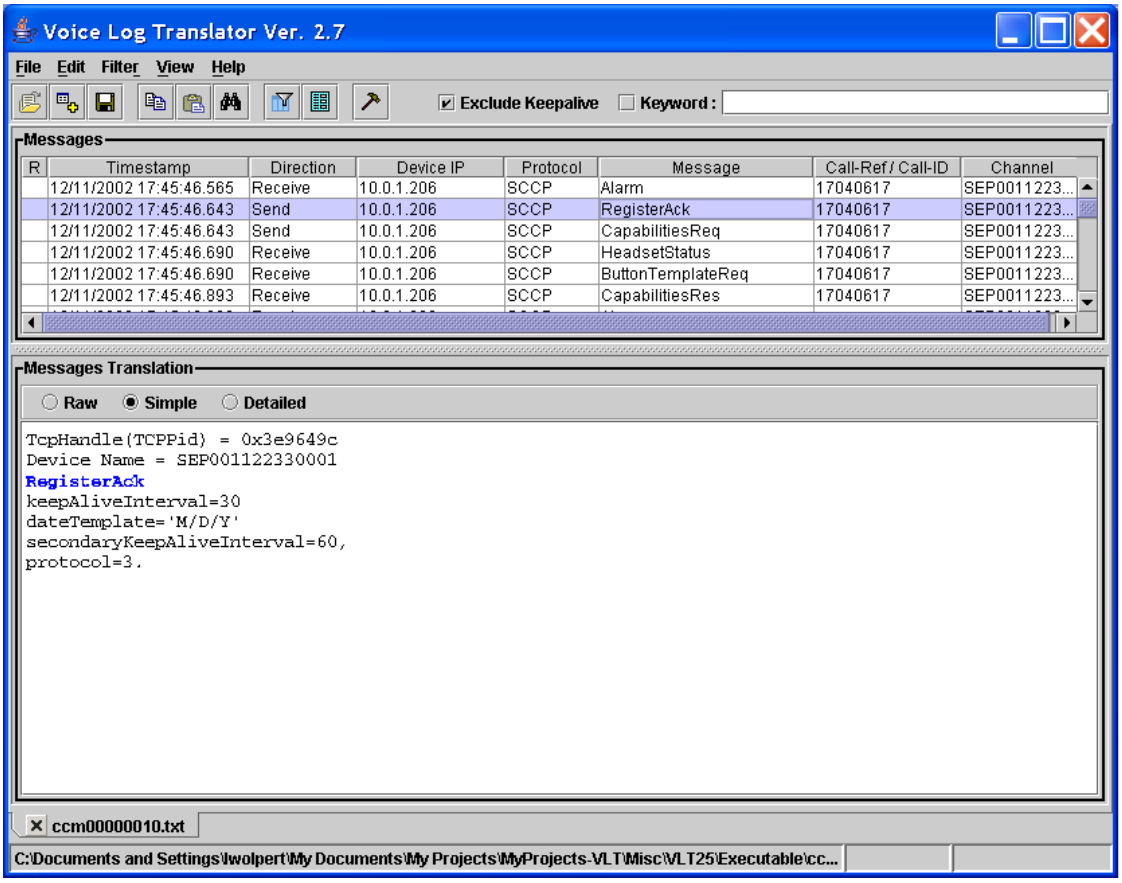
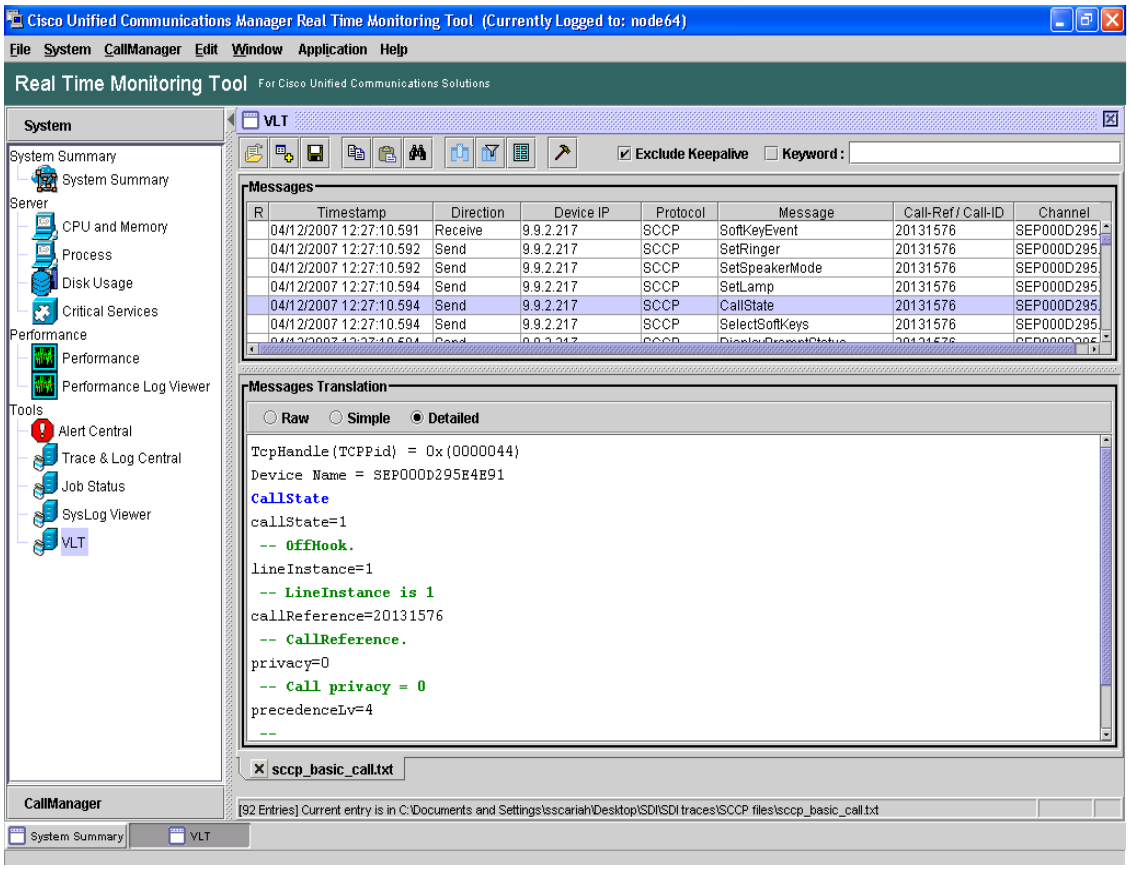


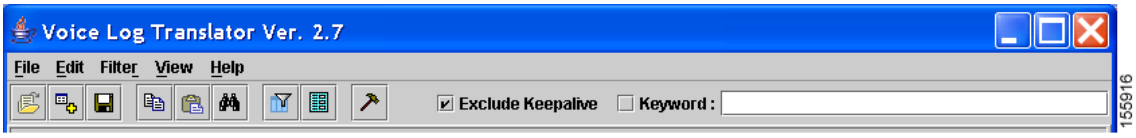
Figure 2 Cisco VLT User Interface (Plug-in System)



The window allows for typical GUI display control such as window resize, column resize, vertical and horizontal scroll, minimize, restore, and close. You can also grab and move the border between the Messages upper pane and the Messages Translation lower pane.

You navigate the Cisco VLT interface using the toolbar as shown in Figure 3.

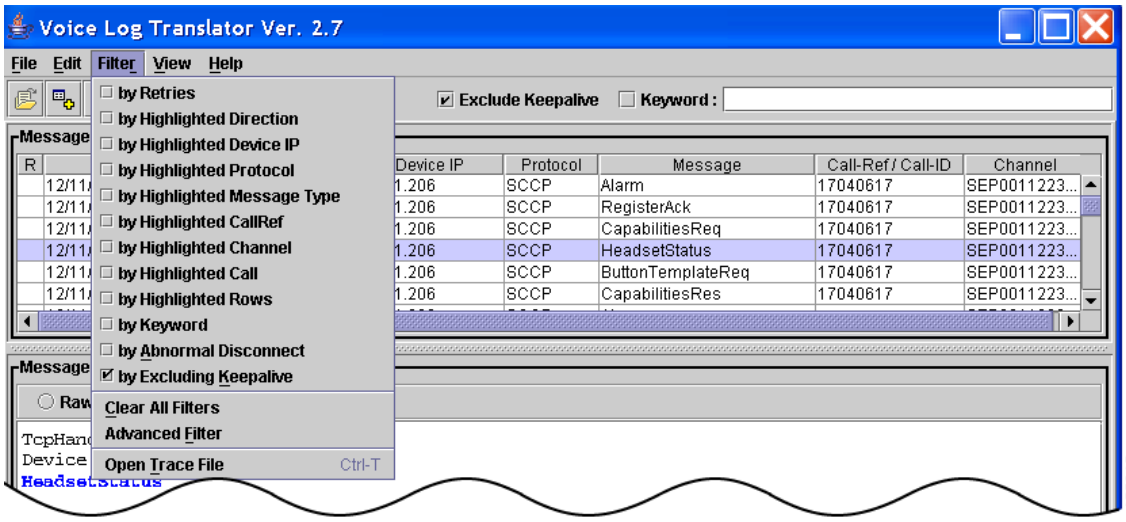
Figure 3 Cisco VLT Toolbar



The toolbar has both a top line (with text) and a bottom line (with icons).

To navigate using the top line. choose one of the displayed choices—**File**, **Edit**, **Filter**, **View,** or **Help**. These selections open a successive context-sensitive display of new choices, as shown in Figure 4.

Figure 4 Cisco VLT Toolbar: Successive Display of Choices



Alternatively, you can navigate using the icons on the bottom line. Icons for **Open Log Files**, **Open and Add Log Files into Current Log Panel**, **Save Translated Messages**, **Copy**, **Paste**, **Find in Translated Message**, **Advanced Filter**, and **Call References** duplicate most of the text options for the top line.

Cisco VLT Message Translations

Cisco VLT allows you to view message (raw) text at one of two translation levels. Examples of raw and translated messages, and how they display the same information (in this case, the code word X in an MGCP NTFY message), are as follows:

- Raw message (Figure 5)—Displays the code word as `X:9`
- Simple translation (Figure 6)—Displays the code word as `RequestIdentifer(X): 9`
- Detailed translation (Figure 7)—Displays the code word as `X: 9 -- Request ID is 9`

Figure 5 Cisco VLT Raw Message

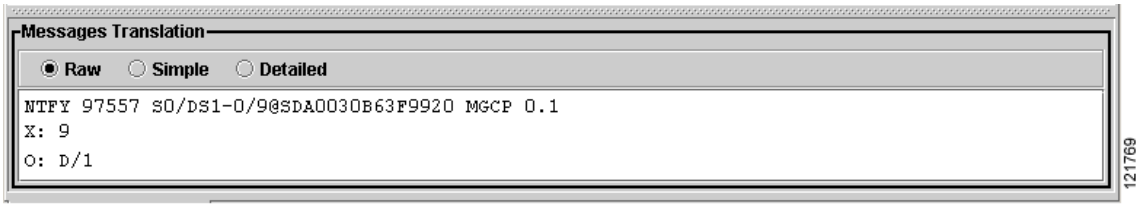
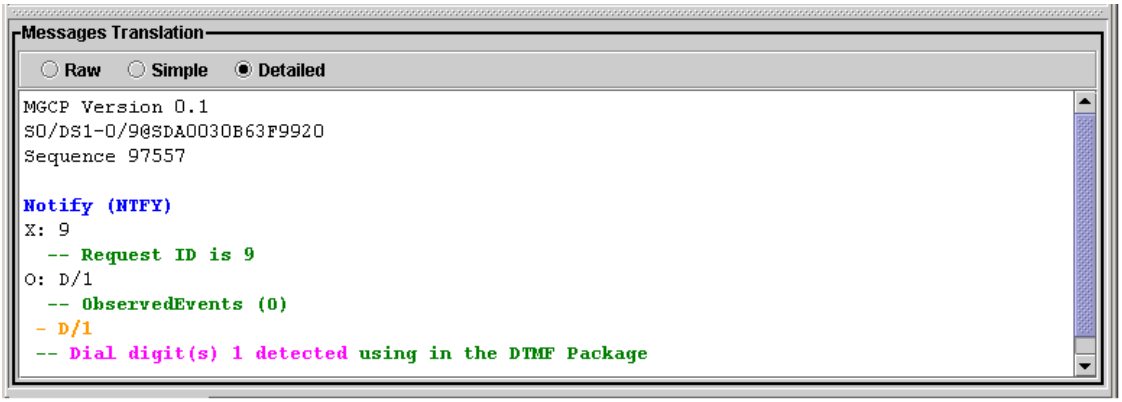


Figure 6 Cisco VLT Simple Translation

Figure 7 Cisco VLT Detailed Translation



How to Use Cisco VLT

The following sections provide information on using Cisco VLT:

- Displaying a List of Trace Log Messages, page 11
- Filtering the Trace Log Message List, page 14
- Finding Information in Trace Log Message Text, page 16

Displaying a List of Trace Log Messages

You can open trace log message files and display a list of messages as follows:

- Display a list of messages for a set of log files—refer to Step 2 in the Summary Steps section.
- Display a list of messages for an additional set of log files, in the same pane or a new pane—refer to Step 3 in the Summary Steps section.
- Edit the message-list display—refer to Step 4 in the Summary Steps section.

Summary Steps

To display a list of trace log messages, follow these summarized steps:

Procedure

Step 1 Choose **Start > Programs > Cisco VLT > VLT**.

Step 2 Choose **File > Open > Open > Yes/No**.

Step 3 Choose **File > Append > Open > Yes/No**.

Step 4 Choose **View...**.

Step 5 Choose **File > Save Translation**.

Step 6 Choose **File > Close** and **File > Exit**.

Detailed Steps

To display a list of trace log messages, follow these detailed steps:

Step 1 Choose **Start > Programs > Cisco VLT > VLT** to open Cisco VLT.

Step 2 In the Open Files box, go to the folder where the trace log message files are stored, highlight one or more filenames (use <Ctrl> or <Shift> as needed to select multiple messages) and click **Open**.

The first 1000 selected files open in a single pane, sorted by timestamp.

Note The number of files that you can open is limited only by available system memory. If files are large, system performance may be affected.

If you open multiple log files, the tab displays only the first filename.

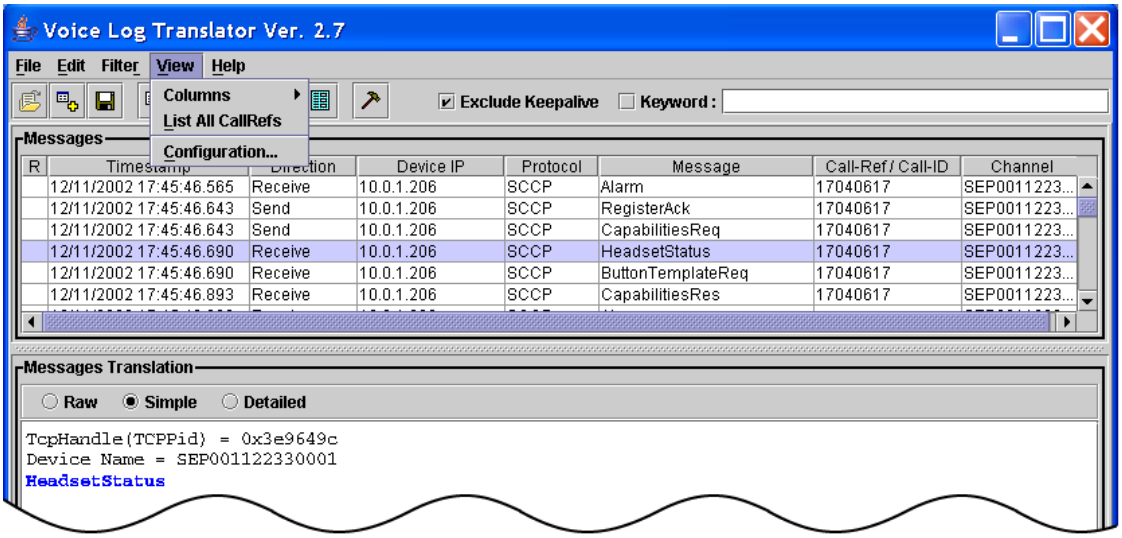
Step 3 Open an additional set of log files, if needed:

- Choose **File > Append**.
- Highlight one or more filenames and click **Open**.

Step 4 Edit the Messages upper pane display:

- To display or hide columns, choose **View > Columns**, check or uncheck the boxes, as needed.
- To display all calls in a file, choose **View > List All CallRefs**. A new window displays the following information depending on protocol and message types: timestamp, protocol, call reference, calling party, and called party. Close the window when finished.

Figure 8 Cisco VLT View Menu



To change the display contrast and font size, follow these steps:

Procedure:

Step 1 Choose **View > Configuration** as shown in Figure 9.

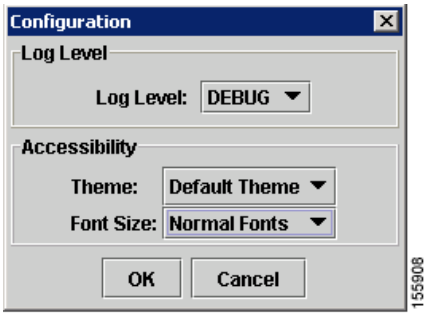
Step 2 Choose a log level (**off**, **fatal**, **error**, **warn**, **info**, **debug**, or **all**).

Step 3 Choose a theme (**default** or **high contrast**).

Step 4 Choose a font size (**small**, **normal**, or **large**).

Step 5 Click **OK**.

Figure 9 Cisco VLT Configuration Window



Step 6 Edit the Messages Translation lower pane display by toggling among the following choices: **Raw**, **Simple**, and **Detailed**.

Note If the signaling protocol for a message is invalid or not supported, you can display the message in raw format only.

Step 7 To open and display the trace log files that contain one or more particular messages, highlight the messages, right-click, and select **Open Trace File**. New windows display the trace log files. To search for a particular text string, use the **Find** box. Close the windows when you are finished.

Note To display a list of valid wildcards and operations, choose **Help > Regular Expression Reference**.

Step 8 To save a message translation to a flat text (.txt file extension) file, choose **File > Save Translation**. In the Save File box, enter a location and name for the new file, and click **Save**.

Step 9 When you are finished, close any active messages-list windows by choosing **File > Close**. Exit Cisco VLT by choosing **File > Exit**.

Filtering the Trace Log Message List

You can filter a trace log message list to do the following:

- Display or exclude keep-alive messages, see Step 2 below.
- Display a list of messages with criteria that you check or supply, or with the same criteria as those possessed by messages that you highlight, see Step 4 below. Criteria includes the following:
  - Retries—Messages that are flagged as retried messages.
  - Highlighted device IP—Device IP address where messages are sent or received. Typically includes Cisco Unified Communications Manager, Cisco IOS gateways, IP phones, and more.
  - Highlighted direction—Receive or Send.
  - Highlighted protocol—H.225, H.245, JTAPI, MGCP, Q.931, SCCP, or SIP.
  - Highlighted message type—Example: Q.931 SETUP messages.
  - Highlighted call reference—The call-reference string in the CallRef column.
  - Highlighted channel—A voice port on a device. Examples: B channels on a PRI, a voice port on an IP phone, a CTI port for JTAPI.
  - Highlighted call—All messages that are associated with the call for which one or more messages are highlighted, across multiple signaling protocols (MGCP, Q.931, SCCP, and SIP).
  - Highlighted rows—Only the highlighted messages use <Ctrl> or <Shift> as needed to select multiple rows. If you highlight multiple messages, the Messages Translation lower pane displays the message for the last selected message.
  - Keyword—Messages that contain a specified text string.
  - Abnormal disconnect—Messages that have abnormal disconnect causes (cause codes that designate abnormal disconnect vary by protocol). This applies to calls that disconnect for reasons other than Normal Call Clearing or User Busy. Calls that disconnect because the user dials an invalid prefix or other numbers is classified as an abnormal disconnect.
  - Excluding keepalive.
- Display a list of messages for calls with specified criteria—this is useful if you prefer to enter parameters directly instead of selecting messages in the Messages upper pane, see Step 5 below.

Summary Steps

To filter the trace log message list, perform the following steps:

Procedure

Step 1 Display message list.

Step 2 Choose **Exclude KeepAlive**.

Step 3 Choose **Filter...**.

Step 4 Choose **Filter > Advanced Filter...**.

Step 5 Choose **File > Close** and **File > Exit**.

Detailed Steps

To filter the trace log message list, perform the following detailed steps:

Step 1 Display the desired message list (see the Displaying a List of Trace Log Messages, page 11).

Step 2 To suppress display of keepalive messages, check the **Exclude KeepAlive** box.

Step 3 To display messages that contain a specific text string, enter the text in the Keyword box and press **Enter**.

Step 4 To define a filter based on existing message displays, do the following:

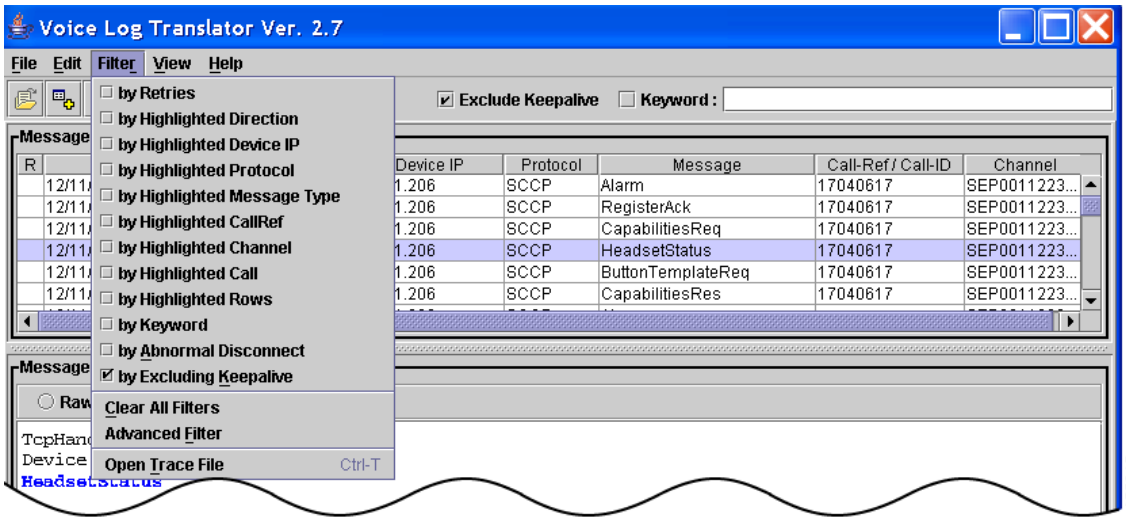
Note The **Filter** function operates on the list of messages in the Messages upper pane.

In contrast, the **Find in Messages Translation** function (see the Finding Information in Trace Log Message Text, page 16), operates on the current message in the Messages Translation lower pane.

- Highlight one or more messages (use <Ctrl> or <Shift> as needed to select multiple messages) with the desired device IP, direction, protocol, message type, call reference, channel, or call.
- Click **Filter** (or right-click the highlighted message), then check the desired filter criteria and, if prompted, enter required information such as keywords (Figure 10). (To see a list of filter criteria, see the discussion preceding this procedure.) Column headings for the desired criteria display in parentheses.
- Repeat, as needed, to further filter by other criteria.

Note To disable a filter, click the column headings in parentheses or choose **Filter >Clear All Filters**.

Figure 10 Cisco VLT Filter Menu



Step 5 A customized filter is useful if you know the parameters and prefer to enter them directly instead of constructing filters by selecting messages in the Messages upper pane. To define your own customized filter, do the following:

a. Choose **Filter > Advanced Filter**.

b. Check and uncheck the displayed conditions as appropriate. Review the displayed values for each condition and edit them using wildcards and simple AND and OR operations.

Note To display a list of valid wildcards and operations, click **?**.

To clear all entries, click **Clear**. To reload the current filter, click **Current**.

c. Click **Ok**. A filtered list displays.

Step 6 When you are done, do the following:

a. Close any active messages-list windows by choosing **File > Close**.

b. Exit Cisco VLT by choosing **File > Exit**.

Finding Information in Trace Log Message Text

You can do the following with the text of a trace log message:

- Specify a level of translation—raw, simple, or detailed (Step 2 below).
- Copy message text to the clipboard (Step 3 below).
- Search for a specific message-text string (Step 4 below).
- Display the desired message text.

Summary Steps

To find information in trace log message text, perform the following steps:

Procedure

Step 1 Display message list.

Step 2 Choose **Raw**, **Simple**, or **Detailed**.

Step 3 Choose **Edit > Copy**.

Step 4 Choose **Edit > Find in Messages Translation**.

Step 5 Choose **File > Close** and **File > Exit**.

Detailed Steps

To find information in trace log message text, perform the following detailed steps:

Step 1 Display the desired message list (see the Displaying a List of Trace Log Messages, page 11).

Step 2 Specify a level of translation by toggling among the following choices—**Raw**, **Simple**, or **Detailed** (see samples of each in the Cisco VLT Message Translations, page 10).

Step 3 To copy a message translation to the Windows clipboard, do the following:

a. Highlight the message or translation that you want to copy.

b. Choose **Edit > Copy** or click the **Copy** icon.

Step 4 To search for a specific text string in the Messages Translations lower pane for all messages listed in the Messages upper pane, do the following:

Note The **Find in Messages Translation** function operates on the current message in the Messages Translation lower pane.

In contrast, the **Filter** function (see the Filtering the Trace Log Message List, page 14), operates on the list of messages in the Messages upper pane.

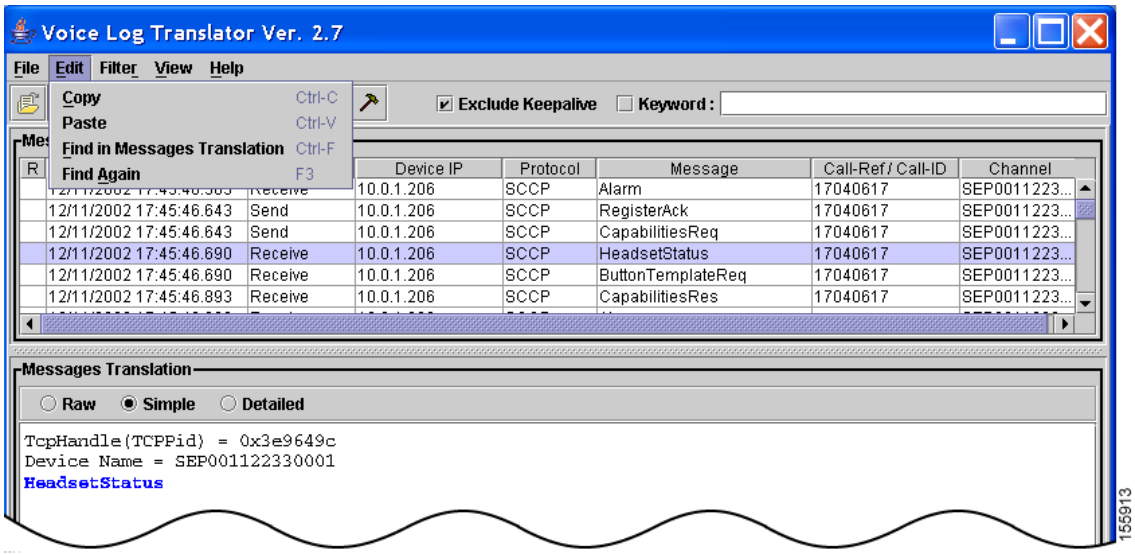
a. Choose **Edit > Find in Messages Translation** or click the **Find in Translated Message** icon.

b. In the Text to Find box, type a text string using wildcards and simple AND and OR operations, then click **Find Next**. The first match is highlighted (Figure 11).

Note To display a list of valid wildcards and operations, choose **Help > Regular Expression Reference**.

c. Choose **Edit > Find Again** to highlight additional instances.

Figure 11 Cisco VLT Edit Menu



Step 5 When you are finished, do the following:

a. Close any active messages-list windows by choosing **File > Close**.

b. Choose **File > Exit** to exit Cisco VLT.

Troubleshooting

The following table lists troubleshooting techniques for Cisco VLT.

Table 1 Troubleshooting Cisco VLT

Symptom	Possible Cause	Recommended Action
Cisco VLT on a Windows 2000 Server platform cannot be launched using a remote desktop tool	Some Cisco VLT system environment variables are not activated during the same windows-terminal service session when Cisco VLT is installed on a Windows 2000 Server platform	Log off and log on again to activate the environment variables
You can display raw messages but not simple-translation or detailed-translation messages	The messages or their protocols are unsupported	None
A list of messages shows only those calls at the beginning or end of a call flow	Calls in the call flow span multiple log files	Display the first log file in the call flow then append subsequent log files (See the Displaying a List of Trace Log Messages, page 11

Table 1 Troubleshooting Cisco VLT

Symptom	Possible Cause	Recommended Action
The display does not list all possible call criteria	Cisco VLT displays only information that is available and appropriate for the protocol and message type. For example, Cisco VLT does not display CallRef information for SCCP Keepalive messages because those messages do not contain such information	None
The display shows odd characters	The Windows platform may not be set to run the English version	Install English Windows and set the locale to English

Additional References

This section contains the following information:

Related Documents

This table lists additional documents for Cisco VLT information.

Table 2 Related Documentation

Related Topic	Document Location
Cisco Unified Communications Manager and Cisco Unified Communications Manager Express documents	Cisco Unified Communications Manager library at http://www.cisco.com/en/US/products/sw/voicesw/ps4625/tsd_products_support_series_home.html
Cisco IOS Voice Configuration Library documents, including library preface and glossary	Cisco IOS Voice Configuration Library at http://www.cisco.com/en/US/products/ps6441/prod_configuration_guide09186a0080565f8a.html

Standards

This table lists the standards referenced in this user guide.

Table 3 Industry Standards

Standard	Title
H.225	*ITU-T: Call Signaling and RAS in H.323 VOIP Architecture*
H.245	*ITU-T: Control Protocol for Multimedia Communication*
JTAPI	*Java Telephony API (JTAPI) Specification 1.4 Final Release 2*
MGCP	*RFC 3435: Media Gateway Control Protocol*
Q.931	*ITU: Q.931: ISDN Network Layer Protocol for Signaling*
SCCP	*Cisco SCCP: Simple Client Control Protocol*
SIP	*SIP: Session Initiation Protocol*

MIBs

This table lists the MIBs for Cisco VLT.

Table 4 Cisco VLT MIBs

MIB	MIBs Link
None	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

This table lists the RFC documents for Cisco VLT.

Table 5 RFC Documents

RFC	Title
RFC 2327	SDP: Session Description Protocol
RFC 3261	SIP: Session Initiation Protocol

Technical Assistance

This table lists the URL for Technical Assistance and Support.

Table 6 Technical Assistance Information

Description	Link
The Cisco Technical Support & Documentation website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/techsupport

Glossary

This table contains definitions for terms used in this document.

Table 7 Glossary of Terms

H.225	Call Signaling and RAS in H.323 VoIP Architecture; an ITU standard in the H.323 VoIP architecture. Governs session establishment and packetization where the transmission path includes one or more packet-based networks that provide non guaranteed quality of service.
H.245	Control Protocol for Multimedia Communication; an ITU standard in the H.323 VoIP architecture. Governs control signaling and endpoint control.
H.323	Standard for packet-based video, audio, and data conferencing. Umbrella standard that describes the architecture of a conferencing system and refers to other standards (H.245, H.225.0, and Q.931) to describe its actual protocols. Defines a common set of codecs, call setup and negotiating procedures, and basic data-transport methods that allow dissimilar communication devices to communicate with each other.
CAS	Channel-associated signaling. The transmission of signaling information within the voice channel. CAS signaling often is referred to as robbed-bit signaling because user bandwidth is being robbed by the network for other purposes.
endianness	Way of expressing the order in which a computer processor stores and transmits the individual bytes of a multiple-byte item of data. Big-endian processors store the most significant byte at the memory location with the lowest address. Little-endian processors store it at the location with the highest address. Processors from different manufacturers vary in endianness (for example, Intel x86 uses little and PowerPC uses big). Difficulties can potentially arise when data moves between systems of different endianness. For example, the IP address 10.1.1.13 could be interpreted as 13.1.1.10.
JTAPI	Java Telephony Application Programming Interface. A call-control model developed by Sun Microsystems.
MGCP	Media Gateway Control Protocol. Protocol that enables media gateway controllers and media gateways to communicate for call control on VoIP networks.

Table 7 Glossary of Terms (continued)

Q.931	ISDN Network Layer Protocol for Signaling; an ITU standard. Governs layer 3 ISDN call establishment, maintenance, and termination of logical network connections between two devices.
SCCP	Skinny (or Simple) Client Control Protocol. Cisco-proprietary protocol that defines call-connection methods and signaling between IP phones and a router. Allows IP phones to coexist in an H.323 environment. Savings in memory size, processor power, and complexity makes the protocol desirable.
SDP	Session Description Protocol. Protocol for describing multimedia sessions for the purposes of session announcement, session invitation, and other forms of multimedia session initiation.
SIP	Session Initiation Protocol. Protocol, developed as an alternative to H.323, that equips platforms to signal the setup of voice and multimedia calls over IP networks.

Note See *Internetworking Terms and Acronyms* for terms not included in this glossary.