

Compaq Analyze

User Guide

Compaq Analyze is a rules-based hardware fault management diagnostic tool that provides error event analysis and translation. The multi-event correlation analysis feature of Compaq Analyze provides the capability to analyze events stored in the system's binary event log file and events from other sources.

The *Compaq Analyze User Guide* provides information about the features of Compaq Analyze and explains how to operate the software.

Rev. 5/23/01–A

Operating System:	Microsoft Windows NT 4.0 and Windows 2000 Compaq Tru64 UNIX versions 4.0E to 5.1 Compaq OpenVMS Alpha versions 7.1-2, 7.2, 7.2-1, 7.2-1H1, and 7.3
Software Version:	Compaq Analyze 4.0



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May 2001

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Printed in U.S.A.

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Preface

Compaq Analyze is a rules-based hardware fault management diagnostic tool that provides error event analysis and translation. The multi-event correlation analysis feature of Compaq Analyze provides the capability to analyze events from a variety of sources, including those stored in the system's binary event log file.

Overview

The *Compaq Analyze User Guide* describes the features of Compaq Analyze and explains how to use the application.

The organization of the guide is described here.

User Guide Contents

Chapter	Contents
Chapter 1	Introduces Compaq Analyze and WEBES.
Chapter 2	Provides information about the Command Line Interface.
Chapter 3	Provides detailed information about the web interface.
Chapter 4	Describes the translation of system events.
Chapter 5	Explains the analysis rules.
Chapter 6	Discusses the Compaq Analyze configuration settings.
Chapter 7	Describes how to configure automatic notification.
Appendix A	Shows sample output files.
Appendix B	Describes Compaq Analyze messages.

Intended Audience

The *Compaq Analyze User Guide* is intended for system managers and service personnel who use the Compaq Analyze software.

Documentation Conventions

The following conventions are used in this manual:

User entries	Information that should be entered exactly as it appears in the document is shown in bold.
<i>Variables</i>	Information that will vary depending on your computer or user profile is shown in italics.
System Output	Responses from the system are shown in a monospaced font.
Directories	Directory paths do not include the installation directory path. Thus, if you installed WEBES in the following directory: C:\Program Files\compaq\svctools\ A reference to the ca directory would indicate: C:\Program Files\compaq\svctools\ca\.

Further Information

Compaq Analyze is a member of the Web-Based Enterprise Service (WEBES) suite of products. For more information on the other WEBES applications, visit the support web site at the following URL:

<http://www.support.compaq.com/svctools>

For information about the supported products and limitations of the current release, refer to the *Compaq Analyze Release Notes*.

Information about the supported operating systems is contained in the *WEBES Install Guide* along with detailed installation instructions for each operating system.

Introduction

This chapter describes Compaq Analyze, the supported platforms, the post-installation setup procedures, the WEBES and Compaq Analyze processes, the procedures used to start and stop the Director, the locations of WEBES Director log files, and the nomenclature differences.

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Introduction

1.1 Description of Compaq Analyze

1.1 Description of Compaq Analyze

Compaq Analyze is a fault analysis utility designed to provide analysis for single error/fault events, as well as multiple event and complex analysis. Compaq Analyze provides system analysis that uses other error/fault data sources in addition to the traditional binary error log.

Compaq Analyze provides background **automatic** analysis by monitoring the active binary error log and processing events as they occur. The events in the binary error log file are checked against the analysis rules. If one or more of the events in the binary error log file meets the conditions specified in the rules, the analysis engine collects the error data and creates a **problem report** containing a description of the problem and any corrective actions required. Once the problem report is created, it is distributed in accordance with the customer's **notification** preferences.

1.2 Compaq Service Tools

Compaq has implemented a common Application Programming Interface (API) for many of its service tools called Web-Based Enterprise Service (**WEBES**). The tools included in the current WEBES release are:

- **Compaq Analyze**
- Compaq Crash Analysis Tool (**CCAT**)
- Revision and Configuration Management (**RCM**)

Compaq Analyze utilizes the common components of WEBES and adds its own functionality. The other WEBES service tools can be installed along with Compaq Analyze and utilize the same common components.

1.3 Supported Products

The following list shows the products Compaq Analyze supports.

- Analysis and Bit-To-Text Translation for the following:
 - Compaq AlphaServer DS10 (Tru64 UNIX and OpenVMS)
 - Compaq AlphaServer DS10L (Tru64 UNIX and OpenVMS)
 - Compaq AlphaServer DS20e (Tru64 UNIX and OpenVMS)
 - Compaq AlphaServer DS20 (Tru64 UNIX and OpenVMS)
 - Compaq AlphaServer ES40 (Tru64 UNIX and OpenVMS)
 - Compaq AlphaServer GS80/GS160/GS320 (Tru64 UNIX and OpenVMS)
 - Memory Channel II (Compaq Tru64 UNIX and OpenVMS)
- I/O – Analysis

- Disk Storage based on SCSI specification (Compaq Tru64 UNIX, OpenVMS, and Windows)
- EZ4X/EZ6X (Compaq Tru64 UNIX and OpenVMS)
- EZ5X/EZ7X (Compaq Tru64 UNIX and OpenVMS)
- HSG60/HSG80/HSZXX (Compaq Tru64 UNIX and OpenVMS)
- HSG60/HSG80 (Windows)
- I/O – Bit-To-Text Translation
 - RA3000
 - KZPSC/KZPAC/KZPBA/KZPCM/KZPSA/KZPCC/KSPEA
 - KGPSA-CA (Compaq Tru64 UNIX and OpenVMS)
 - CCMAB-AA
 - CIPCA-BA

1.4 Supported Operating Systems

Compaq Sustaining Engineering maintains a schedule of support for the Tru64 UNIX and OpenVMS operating systems. Compaq does not commit to supporting WEBES when installed on an operating system version that has exceeded its end-of-support date. See the following URL:

http://www.compaq.com/services/software/ss_pvs_se_amap.html

1.5 WEBES and Compaq Analyze Processes

Each WEBES-based service tool adds functionality to the **Director**, a process (or set of processes) that executes continuously. Compaq Analyze provides the Director with the capability to capture and interpret hardware events. Event **analysis** can be performed automatically or at the request of an outside process.

Compaq Analyze includes a web browser interface that enables you to interact with the Director. Although only one Director can run on a machine at any time, many web browser connections can be active simultaneously, all connected to the single Director.

Note

WEBES (Web-Based Enterprise Service) and **DESTA** (Distributed Enterprise Service Tools Architecture) refer to the same common components.

Introduction

1.5 WEBES and Compaq Analyze Processes

1.5.1 Director

The Director manages its own host (either a machine, or a node in a cluster) and communicates to Directors on other hosts through **TCP/IP** sockets.

The Director captures, translates, and analyzes events as well as routing messages for the Compaq Analyze system. The Director is idle except for the following circumstances:

- Events are received for processing
- Messages arrive from other Compaq Analyze processes on the same machine
- Messages arrive from a Director on another machine
- Another WEBES tool within the Director, performs any task

The Director is automatically started along with the machine and should not require any intervention. See Sections **1.6** and **1.7** for more information regarding starting and stopping the Director.

1.5.2 Command Line Interface (CLI)

Many Compaq Analyze operations can be performed from the command prompt by issuing commands beginning with `desta` and `ca`. For example:

- `ca report` – shows all the current problem reports from ongoing automatic analysis of this machine.
- `ca analyze myBinary.errlog` – analyzes the binary events in the provided event log file and displays problem reports resulting from any errors.

Each **CLI** command starts a process. Some CLI processes (such as `ca report`) connect to the Director on the same machine to perform tasks. However, other CLI processes (such as `ca analyze`) perform all tasks themselves without connecting to a Director.

CLI commands typically support many options, enabling you to specify input and output files, and filtering criteria.

Chapter **2** of this guide describes how to use the command line interface.

1.5.3 Web Interface

Using a web browser, such as Netscape Communicator or Internet Explorer, you can connect:

- directly to the URL of the Director on the same machine as the browser
- directly to the URL of the Director on a remote machine
- indirectly to a remote Director through a direct connection to the Director on the local or a remote machine.

1.5 WEBES and Compaq Analyze Processes

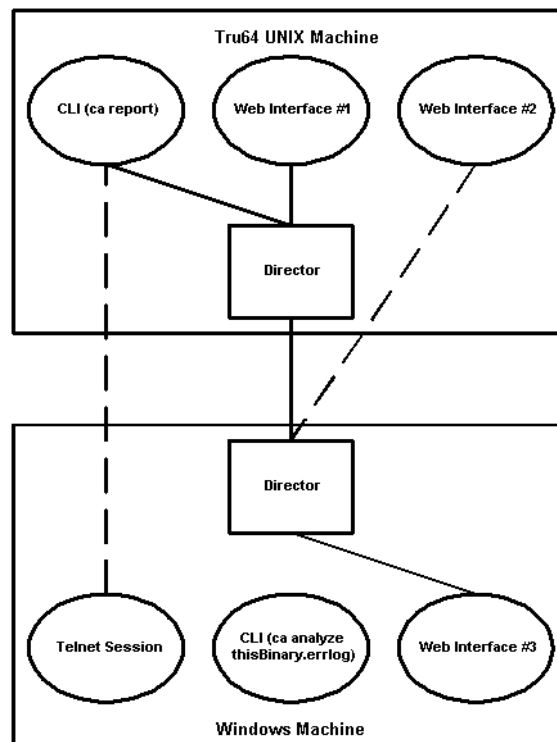
The web interface can monitor multiple nodes by communicating with the Directors on other machines. You can establish a direct connection to the Director on any machine reachable by its TCP/IP socket port, and, through that connection, view the Compaq Analyze processes on other nodes (via Director-to-Director communication). You do not need to have WEBES installed or running on the web browser's machine to connect directly to the Director on a remote machine.

Chapter 3 of this guide describes how to use the web interface.

1.5.4 Director/Interface Interaction

Figure 1-1 shows an example of two machines running Compaq Analyze processes.

Figure 1-1 Compaq Analyze Running on a UNIX and a Windows Machine.



In the example, a UNIX machine and a Windows machine, each running a single Director, communicate with each other over a network.

Web interface #1 is a web browser running on the UNIX machine, directly connected to the local Director on the same machine (<http://localhost:7902>). It can also communicate with the Director on the Windows machine through the UNIX Director. This enables you to view the output produced by either machine (such as analysis results) using the same web interface.

Introduction

1.6 Starting the Director

Web interface #2 is also a web browser running on the UNIX machine, but it has directly connected to the Director on the Windows machine (<http://thatPC.mydomain.com:7902>). Using this web interface, you can, if desired, connect back to the UNIX Director as well, but the UNIX Director need not be running at all.

A telnet session initiated from the Windows machine has logged on to the UNIX machine, and the user has issued the Compaq Analyze CLI command `ca report` (to view the results of automatic analysis). The CLI process connects to the UNIX machine's Director, which returns the current report data to the CLI process. The report text is then displayed to the user. Note that it is not necessary to have the Director running on the Windows machine for this type of remote connection.

The CLI command `ca analyze thisBinary.errlog` (which performs manual analysis on the binary log file named `thisBinary.errlog`) is issued from a command prompt on the Windows machine. In the example, the file `thisBinary.errlog` is assumed to be a log file from a UNIX machine that was transferred to the Windows machine using FTP. The Director is not required to perform manual analysis and therefore, the local Director is not required.

Finally, web interface #3 is a web browser running on the Windows machine. This interface is directly connected to the local Director on the same machine (<http://localhost:7902>), the same way that Web interface #1 connects to its local UNIX Director.

1.6 Starting the Director

The Director is automatically started during system startup. Under normal operation, you should not need to manually start the Director. However, if circumstances require it, you can manually start the Director by following the instructions for your operating system.

Tru64 UNIX

Enter `/usr/sbin/desta start` at a shell prompt. The “root” superuser should restart the Director, since only the superuser has privileges to access the system binary error log (`/var/adm/binary.errlog`).

OpenVMS

Enter `desta start` at the OpenVMS command line prompt.

The user that restarts the Director must have all privileges set. Without the necessary privileges, the Director will not be able to read the system binary error log (`SY$ERRORLOG:ERRLOG.SYS`).

Windows

Select Programs | Compaq Service Tools | Web-Based Enterprise Service | Start Director from the Start menu.

or

Enter **net start DESTA_Service** in a Command Prompt window to start the DESTA_Service Windows service that starts the Director. You also can start DESTA_Service from the Services utility in the Control Panel.

1.7 Stopping the Director

Under normal operation, you should not need to stop the Director. However, if circumstances require you to stop the director, follow the instructions for your operating system.

Tru64 UNIX

Enter **/usr/sbin/desta stop** at a shell prompt. Any user can stop the Director.

OpenVMS

Enter **desta stop** at a prompt. Any user can stop the Director.

Windows

Select Programs | Compaq Service Tools | Web-Based Enterprise Service | Stop Director from the Start menu. A Stop Director icon appears in the Task Bar, then disappears when the Director's shutdown has completed.

You can also stop the Director by stopping the DESTA_Service Windows service. To stop the service, enter **net stop DESTA_Service** at the command prompt or use the Services utility in the Control Panel.

1.8 Monitoring WEBES Processes

You can monitor the WEBES Director process using the following command:

```
desta status
```

This command generates a brief message describing the current state of the DESTA Director process. The states that may be reported are given here:

- The Director's status could not be determined.
- The Director is NOT running.
- The Director's status file indicates it is running, but the process ID was not found, so the Director process is NOT running.
- The Director is running.
- The Director is starting up.
- The Director is shutting down.

Introduction

1.8 Monitoring WEBES Processes

If the status is undetermined, or you want more detailed information about sub-processes, you may want to use the monitoring procedures specific to your operating system.

Note

With UNIX and Windows, the WEBES processes are listed using the name `java`. Other applications running on your system may also be listed using the name `java`. Therefore, when using the procedures described here, it is important to make sure that the processes in question are WEBES processes.

Tru64 UNIX

All WEBES processes are Java-based, using the Java Runtime Environment bundled with WEBES. All WEBES processes run under the `java` executable. The processes currently running can be displayed with the command:

```
ps ugxww | grep com.compaq.svctools | grep -v grep
```

This searches for a command parameter included in every WEBES process command, instead of searching for `java` which could show other non-WEBES Java-based applications as well.

Example output is shown here:

```
root      17671  0.3  0.2 2.09M 392K ttypl    S N  16:06:57      0:00.04 ksh
/usr/opt/compaq/svctools/bin/desta exec com.compaq.svctools.ca.cli.CLIInterpreter analyze
/usr/opt/compaq/svctools/ca/examples/gs320_uce_ivp.errlog
root      17751  0.0  5.0 22.4M  13M ttypl    I N  16:06:21      0:02.13
/usr/opt/compaq/svctools/jre/bin/./bin/alpha/native_threads/ java
-D$vcTools.Home=/usr/opt/compaq/svctools -D$wcc.Home=/var/adm -Xms8M
-Xmx128M com.compaq.svctools.desta.util.DESTAProcessWrapper
root      18097  0.0 12.0 57.1M  30M ttypl    S N  16:06:17      0:12.11
/usr/opt/compaq/svctools/jre/bin/./bin/alpha/native_threads/ java
-D$vcTools.Home=/usr/opt/compaq/svctools -D$wcc.Home=/var/adm -Xms8M -Xmx128M
com.compaq.svctools.desta.core.DESTAController
root      18155 73.4  6.5 33.4M  17M ttypl    U N  16:06:57      0:03.89
/usr/opt/compaq/svctools/jre/bin/./bin/alpha/native_threads/ java
-D$vcTools.Home=/usr/opt/compaq/svctools -D$wcc.Home=/var/adm -Xms8M -Xmx128M
com.compaq.svctools.ca.cli.CLIInterpreter analyze
/usr/opt/compaq/svctools/ca/examples/gs320_uce_ivp.errlog
```

In this example, process 18097 is the main Director process, started with the `DESTAController` Java class. Process 17751 is a subprocess of the Director (subprocesses start with the `DESTAProcessWrapper` Java class). Process 18155 and its parent Korn shell script wrapper process 17671 are a CLI command analyzing an example event log.

OpenVMS

Use the following command to show the processes running on an OpenVMS machine:

```
show system
```

(or **sho sys** for short)

Example output is shown here:

```
OpenVMS V7.1-2  on node FIGARO  16-MAR-2001 15:32:50.14  Uptime  14 21:05:23
```

```

    Pid    Process Name    State Pri    I/O      CPU      Page flts  Pages
00000101 SWAPPER           HIB   16      0    0 00:04:10.34      0      0
00000106 IPCACP           HIB   10      10    0 00:00:00.00      30     23
00000107 ERRFMT           HIB   8      33813  0 00:00:10.05     189     61
00000109 OPCOM            HIB   7      1709  0 00:00:00.30     416     41
...
00000797 DESTA Director    HIB   6    110831  0 00:03:14.75    112196  8192 M
0000079A JOHNSON_3        HIB   6    37957  0 00:01:22.05     7612   1102 MS
000006B5 THOMAS_1         HIB   4      8967  0 00:00:03.04     11610  1771 MS

```

In the above example, the DESTA Director parent process is shown. That process has also spawned a subprocess named JOHNSON_3, since the user JOHNSON started the Director, but the relation is not apparent from the output. Other WEBES processes, such as Compaq Analyze Command Line Interface commands, appear named after the user that started them, such as THOMAS_1 in this example, although it is not apparent that the process is a WEBES process.

Windows

Use the Windows Task Manager to monitor processes in Windows. Start the Task Manager by pressing Ctrl+Alt+Del, and then pressing the Task Manager button. Once the Task Manager window appears, click the Processes tab to view the running processes.

All WEBES processes are Java-based, using the Java Runtime Environment bundled with WEBES. All WEBES processes appear in the Task Manager list as `java.exe`. However, not all `java.exe` processes are guaranteed to be WEBES processes. Other non-WEBES Java-based applications may also appear as `java.exe`. You may be able to distinguish the Director set of processes from other WEBES and non-WEBES Java processes by looking at the Base Priority of the `java.exe` processes. The Director processes always run at Low priority, while all other WEBES processes run at Normal or High priority. However, other non-WEBES Java processes may also run at Low priority. Because the Director runs as a Windows service, there is an additional process named `DESTAService.exe`, which wraps the Director's `java.exe` processes and runs for the lifetime of the Director. The `DESTAService.exe` process also runs at Low priority.

If the Base Priority column is not shown in the Task Manager list, chose Select Columns from the View pull-down menu. In the window that appears, click Base Priority, then OK.

1.9 Log Files

Compaq Analyze processes warnings and informational messages from the Director in log files.

Note

These warning and informational message files are different from binary event log files. See Section 1.12 for more information about the different log files.

Introduction

1.9 Log Files

If Compaq Analyze appears to execute incorrectly, or does not respond as expected, check the Director log files for messages that may help you restart or recover. The files can be copied to new file names so that they are not overwritten later, and can be sent to your service provider for review.

All WEBES processes log their messages either to files or to the terminal window. For common messages you may encounter, refer to the *Compaq Analyze Release Notes* or Appendix **B**.

1.9.1 Location

The format of the log file messages is the same for all platforms, however, the file locations are operating system-dependent.

Tru64 UNIX

The Director and web interface log standard output and error messages to:

```
/usr/opt/compaq/svctools/logs/desta_dir.log
```

The Director appends to this log file each time it is started.

OpenVMS

The Director and web interface log standard output and error messages to:

```
SVCTOOLS_HOME:[LOGS]DESTA_DIR.LOG
```

The Director creates a new log file each time it is started. The previous log file is saved as:

```
DESTA_DIR.LOG;n
```

Where *n* is the previous version number of the VMS filename.

Windows

The locations given here assume that Compaq Analyze was installed in the default directory; if this is not the case, the location path will match the chosen installation directory.

The Director (and web interface) logs its standard output messages to:

```
C:\Program Files\compaq\svctools\logs\desta_dir_out.txt
```

The Director's standard error messages are logged to:

```
C:\Program Files\compaq\svctools\logs\desta_dir_err.txt
```

The Director creates new log files each time it is started. The previous log files are renamed to `desta_dir_err_backup.txt` and `desta_dir_out_backup.txt`, overwriting any previous versions of those files.

1.9.2 Logging Level

The messages logged by WEBES processes are stored in the Director log files described in Section 1.9.1. The minimum severity level, or logging level, indicates the lowest priority message that will be written to the files. Only messages that meet or exceed the minimum severity level are written to the Director log files.

1.10 Service Obligations

A **service obligation** specifies your service provider, service agreement information, and the duration of your agreement. During the WEBES installation process, you will be prompted to enter the service obligation information. This information is included with the results of **translation** and analysis.

Although Compaq Analyze continues to function without a valid service obligation, local notification and reporting are disabled. In addition, the web interface will no longer operate after your service obligation has expired.

Refer to Chapters 2 and 3 for information on viewing service obligations. Information about temporarily overriding the service obligation is contained in Chapter 2.

1.11 Environment Setup

For more information on automatic notification and the Compaq Analyze configuration settings refer to the following sections:

- To set up Simple Mail Transfer Protocol (**SMTP**) E-mail notification of problem reports, refer to Chapter 7.
- To set up Automated Call Handling Service (**ACHS**) notification of problem reports, refer to Chapter 7.
- To enable Qualified Service Access Point (**QSAP**) for use with Compaq Remote Support Service (**CRSS**), refer to Chapter 7.
- If you wish to change how the Compaq Analyze components operate, you can change the **system configuration** using the web interface. Refer to Chapter 6 for more information about system configuration.

You can modify the Compaq Analyze environment at any time.

1.12 Nomenclature Differences

The term configuration is used in two different contexts in Compaq Analyze:

Introduction

1.12 Nomenclature Differences

- Hardware Configuration – identifying the Field Replaceable Unit (FRU) or hardware components currently installed in a machine.
- System Configuration – identifying the current software settings of the Compaq Analyze system and each of the services it contains. Most of the settings can be changed using the Compaq Analyze interfaces.

Log file is also used in two different contexts:

- A log file containing text errors or information written by a Compaq Analyze or WEBES process, such as `/usr/opt/compaq/svctools/logs/desta_dir.log` on Tru64 UNIX
- An error or event log file containing binary events written by the system event logger, such as `/var/adm/binary.errlog`, written by the `binlogd` daemon on Tru64 UNIX and translated and analyzed by Compaq Analyze

Command Line Interface (CLI)

This chapter describes the Command Line Interface (CLI) for Compaq Analyze including its usage and functionality.

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2.1 Overview

The command line interface (CLI) provides a text-based interface for Compaq Analyze and a means to interact with the Director. The CLI enables both automatic and manual analysis (automatic analysis is the default).

In automatic mode, Compaq Analyze monitors the binary system event logs for new events. When a event is appended to the binary event log, Compaq Analyze translates the event into a readable format. The decomposed event is passed to the Analyzer for fault analysis. Depending on the analysis of the event and the analysis of a history of events, a problem report may be generated.

Manual mode enables you to specify binary event logs for translation and analysis, without interfering with automatic analysis.

Note

Most of the examples in this chapter use the Windows directory structure. If you are using a different operating system, you will need to modify the commands accordingly.

2.1.1 Standalone CLI

The Director is not required to run all the CLI commands. The following CLI functions can be performed without the Director:

- Manual Analysis
- Translation
- Summary Report
- Create New Binary Log File

Since these operations do not use the Director, you must have permission to access any log file that you want to process. In addition, messages that would otherwise be written to the Director's log files are included in the output for the command. The messages shown remain subject to the logging level. Refer to Chapter 1 for more information on log messages.

2.1.2 Conventions

Table 2-1 describes the conventions used to show CLI commands in this manual.

Table 2–1 Syntax Conventions

Convention	Meaning
Bold	Command text. Bold is used for information that must be typed as it appears here. For example, command verbs are shown in bold.
Italic	Variables. Italics are used for information that varies depending on your requirements. For example, <i>inputfile</i> indicates that you should enter the name of the file you want to process.
[]	Optional Entries. Information shown in square brackets is not required. You may or may not include these optional modifiers. In most cases the optional entries pertain to input files, output files and filtering commands.
	Mutually Exclusive Entries. The bar separates mutually exclusive entries.

2.2 Command Syntax

You interact with the CLI by issuing commands from the command prompt. Some Compaq Analyze operations can be performed using several different commands, or syntaxes. The supported syntaxes are:

- Common Syntax
- DECEvent Emulation (UNIX and VMS)
- New Common Syntax

You can enter commands using any of the supported command formats. If desired, you can switch between the different syntaxes.

Note

The DECEvent emulator is only supported on UNIX and VMS systems. In addition, the DECEvent emulator only supports some of the commands. Refer to Table 2–4 for a list of the commands supported by the DECEvent emulator.

If you are using a command syntax other than the default, you must include a syntax designator in the command. Table 2–2 shows the syntax designators.

Command Line Interface (CLI)

2.2 Command Syntax

Table 2–2 Syntax Designators

Syntax Name	Syntax Designator	Command Preface
Common Syntax	x	ca (ca x if the default syntax is not set to the common syntax)
DECevent Emulator (UNIX)	u	ca u
DECevent Emulator (VMS)	v	ca v
New Common Syntax	n	ca n

2.2.1 Setting the Default Syntax

When Compaq Analyze is installed, the common syntax is the default for the CLI. As a result, when you enter commands in the common syntax you do not need to include a syntax designator. If you want, you can change the default syntax. Any commands that use the default syntax do not require a syntax designator. To specify a default syntax, use the following command:

ca syntax *syntax_designator*

Where *syntax_designator* refers to the letter corresponding to the desired default syntax (see Table 2–2 for the designator associated with each syntax).

For example, to set the new common syntax as the default syntax, use the following command:

```
ca syntax n
```

Once the syntax is set, you can enter commands in your chosen syntax without specifying the syntax designator. Table 2–3 shows how the default syntax setting affects commands.

Table 2–3 Default Syntax

Command Syntax	Default Syntax Translation Command Format	Not Default Syntax Translation Command Format
Common Syntax	ca trans	ca x trans
DECevent Emulator (UNIX)	ca -a	ca u -a
DECevent Emulator (VMS)	ca /tra	ca v /tra
New Common Syntax	ca tra	ca n tra

Note

Changes to the default syntax affect all the users on a system. Thus, if another user changes the default syntax, your session may not function as expected. You can avoid this situation by using a syntax designator with all the commands that support multiple formats.

2.2.2 Showing the Default Syntax

To show the current default syntax, use the following command:

ca syntax

2.3 Command Verbs

The CLI supports both Compaq Analyze commands and Director commands. Compaq Analyze commands use the **ca** preface and Director commands use the **desta** preface.

Note

If you enter the command **ca** without any command verb or parameters, Compaq Analyze defaults to translation. In this case, the system event log is translated and the output is sent to the screen.

2.3.1 CA Command Verbs

The Compaq Analyze commands that support multiple syntaxes are formed using the following convention:

ca *syntax_designator command_verb*

Where *syntax_designator* indicates which syntax you are using (if it is not the default syntax) and *command_verb* indicates the action you want to perform. The syntax designator is not necessary if you are using the default syntax.

Table 2-4 provides an overview of the available **ca** command verbs that support multiple syntaxes.

Command Line Interface (CLI)

2.3 Command Verbs

Table 2–4 Command Verbs – ca (multiple syntax)

Common Syntax	DECevent Emulator (UNIX)	DECevent Emulator (VMS)	New Common Syntax ¹	Description
analyze	ana	/ana	ana (analyze)	Switches to manual mode and analyzes one or more binary event logs. See Section 2.5.1 for more details.
trans	-a	/tra	tra (translate)	Switches to manual mode and translates one or more binary event logs. This command does not send the results to analysis. See Section 2.6 for more details.
summ	-o sum	/sum	sum (summarize)	Returns a summary of all the events contained in a binary event log. See Section 2.7 for more details.
filterlog	-b	/bin	bin (binary)	Applies a filter to an existing binary event log and creates a new binary event log containing the subset of events returned after filtering. See Section 2.8 for more details.
help	hlp	/help	help	Displays a text-based help file. The text-file describes the syntaxes supported by your operating system.

¹ The new common syntax allows abbreviations. You only need to enter the first three letters of a command verb to initiate the command. The full command verb is shown in parenthesis.

The Compaq Analyze *ca* commands that only support one syntax are formed using the following convention:

ca *command_verb*

Where *command_verb* indicates the action you want to perform.

Table 2–5 provides an overview of the available *ca* command verbs that only support one syntax.

Table 2–5 Command Verbs – ca (single syntax)

Verb	Description
report	Displays the active problem reports generated from automatic analysis. See Section 2.5.2.1 for more details.
log	Toggles the logging of automatically generated problem reports on or off. See Section 2.5.2.2 for more details.
listrk	List the paths of the knowledge files registered with DeCOR. See Section 2.10 for syntax information and Chapter 5 for more details on rule sets.
regknw	Registers or unregisters one or more knowledge (*.krs) files for use during automatic and manual event analysis. See Section 2.10 for syntax information and Chapter 5 for more details on rule sets.
sicl	Toggles on or off the Compaq Analyze System Initiated Call Logging (SICL) feature, which automatically log calls with Compaq Services if DSNLink is installed on the system. See Section 2.12 for syntax information and Chapter 7 for more details on SICL.

2.3.2 DESTA Commands

The Director commands are formed using the following convention:

desta *command_verb*

Where *command_verb* indicates the action you want to perform.

Table 2–6 describes the command verbs used with **desta**.

Table 2–6 Command Verbs – desta

Verb	Description
msg	Changes the Compaq Analyze port configuration settings. See Section 2.11 for more details on port settings.
qsap	Toggles on or off the Compaq Analyze Qualified Service Access Point (QSAP) feature, which automatically log calls with Compaq Services. See Section 2.12 for syntax information and Chapter 7 for more details on QSAP.
servob	Overrides your Compaq Analyze service obligation. See Section 2.13 for more details.
start	Starts the Director if it has been stopped. See Chapter 1 for more details on starting the Director.
status	Shows the current status of the Director. See Chapter 1 for more details on the Director's status.
stop	Manually stops the Director. See Chapter 1 for more details on stopping the Director.

2.4 Command Parameters

Parameters are used to specify binary log files for processing, designate output files, and create filters. In most cases, Compaq Analyze allows you to specify parameters in any order. For example, the following commands using the new common syntax are equivalent:

```
ca n tra inp myinput.zpd out myoutput.txt index=(start:10) brief
ca n brief index=(start:10) out myoutput.txt inp myinput.txt tra
```

Notice that even the placement of the command verb (`tra` in this case) may be changed.

Be aware of the following exceptions to the order independence rule:

- With the common syntax, the command verb must be the first parameter.
- The parameters of the common syntax `filterlog` command must be entered in the specified order. See Section 2.8 for more on the `filterlog` command.
- If you are using the new common syntax `sum` command and you want to generate indexed output, the `index` parameter must immediately follow the `sum` command verb. Otherwise, Compaq Analyze will assume you are using the `index` filter keyword. Refer to Section 2.7 for more on the `sum` command.

2.5 Analysis

If the Director is installed, automatic analysis is initiated when you start your machine. This means that Compaq Analyze automatically analyzes the default event log file and generates reports as necessary.

With manual analysis you can select a binary event log for immediate processing.

For more information on analysis and the default analysis settings, refer to Chapter 5.

2.5.1 Manual Analysis

Use manual analysis to analyze a binary event log other than the system event log. To switch to manual mode, analyze binary event logs, and output the generated reports, use the `analysis` command.

For more information on manual analysis operations and output, refer to Chapter 5.

2.5.1.1 Performing Manual Analysis

You can manually analyze binary event logs using any command syntax. Table 2-7 describes the commands used for manual analysis:

Table 2–7 Manual Analysis Commands

Command Syntax	Format
Common Syntax	ca x analyze [<i>inputfile</i>] [outtext outhtml <i>outputfile</i>]
DECevent Emulator (UNIX)	ca u ana [-f <i>inputfile</i>] [> <i>outputfile</i>]
DECevent Emulator (VMS)	ca v /ana[/out=<i>outputfile</i>] [<i>inputfile</i>]
New Common Syntax	ca n ana [input <i>inputfile</i>] [out outhtml <i>outputfile</i>]

2.5.1.2 Specifying Input Files

By default, manual analysis processes the system event log. If you want to process a different binary log file, you must specify the input file location and name.

See Section 2.9.1 for more information on working with input files.

2.5.1.3 Saving Output to a File

If you would like to save the generated reports to a file, rather than display them on the screen, you need to specify the file format, location and name.

See Section 2.9.2 for more information on working with output files.

2.5.2 Automatic Analysis

By default, when the Director is started Compaq Analyze initiates automatic analysis on the binary system event log. Using the CLI, you can view the reports generated by automatic analysis or save them to a file.

For more information on automatic analysis and the problem reports generated by analysis, refer to Chapter 5.

2.5.2.1 Viewing Automatic Analysis Reports

To view the active problem reports generated by automatic analysis, use the `report` command. Reports can be viewed in the command prompt window or saved to a file.

The syntax for the `report` command is shown here:

```
ca report [outtext | outhtml outputfile]
```

Command Line Interface (CLI)

2.6 Translation

If you do not include any optional parameters, the reports are shown on the screen. See Section 2.9.2 for more information about working with output files.

2.5.2.2 Logging Automatic Analysis Reports

Compaq Analyze can automatically log generated problem reports in the `prob.log` file located in the `logs` directory.

To turn automatic logging on, use the following command:

ca log prob on

To turn automatic logging off, use the following command:

ca log prob off

If the `prob.log` file already exists, the new data from subsequent logging operations is appended to the existing file. If you delete the `prob.log` file, it is automatically recreated during the next logging operation. Log output is flushed and the file is closed after each entry.

2.5.3 Analysis Output

Refer to Appendix A for an example of a report generated by analysis.

2.6 Translation

You can translate, or decompose, the events in a binary event log into a readable format using the translation command. Translation operates in manual mode, meaning you must enter the command every time you want to perform translation.

For more information about translation and its default settings, refer to Chapter 4.

2.6.1 Performing Translation

Translation is supported by all the Compaq Analyze syntaxes and Table 2-8 describes the commands used for translation:

Table 2–8 Translation Commands

Command Syntax	Format
Common Syntax	ca x trans [<i>inputfile</i>] [outtext outhtml <i>outputfile</i>] [filter " <i>filterstatement</i> "] [brief full]
DECevent Emulator (UNIX)	ca u -a [-f <i>inputfile</i>] [brief full] [<i>filter flags</i>] [> <i>outputfile</i>]
DECevent Emulator (VMS)	ca v /tra [/out= <i>outputfile</i>][/brief /full][<i>filter flags</i>] [<i>inputfile</i>]
New Common Syntax	ca n tra [input <i>inputfile</i>] [out <i>outputfile</i>] [<i>filterstatement</i>] [brief full]

2.6.2 Specifying Input Files

By default, manual translation processes the system event log. If you want to process a different binary log file, you must specify the input file location and name.

See Section 2.9.1 for more information on working with input files.

2.6.3 Saving Output to a File

If you would like to save the translated events to a file, rather than display them on the screen you need to specify the file format and name.

See Section 2.9.2 for more information on working with output files.

2.6.4 Filtering Log Files

You can specify the events from a binary event log file that you want to translate by defining a filter. For more information on filtering refer to Section 2.9.3.

2.6.5 Output Type

You can specify either brief or full output for translation. Full output, which is the default, presents all the translation information for an event. Brief output only presents the information used by analysis.

2.6.6 Translation Output

Refer to Appendix A for an example of a translated event and to see the difference between full and brief output.

2.7 Summary of Events

You can use the CLI to view a summary of the events contained in a binary log file. Table 2-9 describes the command for each syntax.

Table 2-9 Summary Commands

Syntax	Format
Common Syntax	ca x summ [index] [inputfile]
DECevent Emulator (UNIX)	ca u -o sum [-f inputfile] [filter flags]
DECevent Emulator (VMS)	ca v /sum [filter flags] [inputfile]
New Common Syntax	ca n sum [index] [input inputfile] [out outhtml outputfile] [filterstatement]

2.7.1 Specifying Input Files

By default, the summary command returns information for the system event log. If you want to specify a different log file or multiple log files you can do so.

See Section 2.9.1 for more information on working with input files.

2.7.2 Filtering Log Files

You can specify the events from a binary event log file that you want to view a summary report for by defining a filter. For more information on filtering refer to Section 2.9.3.

Summary report filtering is not supported by the common syntax. If you want to filter the events in a log file before generating a summary report, use another syntax.

2.7.3 Indexed Output

By default, a tallied list of all the events in the binary event log files is generated. However, you can generate an indexed list of all the events using the index modifier.

The indexed output is not available with the DECevent syntaxes.

2.7.4 Example Output

The results of the summary command are displayed in the command prompt window.

An example of the standard, tallied output is shown here:

```
Log: /svctools_home/ca/examples/ds20_660_binary.errlog
  Qty      Type  Description
-----
    1       302   Tru64 UNIX Panic ASCII Message
    1       300   Tru64 UNIX Start-up ASCII Message
    1       660   UnCorrectable System Event
    1       110   Configuration Event
    1       310   Tru64 UNIX Time Stamp Message
Total Entry Count: 5
First Entry Date:  Thu Jan 27 09:18:06 MDT 2001
Last Entry Date:  Thu Jan 27 13:00:32 MDT 2001
```

An example of the indexed output is shown here:

```
Log: /SVCTOOLS_HOME/ca/examples/ds20_660_binary.errlog
 Index     Type  Description                               Date/Time
-----
    1       660   UnCorrectable System Event             05/27/99 09:18:06 MDT
    2       302   Tru64 UNIX Panic ASCII Message          05/27/99 09:18:08 MDT
    3       110   Configuration Event                     05/27/99 09:19:57 MDT
    4       300   Tru64 UNIX Start-up ASCII Message        05/27/99 09:19:57 MDT
    5       310   Tru64 UNIX Time Stamp Message            05/27/99 13:00:32 MDT
```

2.8 Creating New Binary Event Log Files

You can filter the contents of existing binary event logs and create a new binary event log file containing a subset of the events from the originals. When you create a new binary log file, Compaq Analyze checks the events in the original binary event log file against the filter statement. All the events that meet the criteria specified by the filter statement are added to the new binary event log file. The new binary event log file can then be used for analysis, translation, or any other Compaq Analyze process. The syntax for creating new binary event log files is as follows:

Table 2-10 Create New Log File Commands

Command Syntax	Format
Common Syntax	ca x filterlog <i>inputfile</i> <i>outputfile</i> [" <i>filterstatement</i> "]
DECevent Emulator (UNIX)	ca u -b <i>outputfile</i> [-f <i>inputfile(s)</i>] [<i>filter_flags</i>]
DECevent Emulator (VMS)	ca v /bin= <i>outputfile</i> [/ <i>filter_flags</i>] [<i>inputfile(s)</i>]
New Common Syntax	ca n bin [<i>input</i> <i>inputfile(s)</i>] out <i>outputfile</i> [<i>filterstatement</i>]

2.8.1 Specifying Input Files

By default, the system event log is used as the input file. If you want to process a different binary log file or files, you must specify the input file location and name.

See Section [2.9.1](#) for more information on working with input files.

Note

You cannot use multiple input files with the common syntax. If you are using another syntax, you can specify multiple input files and merge them into a single binary log file (in this case, filtering occurs for each input file before events are written to the new file). Be aware that Compaq Analyze does not remove duplicate events.

2.8.2 Saving Output to a File

You must specify a file name and location where the new binary output file will be saved. The output file parameter is mandatory when you are creating a new binary event log file.

2.8.3 Filtering Log Files

You can specify the events from a binary event log file that you want to include in the new log file by defining a filter. If you do not define a filter, the new log file will contain all the events in the existing log file. For more information on filtering refer to Section [2.9.3](#).

2.9 Modifying Commands

By default, the analysis, translation, summary and new binary log file commands all process the system event log. The output from analysis, translation and summary commands is displayed on the screen. You can change these defaults in order to process other binary log files and save the processing results to a file. With some of the commands you can further restrict the events that are processed by filtering the binary log file used for input. The following sections describe how to use these features.

2.9.1 Input Files

Many of the commands used in manual mode enable you to specify an input binary event log file. Table [2-11](#) describes how to specify a input file using each syntax.

Command Line Interface (CLI)

2.9 Modifying Commands

Table 2–11 Specifying an Input File

Syntax	Format	Example
Common Syntax	Append the directory and filename of the desired input file to the end of the command.	<code>ca x analyze examples\ds20.errlog</code>
DECevent Emulator (UNIX)	<code>-f filename</code> Where <i>filename</i> indicates the name and location of the input file.	<code>ca u ana -f examples/ds20.errlog</code>
DECevent Emulator (VMS)	Append the directory and filename of the desired input file to the end of the command.	<code>ca v /ana [.examples]ds20.errlog</code>
New Common Syntax	<code>input filename</code> Where <i>filename</i> indicates the name and location of the input file. If there are multiple input files, separate the names with commas.	<code>ca n ana input examples\ds20.errlog</code>

When you are specifying an input file, the following guidelines apply:

- Specifying an input file is optional. If you do not specify either a directory or a file, Compaq Analyze processes the binary system event log. An example of a command without any input file criteria is shown here:

```
ca analyze
```

This rule does not apply when you are using the common syntax `filterlog` command. Refer to Section 2.8 for more information.

- You can use the relative directory structure to specify input files. Thus, if you were in the `C:\program files\compaq\svctools\ca` directory and you wanted to analyze the `ds20.errlog` binary event log located in the `C:\program files\compaq\svctools\ca\examples` directory, you could enter the following command:

```
ca analyze examples\ds20.errlog
```

- If you specify a directory but no file name, Compaq Analyze processes all the files with a `.errlog`, `.sys`, `.zpd`, or `.evt` extension located in the provided directory. An example of a command that only indicates a directory is shown here:

```
ca analyze examples\
```

- Multiple filenames can be specified by separating them with spaces, as shown in the following example:

```
ca analyze examples\ds20.errlog hscir1.zpd
```

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- You can use wildcards to specify multiple files. In the example shown here, all the files located in the \examples directory with a name that starts with ds and an .errlog extension are analyzed:

```
ca analyze examples\ds*.errlog
```

2.9.2 Output Files

With many commands, you can save the results of processing to a file rather than viewing the output on the screen. Table 2–12 describes how to specify a output file using each syntax.

Note

These output file guidelines do not apply when you are creating a new binary event log. Refer to Section 2.8 for more details.

Table 2–12 Specifying an Output File

Syntax	Format	Example
Common Syntax	<ul style="list-style-type: none">outtext <i>filename</i>outhtml <i>filename</i> <p>The outtext option creates a text output file and the outhtml option creates a html output file. In both cases, <i>filename</i> refers to the directory and filename where you want to save the output.</p>	<pre>ca x analyze outtext results.txt ca x analyze outhtml results.html</pre>

Table 2–12 Specifying an Output File (continued)

Syntax	Format	Example
DECevent Emulator (UNIX)	<p>> <i>filename</i></p> <p>Where <i>filename</i> indicates the name and location of the output file. The output file must be located at the end of the command. Output files are always saved in text format.</p>	<pre>ca u ana > results.txt</pre>
DECevent Emulator (VMS)	<p>/out=<i>filename</i></p> <p>Where <i>filename</i> indicates the name and location of the output file. Output files are always saved in text format.</p>	<pre>ca v /ana/out=results.txt</pre>
New Common Syntax	<ul style="list-style-type: none">• out <i>filename</i>• outhtml <i>filename</i> <p>The out option creates a text output file and the outhtml option creates a html output file. In both cases, <i>filename</i> refers to the directory and filename where you want to save the output.</p>	<pre>ca n ana out results.txt ca n ana outhtml results.html</pre>

2.9.3 Filtering

Some of the CLI commands enable you to filter a binary event log file and only process a subset of the events. Filtering statements are different depending on the syntax you are using. Table 2–13 shows the general rules each syntax uses with filtering.

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Table 2–13 General Filtering Rules

Syntax	Rules
Common Syntax	<ul style="list-style-type: none">• Filtering can be used with the <code>trans</code> and <code>filterlog</code> commands.• Use the <code>filter</code> keyword before the filter statement when filtering with the <code>trans</code> command.• Filter statements must be enclosed in quotation marks.• You can join multiple filter statements by using an ampersand (&) between them.• Most filter parameters are not case sensitive. Exceptions are given in Table 2–14.
DECevent UNIX	<ul style="list-style-type: none">• Filtering can be used with the <code>-a</code>, <code>-o sum</code>, and <code>-b</code> commands.• You can include multiple filter statements by using more than one filtering flag in a command. In this case, separate each flag with a space.
DECevent VMS	<ul style="list-style-type: none">• Filtering can be used with the <code>/tra</code>, <code>/sum</code>, and <code>/bin</code> commands.• You can include multiple filter statements by using more than one filtering flag in a command. You do not need to put a space between flags.
New Common Syntax	<ul style="list-style-type: none">• Filtering can be used with the <code>tra</code>, <code>sum</code>, and <code>bin</code> commands.• You can include multiple filter statements by separating them with comma and a space.• You can abbreviate the filter parameters. You only need to enter the minimum number of letters required to uniquely identify a parameter. For example, <code>index</code> could be abbreviated as <code>ind</code>.

Table 2–14 describes filtering statements for each syntax.

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Table 2–14 Filtering Statements

Common Syntax	DECevent UNIX	DECevent VMS	New Common Syntax
<code>dtb=<i>date</i></code> <code>(date_time_begin)</code> <code>dte=<i>date</i></code> <code>(date_time_end)</code>	<code>-t s:<i>date</i> e:<i>date</i></code>	<code>/SIN=<i>date</i></code> <code>/BEF=<i>date</i></code>	<code>begin=<i>date</i></code> <code>since=<i>date</i></code> <code>end=<i>date</i></code>
<p>Filters based on the time the event occurred. No events that occurred before the given start time or after the given end time are processed. The date can be entered in any format supported by Java (for example, <i>dd-mmm-yyyy, hh:mm:ss</i>). You do not need to include the time (<i>hh:mm:ss</i>) with the date. Be aware of the following guidelines:</p> <ul style="list-style-type: none"> • The DECevent UNIX syntax combines the start and end times in a single filter statement. • The new common syntax begin and since statements are equivalent. • You can use the keywords YESTERDAY and TODAY with the DECevent syntaxes and the new common syntax. • With the new common syntax begin and since keywords, you can enter a negative integer value to process based on a relative date. For example, entering -3 processes events from the last three days. 			
<code>rtdb=<i>days</i></code> <code>(rel_time_days_begin)</code> <code>rtde=<i>days</i></code> <code>(rel_time_days_end)</code> <code>rthb=<i>hours</i></code> <code>(rel_time_hours_begin)</code> <code>rthe=<i>hours</i></code> <code>(rel_time_hours_end)</code>			
<p>Filters based on the time the event occurred relative to the time the first or last event in the log file occurred. Filtering based on days and hours is supported. For example, using the filter <code>rtdb=3</code> will process all the events that occurred within three days of the first event in the file.</p>			
<code>et=<i>nn</i></code> <code>et!=<i>nn</i></code> <code>et<<i>nn</i></code> <code>et><i>nn</i></code> <code>(entry_type)</code>			
<p>Filters based on the numeric event type. Be aware of the following guidelines:</p> <ul style="list-style-type: none"> • With the = and != operators you can enter multiple entry types by separating them with commas. • Instead of entering entry type numbers, you can use one of the supported keywords. Refer to Table 2–15 for the supported keywords. 			
	<code>-i <i>keyword</i></code> <code>-x <i>keyword</i></code>	<code>/INC(<i>keyword</i>)</code> <code>/EXC(<i>keyword</i>)</code>	<code>include=<i>keyword</i></code> <code>exclude=<i>keyword</i></code>
<p>Filters based on the numeric entry type. You must enter a keyword rather than the actual entry type. Refer to Table 2–15 for information on supported keywords.</p>			
<code>cn=<i>name</i></code> <code>cn!=<i>name</i></code> <code>(computer_name)</code>	<code>-H <i>name</i></code>	<code>/NOD=<i>name</i></code>	<code>node=<i>name</i></code>
<p>Filters based on the node responsible for generating the event.</p> <ul style="list-style-type: none"> • With the common syntax = and != operators you can enter multiple entry types by separating them with commas. • The <i>name</i> argument is case sensitive. 			

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Table 2–14 Filtering Statements (continued)

Common Syntax	DECevent UNIX	DECevent VMS	New Common Syntax
ost= <i>n</i> ost!= <i>n</i> (os_type)			
Filters based on the operating system type, using the numeric representation for each operating system. • With the common syntax = and != operators you can enter multiple entry types by separating them with commas.			
idx= <i>nn</i> idx!= <i>nn</i> idx< <i>nn</i> idx> <i>nn</i> (event_index)	-e s: <i>nn</i> e: <i>nn</i>	/ENT=(S: <i>nn</i> ,E: <i>nn</i>)	index= <i>nn</i> index=(start: <i>nn</i> end: <i>nn</i>)
Filters based on the event's position in the event log. • With the common syntax = and != operators you can enter multiple entry types by separating them with commas.			
sort=keyword			
Used with a keyword to organize the output. The following keywords are supported: • entry – sorts based on entry type from highest entry type number to lowest • reventry – sorts based on entry type from lowest entry type number to highest • time – sorts based on entry time from most recent to oldest • revtime – sorts based on entry time from oldest to most recent • idx – sorts based on the entry index number from highest to lowest • revidx – sorts based on the entry index number from lowest to highest			
	-R	/REV	reverse
Processes the events in reverse order according to the event index number.			
			skipconfig
Ignores configuration entries when processing a log file. This filter is only available when you are creating a new binary log file.			

Table 2–15 Event Type Keywords

Keyword	Description	Supported Syntaxes
mchk-all	All machine check events.	• Common Syntax
mchk	All machine check events.	• Common Syntax • New Common Syntax
mchk-sys	All system machine check events.	• Common Syntax

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Table 2–15 Event Type Keywords (continued)

Keyword	Description	Supported Syntaxes
mchk-cpu	All cpu machine check events.	<ul style="list-style-type: none"> Common Syntax
mchk-env	All environmental machine check events.	<ul style="list-style-type: none"> Common Syntax
cam	All SCSI entries logged by the CAM logger (199).	<ul style="list-style-type: none"> DECevent New Common Syntax
configurations	Configuration entries (110).	<ul style="list-style-type: none"> DECevent New Common Syntax
control_entries	System startup entries or new error log creation entries (32, 35, 300).	<ul style="list-style-type: none"> DECevent New Common Syntax
cpus	Machine check entries for AXP (mchk-cpu).	<ul style="list-style-type: none"> DECevent
environmental_entries	Power entries (mchk-env).	<ul style="list-style-type: none"> DECevent New Common Syntax
swxcr	Entries logged by SWXCR (198).	<ul style="list-style-type: none"> DECevent New Common Syntax
machine_checks or mchks	Events with machine checking information (mchk).	<ul style="list-style-type: none"> DECevent New Common Syntax
operating_system= <i>value</i> or os= <i>value</i>	Events with a specific operating system type. The <i>value</i> parameter indicates the numeric code for the desired operating system.	<ul style="list-style-type: none"> DECevent New Common Syntax
panic	Crash re-start, system panic, or user panic entries (37, 302).	<ul style="list-style-type: none"> DECevent New Common Syntax
software_informationals or swi	Events with lastfail, system startup, or system configuration information (volume mounts, volume dismounts, new error logs, timestamp entries) (32, 35, 37, 38, 39, 64, 65, 250, 300, 301, 310).	<ul style="list-style-type: none"> DECevent New Common Syntax
osf_entry	Events logged on a Tru64 UNIX operating system.	<ul style="list-style-type: none"> DECevent New Common Syntax
mchk_sys	All system machine check events.	<ul style="list-style-type: none"> New Common Syntax
mchk_cpu	All cpu machine check events.	<ul style="list-style-type: none"> New Common Syntax
mchk_env	All environmental machine check events.	<ul style="list-style-type: none"> New Common Syntax

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2.9 Modifying Commands

Examples – Common Syntax

The following examples show sample commands that use filtering. A description of what the filter does follows each example.

```
ca x trans filter "computer_name=ComputerName"
ca x filterlog inputfile.zpd outputfile.bin "computer_name=ComputerName"
```

Processes events from the system described by *ComputerName*.

```
ca x trans filter "computer_name!=ComputerName & date_time_begin=11-Jan-2000"
ca x filterlog inputfile.zpd outputfile.bin "computer_name!=ComputerName &
date_time_begin=11-Jan-2000"
```

Processes events that did not occur on the system described by *ComputerName* that occurred after January 11, 2000.

```
ca x trans filter "date_time_end=31-Jan-2000,20:33:57"
ca x filterlog inputfile.zpd outputfile.bin
"date_time_end=31-Jan-2000,20:33:57"
```

Processes events that occurred before 8:33:57 PM on January 31, 2000.

```
ca x trans filter "rel_time_days_begin=4"
ca x filterlog inputfile.zpd outputfile.bin "rel_time_days_begin=4"
```

Processes events that occurred no more than four days after the first event in the log file.

```
ca x trans filter "rel_time_hours_end=35"
ca x filterlog inputfile.zpd outputfile.bin "rel_time_hours_end=35"
```

Processes events that occurred no more than 35 hours before the last event in the log file.

```
ca x trans filter "entry_type=mchk-cpu"
ca x filterlog inputfile.zpd outputfile.bin "entry_type=mchk-cpu"
```

Processes all CPU machine check events.

```
ca x trans filter "entry_type!=610,620,630"
ca x filterlog inputfile.zpd outputfile.bin "entry_type!=610,620,630"
```

Processes all events, except those of type 610, 620, and 630. Only the common syntax supports filtering based on specific entry types the other syntaxes must use keywords.

```
ca x trans filter "entry_type>600"
ca x filterlog inputfile.zpd outputfile.bin "entry_type>600"
```

Processes all events with a type greater than 600.

```
ca x trans filter "entry_type<300 & os_type=3"
ca x filterlog inputfile.zpd outputfile.bin "entry_type<300 & os_type=3"
```

Processes all events with a type less than 300 and an operating system of type 3.

```
ca x trans filter "os_type!=1,2 & sort=revtime"
ca x filterlog inputfile.zpd outputfile.bin "os_type!=1,2"
```


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Processes all events without an operating system type of 1 or 2. The translation command presents the output in reverse chronological order.

```
ca x trans filter "entry_index>15"  
ca x filterlog inputfile.zpd outputfile.bin "entry_index>15"
```

Processes all the events after the fifteenth event in the log file.

Examples – DECEvent UNIX

The following examples show sample commands that use filtering. A description of what the filter does follows each example.

```
ca u -a -H ComputerName  
ca u -o sum -H ComputerName  
ca u -b outputfile.bin -f inputfile.zpd -H ComputerName
```

Processes events from the system described by *ComputerName*.

```
ca u -a -t e:31-Jan-2000,20:33:57  
ca u -o sum -t e:31-Jan-2000,20:33:57  
ca u -b outputfile.bin -f inputfile.zpd -t e:31-Jan-2000,20:33:57
```

Processes events that occurred before 8:33:57 PM on January 31, 2000.

```
ca u -a -i cpu  
ca u -o sum -i cpu  
ca u -b outputfile.bin -f inputfile.zpd -i cpu
```

Processes all CPU machine check events.

```
ca u -a -x operating_system=1 -R  
ca u -o sum -x operating_system=1  
ca u -b outputfile.bin -f inputfile.zpd -x operating_system=1
```

Processes all events without an operating system type of 1. The translation command presents the output in reverse chronological order.

```
ca u -a -e s:15  
ca u -o sum -e s:15  
ca u -b outputfile.bin -f inputfile.zpd -e s:15
```

Processes all the events after the fifteenth event in the log file.

Examples – DECEvent VMS

The following examples show sample translation commands that use filtering. A description of what the filter does follows each example.

```
ca v /tra/nod=ComputerName  
ca v /sum/nod=ComputerName  
ca v /bin=outputfile.bin/nod=ComputerName inputfile.zpd
```

Processes events from the system described by *ComputerName*.

```
ca v /tra/bef=31-Jan-2000,20:33:57  
ca v /sum/bef=31-Jan-2000,20:33:57  
ca v /bin/bef=31-Jan-2000,20:33:57
```

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2.9 Modifying Commands

Processes events that occurred before 8:33:57 PM on January 31, 2000.

```
ca v /tra/inc(cpu)
ca v /sum/inc(cpu)
ca v /bin=outputfile.bin/inc(cpu) inputfile.zpd
```

Processes all CPU machine check events.

```
ca v /tra/EXC(operating_system=1)/rev
ca v /sum/EXC(operating_system=1)
ca v /bin=outputfile.bin/EXC(operating_system=1) inputfile.zpd
```

Processes all events without an operating system type of 1. The translation command presents the output in reverse chronological order.

```
ca v /tra/ent=(s:15)
ca v /sum/ent=(s:15)
ca v /bin=outputfile.bin/ent=(s:15) inputfile.zpd
```

Processes all the events after the fifteenth event in the log file.

Examples – New Common Syntax

The following examples show sample translation commands that use filtering. A description of what the filter does follows each example.

```
ca n tra node=ComputerName
ca n sum node=ComputerName
ca n bin input inputfile.zpd out outputfile.bin node=ComputerName
```

Processes events from the system described by *ComputerName*.

```
ca n tra end=31-Jan-2000,20:33:57
ca n sum end=31-Jan-2000,20:33:57
ca n bin input inputfile.zpd out outputfile.bin end=31-Jan-2000,20:33:57
```

Processes events that occurred before 8:33:57 PM on January 31, 2000.

```
ca n tra include=mchk_cpu, mchk_sys reverse
ca n sum include=mchk_cpu, mchk_sys
ca n bin input inputfile.zpd out outputfile.bin include=mchk_cpu, mchk_sys
```

Processes all CPU machine check and system machine check events. The translation command presents the output in reverse chronological order.

```
ca n tra index=(start:15)
ca n sum index=(start:15)
ca n bin input inputfile.zpd out outputfile.bin index=(start:15)
```

Processes all the events after the fifteenth event in the log file.

2.10 Knowledge Rulesets

Rulesets are used in conjunction with analysis. The events in a binary log file are compared with rulesets. Depending on the results of this comparison problem reports are generated. The following commands are used to work with rulesets.

ca listrk – lists the registered rulesets used by analysis (see Chapter 5 for more information).

ca regknw – registers or unregisters the rulesets used by analysis (see Chapter 5 for more information).

2.11 Configuration

The Compaq Analyze configuration settings control port numbers and other features. The following commands can be used to change the configuration.

desta msg -chgport nnn – changes the socket ports (see Chapter 6 for more information).

Note

There are more configuration settings that can be changed using the web interface. Refer to Chapter 6 for more information on configuration.

2.12 Notification

SICL and QSAP are both used for automatic notification. With automatic notification, the results of analysis are sent to your service provider. The following CLI commands can be used to turn automatic notification on and off.

ca sicil – turns SICL notification on and off (see Chapter 7 for more information).

desta qsap – turns QSAP on and off (see Chapter 7 for more information).

2.13 Service Obligations

Your service obligation describes the details of your service agreement. You can view an existing service obligation or override an expired obligation from the command line. See Chapter 1 for more information about service obligations.

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2.14 Getting Help

2.13.1 Show

To view the service obligation for a machine, enter the following command:

desta servob show

This displays all the information associated with your service obligation. The following example depicts the service obligation information:

```
WEBES Service Obligation Status
-----
Service Obligation:           Valid
Service Obligation Number:    50036123
System Serial Number:        50036123
Service Provider Company Name: Compaq
```

2.13.2 Override

If you need to view the analysis or translation results on a computer without a valid service obligation, you can override the service obligation using the following command:

desta servob override

Overriding does not change the service obligation; rather, it enables your service provider to use Compaq Analyze without a valid service obligation. Overriding the obligation enables you to view Compaq Analyze report output for one hour regardless of your obligation status.

The following example shows the prompts that appear when you override the service obligation along with sample answers:

```
WEBES Service Obligation Override
-----
Service Provider Company Name?  Compaq
Service Provider Employee Name? Jack Smith
Service Provider Employee ID#?  000000000000
-----
WARNING on March 28, 2000 7:36:01 AM MST (0.037 sec elapsed)
  Obligation Information Changed as follows:
  Obligation overridden for service provider until Tue Mar 28 08:36:01
MST 2000
  by Jack Smith (000000000000) of Compaq on Tue Mar 28 07:36:01 MST 2000
  Current Thread[main,5,main]
```

The override information is included in the output resulting from any subsequent analysis or translation operation.

2.14 Getting Help

You can access help from the CLI using the command for your operating system:

- Tru64 UNIX – **man ca**, **man desta**, and **ca n help**
- OpenVMS – **help ca**, **help desta**, and **ca n help**
- Windows – **ca n help**

Help is also available through the User Guide. There are four different User Guide formats installed by the kit:

- Adobe Acrobat Format (located in the \svctools\ca\docs\pdf directory)
- ASCII Text Format (located in the \svctools\ca\docs\txt directory)
- HTML Help Format (located in the \svctools\ca\html\help directory)
- HTML Format (located in the \svctools\ca\html\ns3help directory)

Note

To navigate the HTML formats, use your browser to open the `start.html` file. If you are a VMS user and your browser is Netscape 3.03, you will need to use the HTML format rather than the HTML Help format. The JavaScript used in the HTML Help format is not supported in Netscape 3.03.

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2.14 Getting Help

Web Interface

This chapter describes how to access and use the Compaq Analyze web interface.

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3.1 Description

The web interface provides browser-based access to Compaq Analyze. You can use the web interface to connect to the Director on your local machine or on remote machines and analyze and translate their binary event log files.

3.1.1 Translation

Event information in the system event log is stored in binary format. Translation is the process of converting this binary data into readable text. By default, the web interface performs translation as part of analysis, and translation information is shown along with analysis results. However, it is possible to only perform translation. See Section 3.6 for more information on how the web interface presents translation information. Refer to Chapter 4 for more information on translation, interpreting translated events, and default translation settings.

3.1.2 Analysis

The information from binary event log files can be used to detect hardware failures on the system. When the system writes an event to a binary event log file, Compaq Analyze processes the event according to the registered rule sets. The rule sets contain the information necessary to interpret events. When an event matches the conditions described in the rule sets, Compaq Analyze creates a problem report containing information about the event and proposed resolutions. This process is called analysis. See Section 3.6 for more information on how the web interface presents analysis information. Refer to Chapter 5 for more information on analysis and its results.

The web interface can perform automatic and manual analysis.

3.1.2.1 Automatic

When the Director is started, Compaq Analyze initiates automatic analysis. In automatic mode, Compaq Analyze continuously monitors the binary system event log and processes events as they arrive. Problem reports are generated as necessary.

For more information about automatic analysis operations and output, refer to Chapter 5.

3.1.2.2 Manual

Manual analysis also compares the events from log files to the registered rule sets and generates problem reports. However, unlike automatic analysis, you must manually select each binary event log file you want to process.

For more information about manual analysis operations and output, refer to Chapter 5.

3.1.3 Notification

The results of automatic analysis can be sent to remote systems using SMTP or SICL. Refer to Chapter 7 for more information on notification.

3.1.4 Create New Binary Log File

You can filter the contents of existing binary event logs and create a new binary event log file containing a subset of the events from the originals. When you create a new binary log file, Compaq Analyze checks the events in the original binary event log file (input file) against the filter statement. All the events that meet the criteria specified by the filter statement are added to the new binary event log file (output file). The new binary event log file can then be used for analysis, translation, or any other Compaq Analyze process. For more information on using the web interface to create a new binary event log file, refer to Section 3.8.

3.2 Accessing the Web Interface

The following sections contain information about accessing the web interface.

3.2.1 Supported Web Browsers

The supported browser versions for each operating system are provided here:

- Tru64 UNIX – Netscape version 4.x (version 4.5 and later recommended)
- OpenVMS – No supported browsers
- Windows – Netscape version 4.x (version 4.5 and later recommended) and Internet Explorer version 5.x

Be aware, the web interface may display differently in Netscape and Internet Explorer.

3.2.2 Browser Setup

The setup options that must be configured in order to use the web interface are described here:

- Netscape and Internet Explorer – Configure your browser to bypass your proxy server when you connect to the Director on your local machine.
- Netscape – Java must be enabled for the web interface to function properly.

Web Interface

3.2 Accessing the Web Interface

To verify that Java is enabled, select Preferences from the Edit menu. Click on the Advanced entry and make sure that the check box next to Java is selected.

- Internet Explorer – The Microsoft Virtual Machine (VM) must be installed for the web interface to function properly.
- Internet Explorer – The “Use HTTP 1.1” option must be enabled for the web interface to function properly.

To enable the option, select Internet Options from the Tools menu. From the Options window, select the Advanced tab and make sure the check box next to “Use HTTP 1.1” is selected.

3.2.3 Browsers and the Web Interface

Depending on the browser you use, there are several issues that impact how the web interface is displayed.

- Netscape and Internet Explorer – If the web interface is behaving erratically, click your browser’s Refresh button. This will reload the web interface and display the about screen in the display frame.
- Netscape and Internet Explorer – During heavy processing, you may see JavaScript errors. You can safely ignore these errors. Depending on the error message, respond in one of the following ways:
 - Click the OK button on the error dialog box to resume using Compaq Analyze.
 - If the dialog box asks if you want to continue running scripts, click the Yes button to continue using Compaq Analyze.
- Internet Explorer – Include the full URL in the address line of your browser, including **http://** (for example, **http://14.77.189.23:7902/** rather than 14.77.189.23:7902/).
- Internet Explorer – With version 4.x, the user setting to display error log details in a separate window does not function properly.

3.2.4 Starting the Web Interface

It is not necessary to have the Director running on your machine in order to use Compaq Analyze. In fact, WEBES need not be installed on the browser’s machine at all. However, WEBES must be installed and the Director must be running on the target machine in order to connect to its Compaq Analyze system. Therefore, before using the web interface, you must ensure the Director is started on the target machine. There is no need to run the Director on your local machine unless it is the target.

Chapter 1 describes web interface connections further.

Use the following procedure to access the web interface:

Web Interface

3.2 Accessing the Web Interface

1. Start the Director on the machine(s) you want to connect to, if they have not been started already. Refer to Chapter 1 for details.
2. Start your web browser.
3. Enter the URL of a target machine to connect to it.

- To connect to a remote host, enter:

`http://hostname.domain.com:7902`

Substitute the target machine's hostname and domain.

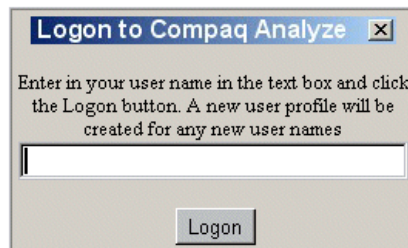
- To connect to the same machine that the web browser is running on, enter:

`http://localhost:7902`

In some network configurations, the name localhost may not be recognized. Enter the machine's hostname or its IP address (such as `http://14.77.189.23:7902`) instead. If you use Internet Explorer, be aware that you must include the **`http://`** for the page to load.

4. Enter the profile name you want to use in the Logon window (Figure 3-1) and either click the Logon button or press Enter. See Chapter 6 for more information on profiles.

Figure 3-1 Logon Window

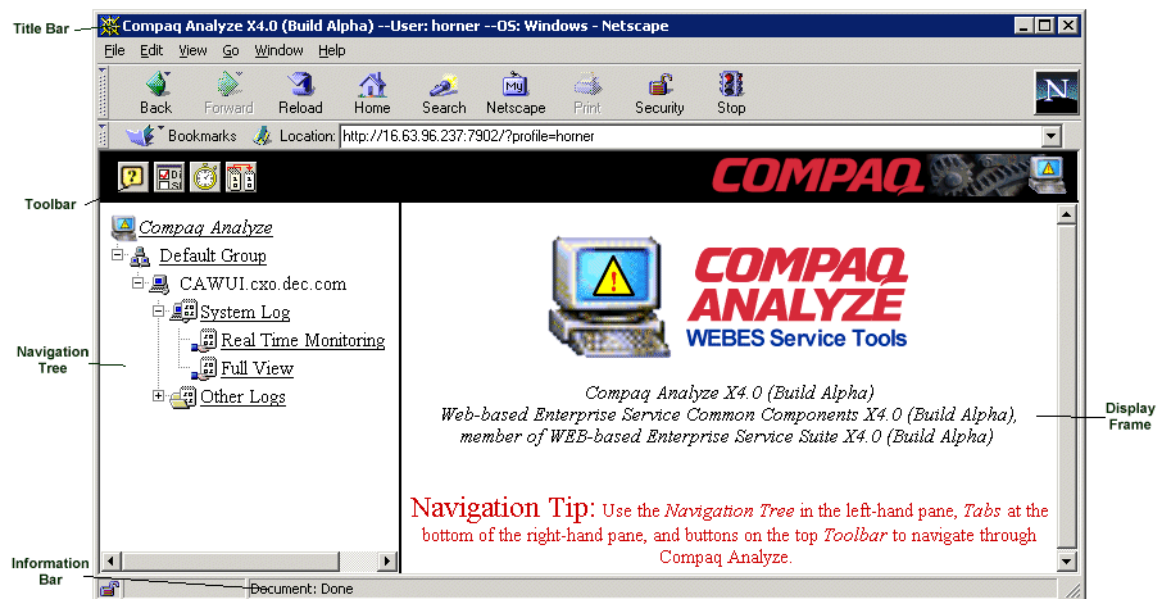


The web interface main screen is shown in Figure 3-2.

Web Interface

3.2 Accessing the Web Interface

Figure 3–2 The Web Interface



The value of the URL field appears as follows:

```
http://hostname:7902/&profile=username
```

Where *hostname* indicates the machine you logged into, *username* indicates your profile.

If you need to change profiles while using Compaq Analyze, you can edit your browser's URL field by replacing the old profile name with the new profile name.

The components of the web interface display are described in Table 3–1.

Table 3–1 Web Interface Components

Component	Description
Title Bar	Shows the software version, active profile, and operating system.
Toolbar	By default, provides access to the on-line help, system configuration, processing statistics, and new binary error log creation. The toolbar is dynamically updated, and additional features are available with some Compaq Analyze screens. See Section 3.3 for more information.
Navigation Tree	Lists the available groups, nodes, and log files.
Display Frame	Displays interactive screens and system information.
Information Bar	Displays messages from the browser and context sensitive help information. See Section 3.11.1 for more information on the web interface's context sensitive help.

Initially, the display frame shows product information.

Note

You can use multiple browser windows with Compaq Analyze. If you are using the same profile with multiple browser windows, the navigation trees in all the windows will be automatically synchronized.

3.3 Toolbar

Figure 3–3 shows the default web interface toolbar.

Figure 3–3 Toolbar



The toolbar buttons are dynamically updated depending on the actions performed. Table 3–2 describes the toolbar commands that are always available:

Table 3–2 Toolbar – Default Buttons

Component	Description
Help Button	Opens a new browser window containing the on-line user guide. See Section 3.11 for more information on getting help.
Settings Button	Opens the settings screen. See Section 3.10 for more information on changing the settings.
CA Progress Window Button	Opens a new browser window that reports the processing status of log files. See Section 3.7 for more information on processing status.
New Binary Log Button	Opens the New Binary Log screen in the display frame. See Section 3.8 for more information on creating a new binary log file.

The following buttons may also appear in the toolbar, depending on the feature being used:

- Clear – Available when viewing automatic analysis details. See Section 3.6.1 for more information.

Web Interface

3.4 Navigation

- Refresh – Available when viewing manual analysis details. See Section 3.6.2 for more information.
- Analyze – Available when viewing manual translation details. See Section 3.6.3 for more information.

3.4 Navigation

Compaq Analyze can connect to many different computers and each computer can have many different binary event log files available for analysis. It is possible to monitor numerous binary event log files generated by different computers all from a single web interface. In order to simplify the process of monitoring these diverse information sources, the web interface uses a hierarchical navigation tree composed of groups, nodes, and binary event log files. The entries in the navigation tree are as follows:

- Groups – multiple computers that are logically associated. Groups contain one or more nodes.
- Nodes – individual computers. Each node has its two types of log files.
- Log Files – system information stored in binary files. Each node has two types of binary event log files:
 - System Log – the binary system event log where the computer writes system information.
 - Real Time Monitoring – automatic analysis results.
 - Full View – manual analysis results for the system event log.
 - Other Logs – any other binary event log files saved on the computer. These can include old files, files from other systems, and examples. Optionally, the other logs can be further divided by categories (See Section 3.10.1 for information on modifying Compaq Analyze to use categories).

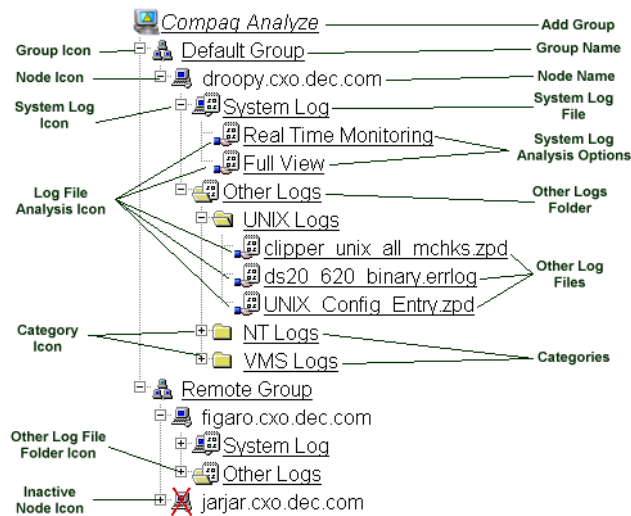
The tree structure can be collapsed to the group level (Figure 3-4).

Figure 3-4 Collapsed Tree



Click on the expansion symbol for an entry to view its contents. Once an entry is expanded, the expansion symbol changes to a collapse symbol. To hide the contents again, click the collapse symbol. An example of an expanded tree is shown in Figure 3-5.

Figure 3–5 Navigation Tree



Each entry in the tree has a name and an icon that indicates its type. For example, in Figure 3–5 you can tell that the `jarjar.cxo.dec.com` node is inactive because of its icon.

You can customize the navigation tree by adding and removing groups, nodes, categories, and binary event log files (see Section 3.5). In addition, you can view the results of automatic analysis and initiate manual analysis from the navigation tree (see Section 3.6).

3.5 Customizing the Navigation Tree

The first time you run the web interface using your profile, only one entry appears in the navigation tree. The machine that you logged into is listed as a node under the Default Group.

You can customize the navigation tree display by creating new groups, adding nodes to groups, and selecting log files.

Note

After you submit changes to the navigation tree, Compaq Analyze refreshes the display. The refresh process may take a few seconds.

3.5.1 Groups

All the groups are listed in the navigation tree. If a group includes nodes, an expansion symbol appears next to its name in the tree. To view the nodes under a group, click the expansion symbol. From the navigation tree, you can create new groups and remove existing groups.

3.5.1.1 Adding Groups

To add new groups use the following procedure:

1. Click the Compaq Analyze link at the top to the navigation tree. The Group Maintenance screen appears in the display frame.
2. Select the Add Groups tab at the bottom of the screen (Figure 3-6).

Figure 3-6 Add Group

Group Maintenance For Compaq Analyze
You may need to scroll down to see all the options

Step 1: Select where in the tree the new group will be placed
---- Default Group

Step 2: Select a placement option
☒ Add new group after selected group
☐ Add new group before selected group
☐ Add new group under selected group

Step 3: Type in the name of the new group

Step 4: Click the Add New Group button when ready

☒ Add Groups ☐ Remove Groups

3. Select the location for the new group from the list of groups.
4. Use the radio buttons to indicate whether you want the group located before, after, or nested under the selected group.
5. Enter the group name in the entry box. If you enter a group name that is already in the navigation tree at the same level, Compaq Analyze will not create a new group.
6. Click the Add New Group button. The new group appears in the navigation tree.

Note

If you do not enter a group name before you click the Add New Group button, Compaq Analyze will create a group named “newGroup”.

3.5.1.2 Removing Groups

Note

Removing a group removes all the nodes and files contained in the group as well as all the lower level groups nested under the removed group.

To remove existing groups use the following procedure:

1. Click the Compaq Analyze link at the top to the navigation tree. The Group Maintenance screen appears in the display frame.
2. Select the Remove Groups tab at the bottom of the screen (Figure 3-7).

Figure 3-7 Remove Group

Group Maintenance For Compaq Analyze
You may need to scroll down to see all the options

Step 1: Select which group(s) you'd like to remove from the tree

---- Default Group
---- Remote Group

Step 2: Click the Remove button when ready

Remove Selected Group(s)

Add Groups Remove Groups

3.5 Customizing the Navigation Tree

3. Select the group name from the list of available groups. If you want to remove multiple groups, use one of the following methods:
 - Hold the Ctrl key and click on each desired group name.
 - If the groups you want to remove are listed together, hold the Shift key and click on the first and last group to select all the groups between them.
4. Click the Remove Selected Group(s) button. The selected groups are removed from the navigation tree.

3.5.2 Nodes

When you expand a group in the navigation tree, the nodes contained in that group are shown. Every node can be expanded by clicking on the expansion symbol next to its name. Expanding a node reveals the log file types included in that node, the system log and other logs. You can add and remove nodes from the groups in the navigation tree.

Note

Unless the system is accessible through the nameserver, you must use the IP address instead of the name of the node.

For example, the hostname of a Windows machine using Dynamic Host Configuration Protocol (DHCP) is not listed with the nameserver, and therefore must be added using its IP address instead of its hostname.

3.5.2.1 Adding Nodes

Any computer where the Director is running can be added to your web interface navigation tree as a node. To add additional nodes use the following procedure:

1. Determine the group you want to add nodes to, and click the link for that group. The Node Maintenance screen appears in the display frame.
2. Select the Add Nodes tab at the bottom of the screen (Figure 3–8).

Figure 3–8 Add Node

Node Maintenance For Remote Group
You may need to scroll down to see all the options

Step 1: Select where in the tree the new node will be placed

figaro.cxo.dec.com
jarjar.cxo.dec.com

Step 2: Select a placement option

☒ Add new node after selected node
☐ Add new node before selected node

Step 3: Type in the name of the new node

Step 4: Click the Add New Node button when ready

Add New Node

Add Nodes Remove Nodes

3. Select the location for the new node from the list of nodes in the group.
4. Use the radio buttons to indicate whether you want the node located before or after the selected node.
5. Enter the node name in the entry box. Be aware that if you enter the name of a node you are already connected to, Compaq Analyze will add the node again. This will overwrite any Other Logs settings associated with the node.
6. Click the Add New Node button.

Note

If you do not enter a node name before you click the Add New Node button, Compaq Analyze will prompt you to enter a valid node name.

Adding a node enables you to display the results of automatic analysis for that node's system event log.

3.5.2.2 Removing Nodes

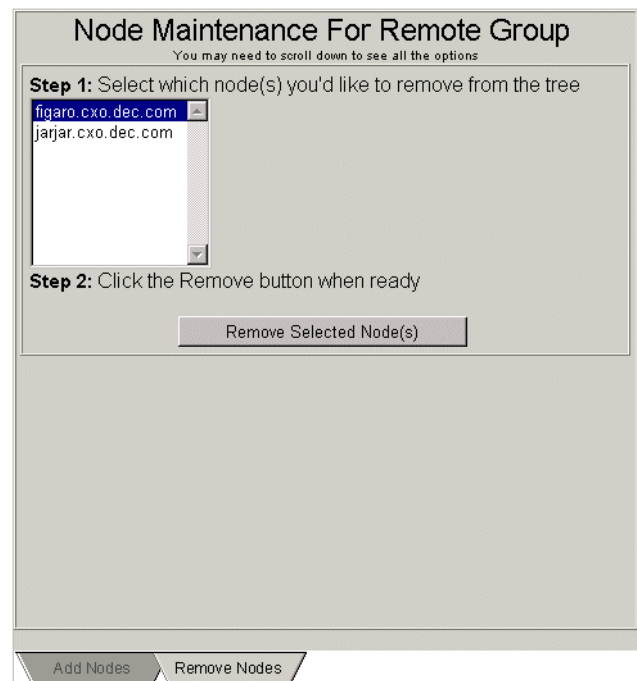
Note

Removing a node removes all the additional binary event log files contained in the node from the navigation tree.

To remove existing nodes use the following procedure:

1. Determine the group you want to remove nodes from, and click the link for that group. The Node Maintenance screen appears in the display frame.
2. Select the Remove Nodes tab at the bottom of the screen (Figure 3–9).

Figure 3–9 Remove Node



3. Select the node name from the list of available nodes. If you want to remove multiple nodes, use one of the following methods:
 - Hold the Ctrl key and click on each desired node name.
 - If the nodes you want to remove are listed together, hold the Shift key and click on the first and last node to select all the nodes between them.
4. Click the Remove Selected Node(s) button.

If a node is contained in multiple groups, removing it from one of the groups will not affect its presence in the other groups.

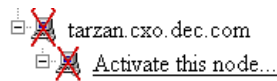
3.5.2.3 Node Status

Nodes are either active or inactive. By default, when you connect to a node or load a profile that connects to other nodes, all the nodes are active. A node is only classified as inactive if Compaq Analyze cannot connect to it. Inactive nodes appear in the navigation tree with a red “X” through their icon.

If a node is inactive, you can try to connect to it again at a later time. To connect to an inactive node use the following procedure:

1. Click the expansion icon next to the node. The only available option is “Activate this node” (Figure 3–10).

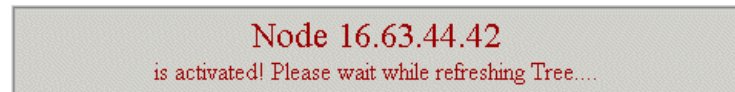
Figure 3–10 Activate Node



2. Click the “Activate this node” link.

If the director on the remote node is accessible, a message appears in the display frame (Figure 3–11) and the navigation tree is updated to show the new status.

Figure 3–11 Activating Node Message



If the director is not accessible, a message appears in the display frame (Figure 3–12) and the navigation tree is not changed.

Figure 3–12 Unable to Activate Node Message



3.5.3 Categories

Categories provide a method for grouping the log files listed under the Other Logs folder. If you use categories, Compaq Analyze provides another layer of folders under the Other Logs folder. This feature may be useful if you monitor numerous log files.

Note

Categories are an optional feature that is disabled by default. If you want to use categories, you must enable the feature using the User Settings tab on the Settings screen (see Section 3.10).

3.5.3.1 Adding Categories

Once you have enabled the categories feature, you can add categories to the navigation tree. To add categories use the following procedure:

1. Determine the node you want to add categories to, and click the Other Logs entry for that node. The Category Maintenance screen appears in the display frame.
2. Select the Add Categories tab at the bottom of the screen (Figure 3-13).

Figure 3-13 Add Category

The screenshot shows a web interface titled "Category Maintenance For Compaq Analyze". Below the title is a subtitle: "You may need to scroll down to see all the options". The interface is divided into four steps:

- Step 1:** Select where in the tree the new category will be placed. This step features a scrollable list with three items: "UNIX Logs", "NT Logs", and "VMS Logs". The "UNIX Logs" item is currently selected and highlighted in blue.
- Step 2:** Select a placement option. This step contains three radio buttons:
 - ☒ Add new category after selected category
 - ☐ Add new category before selected category
 - ☐ Add new category under selected category
- Step 3:** Type in the name of the new category. This step includes a text input field.
- Step 4:** Click the Add New Category button when ready. This step points to a button labeled "Add New Category".

At the bottom of the interface, there are two tabs: "Add Category" and "Remove Category". The "Add Category" tab is currently selected.

3. Select the location for the new category from the list of the node's existing categories.
4. Use the radio buttons to indicate whether you want the category located before, after, or nested under the selected category.
5. Enter the category name in the entry box. Be aware that if you enter the name of a existing category, Compaq Analyze will not create a new category.
6. Click the Add New Category button.

Note

If you do not enter a node name before you click the Add New Category button, Compaq Analyze will create a category named "newCat".

3.5.3.2 Removing Categories

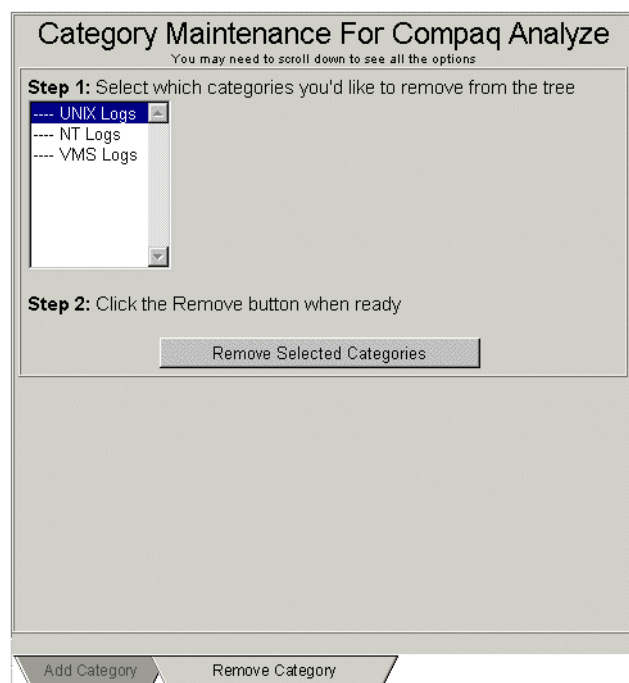
Note

Removing a category removes all the binary event log files contained in the category from the navigation tree.

To remove existing categories use the following procedure:

1. Determine the node you want to remove categories from, and click the Other Logs entry for that node. The Category Maintenance screen appears in the display frame.
2. Select the Remove Category tab at the bottom of the screen (Figure 3-14).

Figure 3–14 Remove Category



3. Select the category name from the list of available categories. If you want to remove multiple categories, use one of the following methods:
 - Hold the Ctrl key and click on each desired category name.
 - If the categories you want to remove are listed together, hold the Shift key and click on the first and last category to select all the categories between them.
4. Click the Remove Selected Categories button.

If a log file is contained in multiple categories, removing it from one of the categories will not affect its presence in the others.

3.5.4 Log Files

Each node has two types of binary event log files; the binary system event log and all other binary event logs. Thus, each node in the navigation tree includes two sub-entries, one for each log type.

3.5.4.1 System Log

The system log is the binary event log file where system events are written. You cannot change this log file. Click the expansion symbol to view the analysis options for the system log in the navigation tree.

- Real Time Monitoring – shows the results of automatic analysis in the display frame.
- Full View – manually analyzes the system event log and processes all the events in the file.

See Sections 3.1.2 and 3.6 for more information on analysis.

3.5.4.2 Other Logs

The Other Logs entry in the navigation tree contains entries for binary event log files other than the system event log. These can include the example binary log files included with Compaq Analyze or any other binary event log file located on the node. Initially, there are no sub-entries under the Other Logs entry in the navigation tree.

If you are using categories, the Other Logs entry contains the categories you have created and the categories contain entries for binary event log files.

See Section 3.6 for more information on manually analyzing a log file.

Adding Other Logs

If you want to process a binary event log file saved on the node, you must add it using the following procedure:

Note

If you are using categories, click on a category name to add log files rather than the Other Logs entry.

1. Click on the Other Logs entry for the desired node in the navigation tree. Once the Other Logs screen opens in the display frame, select the Add Files tab (Figure 3-15).

Figure 3–15 Add Log File Tab

Add Log Files To Tree For Manual Analysis For
Node jarjar.cxo.dec.com

You may need to scroll down to see all the options

Step 1: Type in full path and name in the *Other Log* field

Other Log:

Step 2: Click the Add Log Files to Tree button when ready

2. Enter the path and filename of the desired binary log file in the Other Log field.
3. Click the Add Log File to Tree button.
4. Repeat the process until all the desired files are added.

The binary event log file is added to the navigation tree under the Other Logs entry or appropriate category for the node.

Removing Other Logs

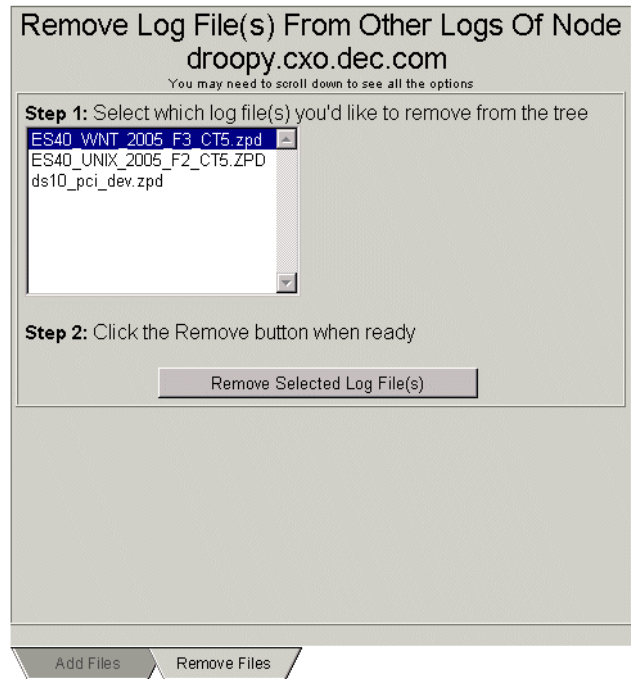
You can remove binary event log files from the navigation tree with the following procedure:

Note

If you are using categories, click on a category name to remove log files rather than the Other Logs entry.

1. Click on the Other Logs entry for the desired node in the navigation tree and select the Remove Files tab (Figure 3–16).

Figure 3–16 Remove Log File Tab



2. Select the log file name from the list of available files. If you want to remove multiple log files, use one of the following methods:
 - Hold the Ctrl key and click on each desired log file name.
 - If the files you want to remove are listed together, hold the Shift key and click on the first and last file to select all the files between them.
3. Click the Remove Selected Log File(s) button.

After you remove a file, the navigation tree is refreshed to reflect your changes.

3.6 Analysis Information

Analysis information can be viewed using any of the following methods:

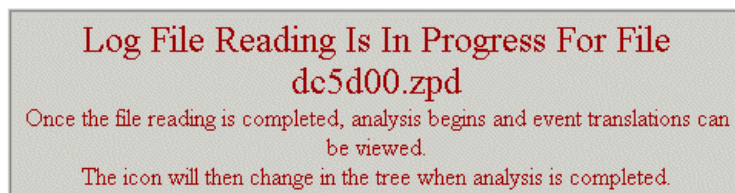
- To view the results of automatic analysis on a node, either select System Log or the Real Time Monitoring entry under System Log.
- To manually analyze a node's system event log and display the results, click the Full View entry under System Log.
- To manually analyze a different binary event log file and view the results, click the log file name under Other Logs.

When analysis is successfully started, the log file's icon is animated and a status message similar to the following is shown in the display frame (Figure 3–17).

Web Interface

3.6 Analysis Information

Figure 3–17 Analysis Started Message



If the file cannot be processed for any reason, a message similar to the one in Figure 3–18 is shown.

Figure 3–18 Analysis Failed Message



Once the file is processed, the icon in the toolbar changes to reflect the status of the log file (see Section 3.7). To view the analysis results in the display frame, click the log file's entry in the navigation tree.

Note

You can view the results of analysis before a file has finished processing. Once Compaq Analyze has finished reading a file and has begun analysis, you can click on the file to display any problem reports and events that have been generated so far. Refer to Section 3.7 for information on how to determine when analysis has started.

Be aware that if you view the results before processing is completed, Compaq Analyze will not automatically update the display when it finishes analyzing the file. Once analysis completes, you must click the tab you are viewing again to see the full results.

Both automatic and manual analysis results are shown in the display frame. The information is divided between the following tabs:

- Problem Reports – results of analysis
- Summary – description of the contents of the log file (only available with manual analysis)
- Events – translation of the events contained in the log file

Note

If you have configured the User Settings so Compaq Analyze only performs manual translation, rather than translation and analysis, the Problem Reports tab is empty. See Section 3.10.1 for more information on User Settings.

3.6.1 Automatic Analysis Features

When you are performing automatic analysis, the Clear button, shown in Figure 3–19, appears in the toolbar.

Figure 3–19 Clear Button



The Clear button removes all the entries (problem reports and events) from the display tabs.

3.6.2 Manual Analysis Features

When you are performing manual analysis, the button shown in Figure 3–20 appears in the toolbar.

Figure 3–20 Reprocess Button



It is used to reprocess binary log files so they reflect changes to the report type. Refer to Chapter 6 for more information on changing the report type.

3.6.3 Manual Translation Features

If the User Settings are configured to only perform manual translation, rather than translation and analysis, no information is shown on the problem reports tab (See Section 3.10.1 for more information on User Settings). However, an Analyze button appears in the toolbar when you view the details of manual translation (Figure 3–21).

Web Interface

3.6 Analysis Information

Figure 3–21 Analyze Button



Clicking the Analyze button will perform analysis for the current log file. Thus, if you need to perform analysis, it is not necessary to change the User Settings and reprocess the file.

3.6.4 Displaying Details

Compaq Analyze displays the results of analysis in a list in the display frame. You can view the details of any entry by clicking on it in the list. In order to make viewing events easier, navigation buttons are available at the top of each detailed entry. The navigation buttons are shown in Figure 3–22.

Figure 3–22 Navigation Buttons



The buttons are used to move between entries in the list, you can view the details for other events in the list using the Previous and Next buttons. Click the Index button to redisplay the list of entries in the display frame. If there is no event in the list for the Next or Previous button to display, you will receive an informational message and detailed entry will not change.

Note

If your user settings display event details in a separate window, the Index button will not be available and clicking the Previous and Next buttons will not open additional new windows. See Section 3.10.1 for more information on user settings.

3.6.5 Problem Reports

The Problem Reports tab displays the reports that were generated by analysis. An example of the problem report list is shown in Figure 3–23.

Figure 3–23 Problem Report Tab

Filter Templates: —Select A Filter Template— Adjust Filter		
Problem Reports		
Currently Applied Filters: NONE		
Manual Analysis Problem Reports For ds20.errlog:		
Index	Description	Date/Time
1	Problem Found: BriefDescription Entry_Type_199, IMMEDIATE	Fri Jan 12 14:45:51 MST 2001
2	Problem Found: BriefDescription Entry_Type_199, DELAYED	Fri Jan 12 14:45:51 MST 2001
3	Problem Found: Memory Channel Link Transmit Error	Fri Jan 12 14:45:52 MST 2001
4	Problem Found: Memory Channel Phase Lock Loop Error	Fri Jan 12 14:45:52 MST 2001
5	Problem Found: Control Packet Heartbeat Timeout Error	Fri Jan 12 14:45:52 MST 2001
<div> <div>Problem Reports</div> <div>Summary</div> <div>Events</div> </div>		

The filters that affect how problem reports are displayed are listed at the top of the screen. Be aware that the screen only shows the filters that apply to analysis and may not list all the filters you applied.

To view the details of a specific report, click on its entry in the list of available problem reports. The report details are shown in the display frame. Refer to Appendix A for an example of a problem report.

3.6.6 Summary

Note

The Summary tab is only available when you perform manual analysis. Hence, if you select Real Time Monitoring from the Navigation Tree, the Summary tab is not displayed.

The Summary tab describes the event types contained in the binary event log file. Each event type is listed along with the number of occurrences. The time stamps for the first and last events are listed under the summary information. (Figure 3–24).

Web Interface

3.6 Analysis Information

Figure 3–24 Summary Tab

Summary		
Currently Applied Filters: NONE		
Tallied Summary Of Events For ds20.errlog:		
Qty	Type	Description
1	199	Tru64 UNIX CAM Event
2	18104	Tru64 UNIX Asynchronous Device Attention
1	302	Tru64 UNIX Panic ASCII Message

Total Entry Count: 4
First Entry Date: Thu Apr 08 13:43:17 MDT 1999
Last Entry Date: Thu Apr 08 13:45:40 MDT 1999

Problem Reports Summary Events

The filters that affected the output are listed at the top of the screen. Be aware that the screen only shows the filters that apply to the summary report and may not list all the filters you applied.

3.6.7 Events

The Events tab provides translation information for the events in the binary event log file. Depending on the filtering options that were applied during processing, all the events in the log file may or may not be shown (Figure 3–25).

Figure 3–25 Events Tab

Filter Templates: –Select A Filter Template– Adjust Filter				
Events				
Currently Applied Filters: NONE				
Manual Analysis Events For ds20.errlog:				
Index	Description	Type	Unique ID	Date/Time
1	Tru64 UNIX CAM Event	199	2904.29	Thu Apr 08 13:43:17 MDT 1999
2	Tru64 UNIX Asynchronous Device Attention	18104	47082.30	Thu Apr 08 13:45:38 MDT 1999
3	Tru64 UNIX Panic ASCII Message	302	47082.31	Thu Apr 08 13:45:38 MDT 1999
4	Tru64 UNIX Asynchronous Device Attention	18104	47082.32	Thu Apr 08 13:45:40 MDT 1999

Problem Reports Summary Events

The filters that affected the output are listed at the top of the screen. Be aware that the screen only shows the filters that apply to translation and may not list all the filters you applied.

To view the text of a translated event in the display frame, click on the desired entry in the list of events. Compaq Analyze includes information about the source of the event and the time it was created at the top of the detailed display. Refer to Appendix A for an example of a translated event.

Note

You can control the fields that are shown on the events tab from the User Settings window. Refer to Section 3.10.1 for more details.

3.6.8 Sorting Results

You can sort the results shown on any tab using the field names. Any field name that appears in blue can be used to sort. Simply click on the field name to sort based on that field. An arrow appears next to the field to indicate the direction of the sorting. The sorting options are applied to all the tabs, regardless of which tab was used to specify the sorting criteria.

Entries can be sorted in either ascending or descending order. To change the sort order, click on the field name a second time. The arrow next to the field changes direction to indicate the new sort order. When the arrow is pointing up, it indicates an ascending sort. When the arrow is pointing down, it indicates a descending sort.

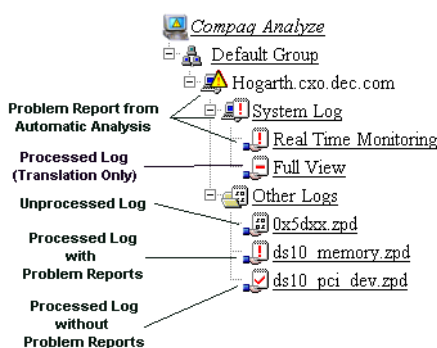
3.7 Processing Status

With large log files, translation and analysis operations are not instantaneous. After you have started processing a log file there are several ways to check the operations progress. You can check the processing status from either the navigation tree or the Progress window.

3.7.1 Navigation Tree

You can quickly determine the status of automatic or manual analysis by looking at the icons in the navigation tree. Figure 3-26 shows the icons used to indicate analysis results.

Figure 3-26 Status Icons



When automatic analysis generates a problem report exclamation points are added to the icons for the node, system log, and real time monitoring. The icon changes remain until the problem reports list is viewed and the tree is refreshed. If another problem report is generated after the tree is refreshed, exclamation points are added to the icons again.

You can also determine the results of manual analysis on a binary event log file by checking the icons. Compaq Analyze uses an animated yellow icon while a binary log file is being read and an animated green icon during analysis. If processing has completed and problem reports were generated, an exclamation point is added to the icon. If processing has completed and no problem reports were generated, a check mark is added to the icon. Unlike the icon changes associated with automatic analysis, the manual analysis icon changes remain visible until you close the web interface session.

Note

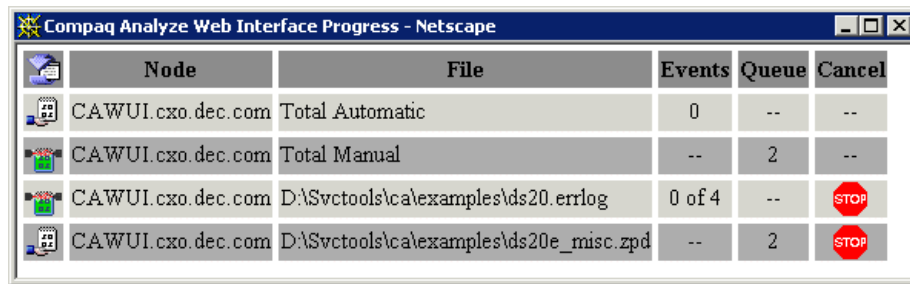
If you are only performing translation, when processing completes the icon will appear with a dash. See Section 3.10.1 for more information on configuring the web interface to only perform translation.

In addition to the icon-based status indicators, you can also determine the processing status by positioning the cursor over the file name in the navigation tree and reading the status message at the bottom of the window. Status messages are shown in the information bar (see Figure 3-2).

3.7.2 Progress Window

You can open the Progress window by clicking on the Progress Window button in the toolbar (see Figure 3-3). The Progress window opens in a new browser window (Figure 3-27).

Figure 3-27 Progress Window



	Node	File	Events	Queue	Cancel
	CAWUI.cxo.dec.com	Total Automatic	0	--	--
	CAWUI.cxo.dec.com	Total Manual	--	2	--
	CAWUI.cxo.dec.com	D:\Svctools\ca\examples\ds20.errlog	0 of 4	--	
	CAWUI.cxo.dec.com	D:\Svctools\ca\examples\ds20e_misc.zpd	--	2	

The Progress window provides statistics for all the log files that are currently being analyzed by Compaq Analyze. The information includes the node where the log file is located, the name and location of the log file, and the number of events in the file. If you have selected multiple files for processing, each file's position in the queue is given. You can click the Stop icon to stop processing any of the listed files. When a file finishes processing, it is removed from the window.

The Progress window is dynamically updated as the processing status changes, however, if desired, you can manually refresh the display by clicking the Refresh icon in the upper left hand corner.

3.8 Creating New Log Files

To create a binary event log for use with Compaq Analyze, use the following procedure:

1. Click the New Binary Log File button in the toolbar (see Figure 3-3). The New Binary Log Screen appears in the display area (Figure 3-28).

Web Interface

3.8 Creating New Log Files

Figure 3–28 New Binary Log Screen

The screenshot shows the 'New Binary Error Log Creation' web interface. At the top, there's a 'Filter Templates:' section with a dropdown menu labeled '--Select A Filter Template--' and an 'Adjust Filter' button. The main area is divided into three steps:

- Step 1: Enter full path for input file**
 - Input File text box
 - Add File to Input List button
 - Current Input File(s) List: No Files in List
 - Remove Selected File(s) button
- Step 2: Set Filter for new binary error log**
 - Current Filter: NONE
 - te- dropdown menu
 - Adjust Filter button
 - Use toolbar above to adjust Filter text
- Step 3: Set output file name and create new log file**
 - Output File Name: text box
 - ☐ Don't add config entries
 - ☐ Overwrite file if exists
 - Create New Log File button

2. Enter the input file name, including its path, in the Input File text box.
3. Click the Add Input file Button. The file is added to the Currently Selected Input Files list.
4. Repeat steps 2 and 3 until all the desired input files are added.

Note

If you want to remove one of the input files you added, click on the filename in the Currently Selected Input Files list and click the Remove Selected Input Files button. You can select multiple files by holding the Ctrl key while you click on the filenames.

5. Specify the desired filtering options by either creating a new filter or applying an existing template.
 - To specify filtering criteria, click the Adjust Filter button at the top of the screen and use the Adjust Filter screen to select filtering options (see Section 3.10.1.2.1).
 - To apply an existing filter template, select the desired template from the drop down list at the top of the screen.

For more information on filtering, refer to Sections 3.9 and 3.10.1.2.

6. Enter the output file name in the Output File text box.

Note

New binary log files are automatically stored in the `ca\newlogs` subdirectory located under the installation directory, hence it is not necessary to include a path with the Output filename.

7. If you have established a filter that excludes configuration entries and you want to preserve that filtering in the output file, select the Don't add config entries check box.
8. If the output file name already exists and you want to replace the existing file, select the Overwrite file if exists check box. If you do not select this check box, and enter a filename that already exists, you will receive an error message.
9. Click the Create New Log File button to process the input files and create the new binary log file.

Note

It is possible to construct a filter that prevents any events from being added to the new log file. If this is the case, no log file will be created. However, even if this is the case, when the Overwrite option is selected any file with the same name as the output file will be lost.

3.9 Applying Filters

You can apply filters for manual translation and when creating new binary log files. You can also use filters to specify how problem reports and events are sorted. Specify the desired filter using the Filter Templates bar at the top of the screen (Figure 3-29).

Figure 3-29 Filter Templates Bar



If you have previously created filter templates, they will be listed in the drop-down list. You can either:

- Select an existing filter from the drop down list and if necessary modify it by clicking the Adjust Filter button and changing the filtering options.
- Click the Adjust Filter button and define a new filter.

Web Interface

3.10 Settings

Note

Modifying or defining a filter from the Filter Templates bar does not change an existing filter or save a new filter. Your changes are only used with the current operation. Use the Filters option under User Settings to create new templates (see Section 3.10.1.2).

When you use filters in conjunction with analysis and translation the filter description will be shown with the results. However, the filtering options you select are only applied to the appropriate output. Thus, if you select a filter that only affects event translation, rather than event analysis and translation, the filter will be listed with the event details but not with the analysis details. Figure 3–30 depicts a filter description from the event details.

Figure 3–30 Filter Description



Refer to Section 3.10.1.2 for more information on creating and modifying filters.

3.10 Settings

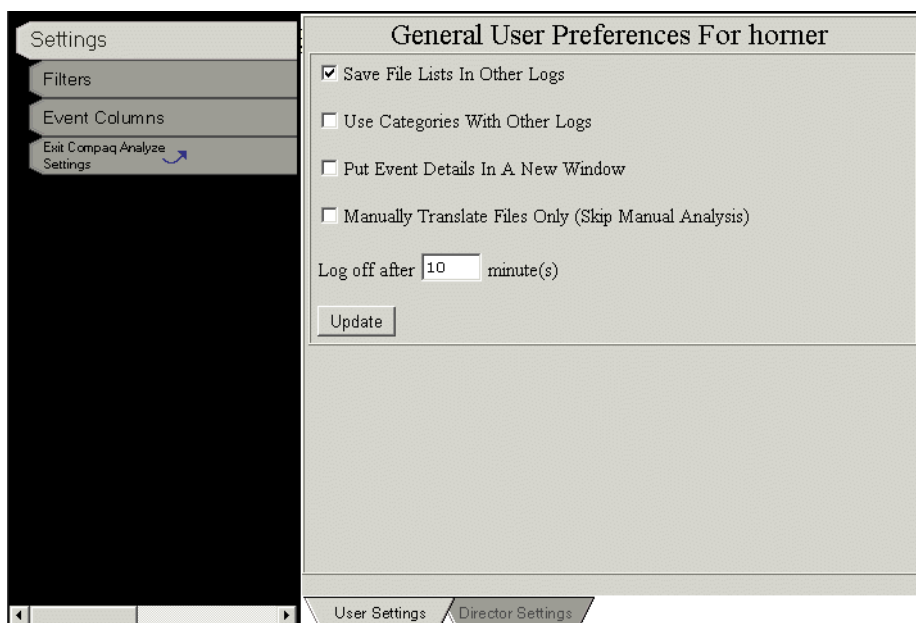
The web interface settings enable you to control how the WEBES Director functions and modify the web interface to suit your preferences. To access the settings, click the settings button in the toolbar. This updates the web interface, replacing the normal navigation bar with either the User Settings navigation bar. The display frame is updated to show the User Settings screen.

You can modify both user settings and Director settings.

3.10.1 User Settings

The user settings are used to modify the web interface, configure filtering information and determine what translation information is displayed. To access the User settings, click the Settings button in the toolbar and then select the User Settings tab.

Figure 3–31 User Settings



Use the buttons located at the right side of the screen to navigate the User settings (Figure 3–31).

- Settings – Displays the web interface configuration options. Refer to Section 3.10.1.1 for more information.
- Filters – Opens the Filter Preferences screen which is used to define filter templates and set a default filter. See Section 3.10.1.2 for more information.
- Event Columns – Specifies the translation information you want to view. See Section 3.10.1.3 for more details.
- Exit Settings – Closes the settings screen.

3.10.1.1 General Options

The general options screen is shown in Figure 3–31.

The General User Settings screen presents the following options:

- Save File Lists in Other Logs
Select this option if you want the navigation tree to save a record of all the log files listed under Other Logs when you log off Compaq Analyze. If this option is selected, the log files will remain in the navigation tree until you manually remove them. If this option is not selected, the Other Logs section of the tree will be empty when you logon.
- Use Categories With Other Logs
Select this option to use categories with log files. Refer to Section 3.5.3 for more on categories.

Web Interface

3.10 Settings

- **Put Event Details In A New Window**
Opens a new browser window for the details of a problem report or event selected from the list of entries. The list of entries will remain open in the original window.
- **Manually Translate Files Only (Skip Manual Analysis)**
Prevents Compaq Analyze from performing manual analysis for log files. This affects the output when you select an entry from the Other Logs area and when you perform manual analysis on the system event log.
- **Log Off Time**
By default, Compaq Analyze logs your profile off ten minutes after you close your connection with the Director. You can change the amount of time by entering a new value in the text box. All values are in minutes. See Section 3.12 for more information on logging off.

If you modify the user settings, click the Update button so your changes take effect.

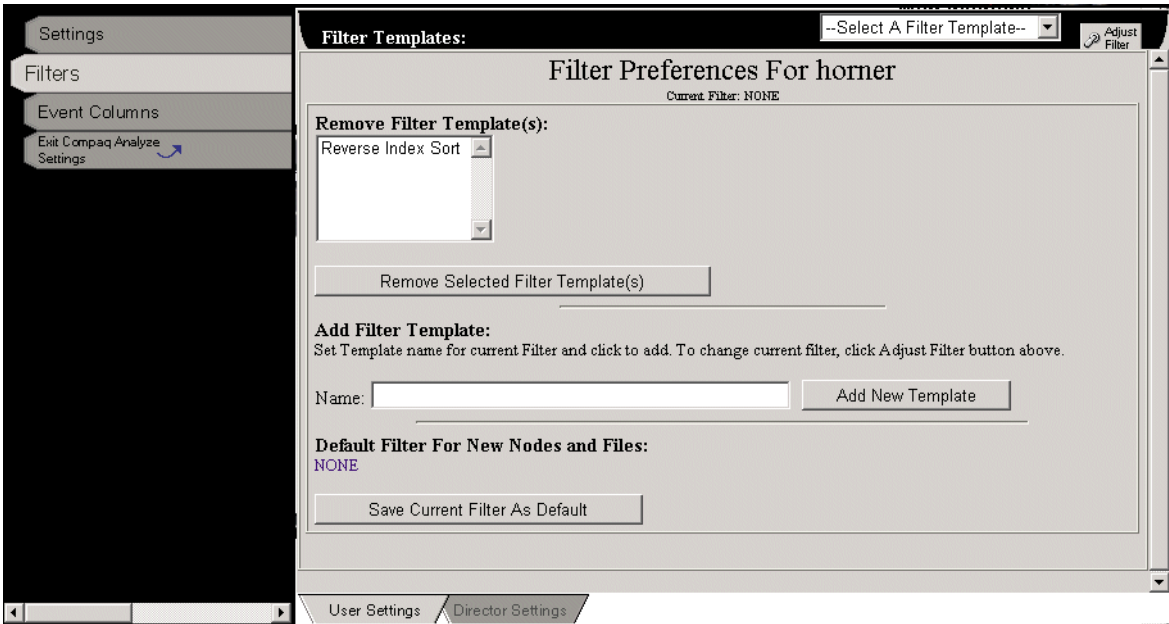
3.10.1.2 Filters

Filtering is used when you perform translation or create a new log file in order to reduce the number of events processed. With large log files, using only a subset of the events can improve processing time and only display the pertinent output.

With the web interface, filtering is performed by using templates. Templates are pre-defined filtering functions that can be applied to Compaq Analyze functions in order to obtain the desired results.

You can use the Filtering Preferences screen to create new filter templates, modify existing filter templates or select default filtering options. To access the Filtering Preferences screen, click the Filters button in the User Settings navigation bar.

Figure 3–32 Filter Preferences

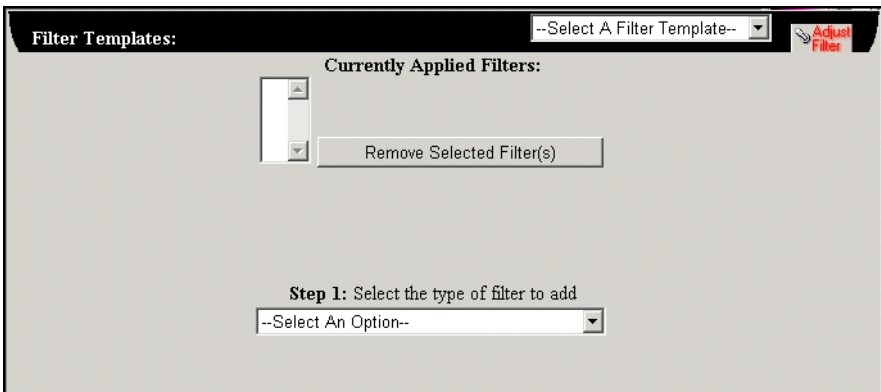


3.10.1.2.1 Adjust Filter Template

To modify a filter template or create a new filter, use the following procedure:

- 1. Select the filter you want to modify from the drop-down list in the Filter Templates bar. If you want to create a new filter from scratch, you do not need to select an existing template.
- 2. Click the Adjust Filter button located in the Filter Templates bar. The Adjust Filter screen appears (Figure 3–33). If you are modifying an existing template, the contents of that filter are listed in the Currently Applied Filters list.

Figure 3–33 Adjust Filter



Web Interface

3.10 Settings

3. Ensure that all the filter information in the Currently Applied Filters list is correct. Initially, this field will display the contents of the filter template you selected. You can delete any filter by selecting it and clicking the Remove Selected Filters button. If you are creating a new filter the list is blank.
4. Choose any additional filtering criteria from the drop-down list. The drop-down list includes all the event fields.
5. Once you have selected an event field, the Filtering screen is dynamically updated to include the valid operators (Figure 3–34). Be aware that all the operators are not valid for all filter types. Select the radio button that corresponds to the desired operator.
 - Not equal to (!=)
 - Equal to (=)
 - Greater than (>)
 - Less than (<)

Figure 3–34 Filtering Criteria

The screenshot shows a web interface for filtering criteria. At the top, there is a 'Filter Templates:' section with a dropdown menu labeled '--Select A Filter Template--' and an 'Adjust Filter' button. Below this is the 'Currently Applied Filters:' section, which contains a list box (currently empty) and a 'Remove Selected Filter(s)' button. The main area of the interface is divided into two steps. 'Step 1: Select the type of filter to add' features a dropdown menu with 'Entry Type' selected. 'Step 2: Select the operator for this filter' features five radio buttons corresponding to the operators: !=, =, >, and <.

6. Once you have selected an operator, the screen is updated to include a drop-down list of values or a text entry field (Figure 3–35). Select or enter the appropriate value.

Figure 3–35 Filtering Operators

The screenshot shows the 'Adjust Filter' window. At the top, there's a 'Filter Templates:' section with a dropdown menu set to '--Select A Filter Template--' and an 'Adjust Filter' button. Below this is the 'Currently Applied Filters:' section, which is currently empty. A 'Remove Selected Filter(s)' button is present. The main area contains three steps: 'Step 1: Select the type of filter to add' with a dropdown menu showing 'Entry_Type'; 'Step 2: Select the operator for this filter' with radio buttons for '|=' (selected), '=', '>', and '<'; and 'Step 3: Enter numeric value for entry type filter' with an empty text input field and an 'Apply Filter' button.

7. Click the Apply button. The filter is added to the list of Currently Applied Filters (Figure 3–36).

Figure 3–36 Applied Filter

This screenshot is identical to Figure 3–35, but the 'Currently Applied Filters:' list now contains the filter 'Entry_Type<600'. The 'Step 1' dropdown still shows 'Entry_Type', 'Step 2' has the '|=' operator selected, and 'Step 3' has an empty input field.

8. Repeat steps 3 to 7 until all the necessary filters have been added.
9. Click the Adjust Filter button again to close the Adjust Filter screen and return to the Filtering Preferences screen (Figure 3–32). The Filtering Preferences screen describes the contents of the new filter.

Web Interface

3.10 Settings

10. Save the new filter as a template by entering a filter name in the Name text box and click the Add New Template button. Compaq Analyze will update the Filter Templates list and add the new filter to the drop-down list in the Filter Templates bar.

Note

If you are creating a new filter from one of the details tabs rather than the User Settings window, you will not be able to save your filter. Otherwise the process is the same.

3.10.1.2.2 Default Filters

You can apply default filtering options to all the analysis and translation operations performed from the web interface using the Filter Preferences screen (Figure 3-32).

To set a default filter, use the following procedure:

1. Select the desired templates from the drop-down list in the Filter Templates bar. It is not necessary to select a template if you do not want to use an existing template.
2. If necessary, click the Adjust Filter button and modify the filter template or create a new template.
3. Click the Save Current Filter As Default button.

Note

It is not necessary to save the default filter as a template. If you want to, you can use the Adjust Filter screen to create a filter and then save it as the default filter without saving it as a template.

3.10.1.2.3 Deleting Templates

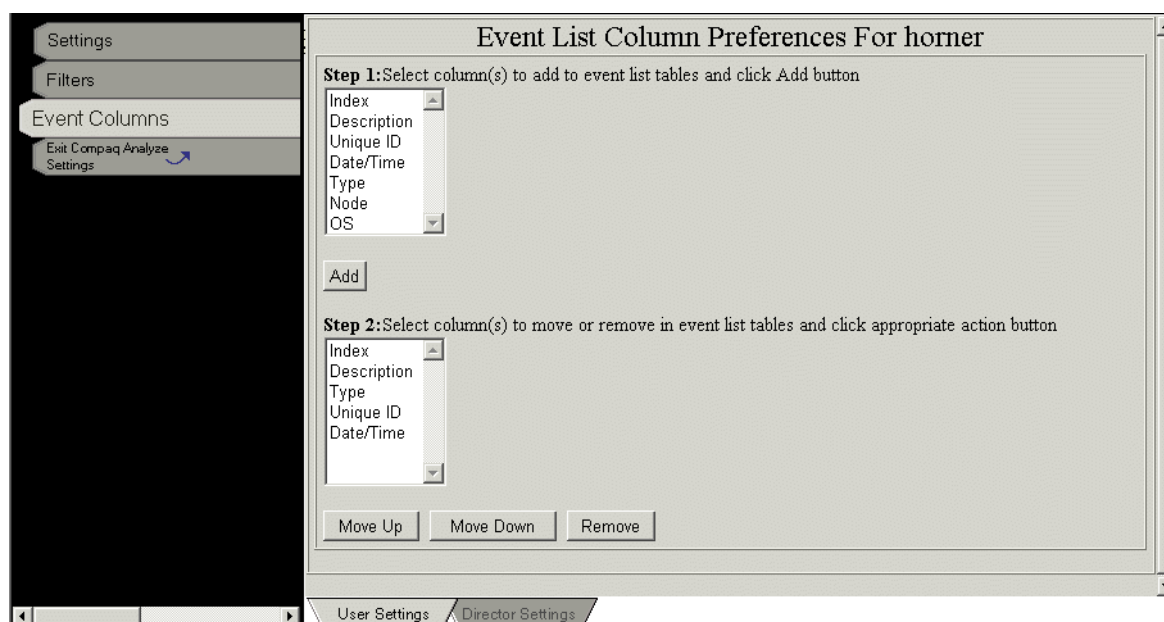
You can delete a filter template from the Filter Preferences screen (Figure 3-32), using the following procedure.

1. Click on the name of the filter you want to delete in the Filter Templates list. You can select multiple filters by holding the Ctrl key while you click the filter names.
2. Click the Remove Selected Filters button.

3.10.1.3 Event Columns

The Event Columns screen is used to specify the information displayed by translation on the Events tab (see Section 3.6.7 for more information on translation details).

Figure 3–37 Event Columns



The Event Columns screen lists the field headings for event translation. You can designate which translation information is shown on the Events tab using the following procedures.

Adding Fields

To add fields:

1. Determine which additional translation fields need to be shown. The first list displays all the available translation fields and the second list indicates the fields that are currently shown.
2. Select the desired field from the first list by clicking on its name. You can select multiple entries by holding the Ctrl key while you select their names.
3. Click the Add button. The selected fields are added to the end of the second list and shown under the Events tab.

Rearranging Fields

The order of the fields in the second list indicates the order of the information on the Events tab.

To rearrange the fields:

Web Interface

3.10 Settings

1. Select the field that needs to be moved by clicking on its name in the second list.
2. Move the field to its new location.
 - Click the Move Up button to move the field up in the list.
 - Click the Move Down button to move the field down in the list.

Removing Fields

To remove a field:

1. Select the field from the second list by clicking on its name. You can select multiple fields by holding the Ctrl key while you select their names.
2. Click the Remove button.

3.10.2 Director Settings

The Director settings are used to modify WEBES components, register rule sets and review log files created by Compaq Analyze. To access the Director settings, click the Settings button in the toolbar and then select the Director Settings tab.

Figure 3–38 Director Settings

Settings	
View WEBES logs	
Register Knowledge	
Exit Compaq Analyze	
Settings	

WEBES Services	
Global Attributes	
<ul style="list-style-type: none">• logMinSeverity• logStackDump• logExcDump• logThreadDump• commSocketListenerPort• commConnectionTimeout• ctrlStartupTimeout• Report Type• processWatcherInterval• processWatcherVerbose• dumpThreads	

New Setting	
WARNING	
Name:	Logging, Minimum Severity
Default:	WARNING
Current:	WARNING
Description:	The least urgent severity that will be logged (items of less urgent severities will not be logged). Only enough of the string to make it uniquely recognizable must be entered (first letter, for now).
Reset Default Change	

User Settings Director Settings

Use the buttons located at the right side of the window to navigate the Director settings.

- Settings – Displays the configuration settings for the Director. Refer to Chapter 6 for information on changing the Director settings.

- View Compaq Analyze Logs – Displays the log files created by Compaq Analyze. Refer to Section 3.10.2.1 for more information.
- Register Knowledge – Displays the knowledge rule sets that can be installed. Refer to Chapter 5 for more information on rule sets and analysis.
- Exit Settings – Closes the settings screen.

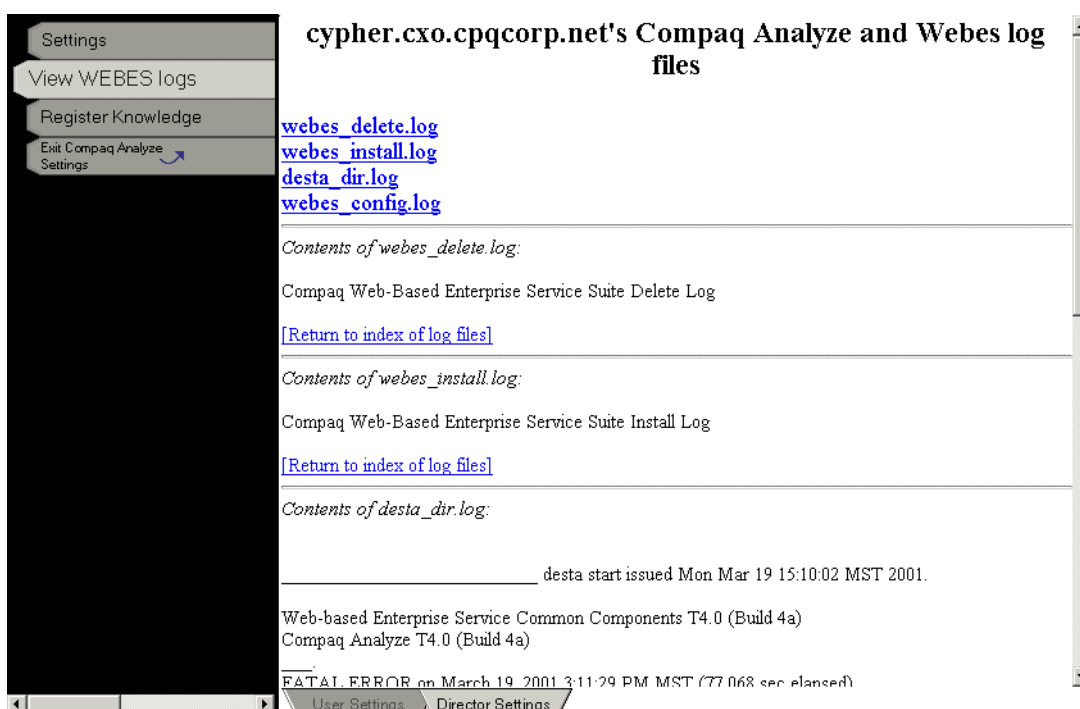
3.10.2.1 Compaq Analyze Log Files

Note

Informational log files cannot be viewed on OpenVMS systems. Only Tru64 UNIX and Windows systems display the text-based informational log files. Therefore, the View Compaq Analyze Logs button is not available when you are logged into a OpenVMS machine.

You can view the text-based error/information log files from the Settings screen. Select the Director Settings tab and then click the View WEBES Logs button. The log files are concatenated into one large file for display and shown in the display frame (Figure 3–39).

Figure 3–39 WEBES Logs



Web Interface

3.11 Getting Help

You can use the links at the top of the display screen to navigate to any of the available log files.

The following examples show some of the log files that may be shown (refer to Chapter 1 for information on the log files):

Tru64 UNIX

All the log files in the `/logs` directory are shown, for example:

- `webes_delete.log`
- `webes_install.log`
- `setld_error.log`
- `wcc_install.log`
- `desta_dir.log`
- `ca_delete.log`
- `ca_install.log`
- `ccat_install.log`

Windows

All the log files in the `\logs` directory are shown; generally, the following log files are shown for Windows systems:

- `desta_dir_err.txt`
- `desta_dir_err_backup.txt`
- `desta_dir_out.txt`
- `desta_dir_out_backup.txt`

3.11 Getting Help

The web interface provides context sensitive help and a link to the user guide.

3.11.1 Context Sensitive Help

Position the cursor of your mouse over an element from the toolbar or navigation tree to view a brief description of the option in the information bar at the bottom of the browser window.

3.11.2 On-Line User Guide

Click on the Help button from the Compaq Analyze toolbar to view an HTML version of the *Compaq Analyze User Guide*. The help opens in a new browser window.

3.12 Log Off

It is not necessary to manually log off Compaq Analyze. Once your connection to the Director is closed, Compaq Analyze will automatically log off your profile after the log off time elapses. By default, the log off time is set to ten minutes, however, you can configure the time from the User Settings screen (see Section 3.10.1).

You can close your connection by exiting your browser or navigating to a web site outside of the Compaq Analyze web interface.

Once you are logged off, all the data associated with your Compaq Analyze session is lost. However, if you restore your connection to the Director before the log off time elapses, your data will remain intact. This enables you to browse other web sites without losing your Compaq Analyze data.

3.13 Lost Connection

If your connection to the Director is lost for any reason, the message in Figure 3-40 appears in the toolbar.

Figure 3-40 Lost Connection Message



Connection To WEBES Was Lost!

3.14 Service Obligation

You can view service obligation information by entering the following URL:

`http://hostname:7902/obligation`

Where *hostname* refers to the machine name or IP address.

An example of the service obligation information is shown here:

```
Service Obligation: Valid
Service Obligation Number: NI93202975
System Serial Number: NI93202975
Service Provider Company Name: Compaq

Obligation Start Date: Sat May 13 00:00:00 MDT 2000
Obligation Ending Date: Sun May 13 00:00:00 MDT 2001
Time left on Obligation: 0 years, 355 days, 13 hours, 52 minutes, 57 seconds

History of changes:
1. Sat May 13 15:46:22 MDT 2000: Installer (unknown) of Compaq
Installation settings changed to start Sat May 13 00:00:00 MDT 2000 to Sun May
13 00:00:00 MDT 2001 (1 years, 0 days, 0 hours, 0 minutes, 0 seconds)
```

Web Interface

3.15 Disabling the Web Service

```
2. Sat May 13 15:46:11 MDT 2000: WEBES (Web-based Enterprise Service Common
Components V3.0 (Build 12), member of WEBES V3.0 (Build 12)) of Compaq
Set initial obligation: 0 years, 5 days, 0 hours, 0 minutes, 0 seconds ending
Thu May 18 15:46:10 MDT 2000
```

Notifications to be sent

1. 0 years, 60 days, 0 hours, 0 minutes, 0 seconds
2. 0 years, 30 days, 0 hours, 0 minutes, 0 seconds
3. 0 years, 15 days, 0 hours, 0 minutes, 0 seconds
4. 0 years, 5 days, 0 hours, 0 minutes, 0 seconds
5. 0 years, 4 days, 0 hours, 0 minutes, 0 seconds
6. 0 years, 3 days, 0 hours, 0 minutes, 0 seconds
7. 0 years, 2 days, 0 hours, 0 minutes, 0 seconds
8. 0 years, 1 days, 0 hours, 0 minutes, 0 seconds

3.15 Disabling the Web Service

The following procedure describes how to turn off the Compaq Analyze web service.

1. Stop the Director by entering **desta stop** at the command prompt.
2. Edit the ConfigDefaultsCA*.txt file in the config directory.
 - Tru64 UNIX – edit the following file:
/usr/opt/compaq/svctools/config/ConfigDefaultsCADUnix.txt
 - OpenVMS – edit the following file:
svctools_home:[config]ConfigDefaultsCAOpenVMS.txt
 - Windows – edit the following file:
c:\Program
Files\Compaq\Svctools\Config\ConfigDefaultsCAWindows.txt
3. Put a # in front of the line
com.compaq.svctools.ca.services.web.CAWebService. The contents of
the file should look similar to this:

```
# ConfigDefaultsCAOpenVMS.txt
#
# Compaq Analyze Default Components, ** OpenVMS Version **
#
# Default components of Compaq Analyze, to enroll the first time the
# DESTA Director process is executed, as fully qualified Java class
names.
# After DESTA runs the first time, the file Configuration.dat will be
# created, and it will be read on startup instead of ConfigDefaults*.txt.
#
# Duplicates are OK, so let's add the CommonDirector even though it's
# also in ConfigDefaultsDESTA.txt, since we can't run the other services
# without it.
#
com.compaq.svctools.desta.core.CommonDirector
com.compaq.svctools.ca.services.analysis.EvtAnalyzer
com.compaq.svctools.ca.services.decomposers.EvtDecomposer
com.compaq.svctools.ca.services.eventreaders.SwccReader
com.compaq.svctools.ca.services.web.CAWebService
#
# The next line is specific to OpenVMS
com.compaq.svctools.ca.services.eventreaders.VMSReader
#
# Uncomment the next line if operation of the Unanalyzed Event Logging
# service is desired.
#com.compaq.svctools.ca.services.analysis.UnanalyzedEventLogger
com.compaq.svctools.desta.services.notification.ACHSNotification
```

Web Interface

3.15 Disabling the Web Service

4. Delete the `configuration.dat` file from the following directories (assuming you used the default install directory):
 - Tru64 UNIX – `/usr/opt/compaq/svctools/desta/config`
 - OpenVMS – `svctools_home:[desta.config]`
 - Windows – `C:\Program Files\Compaq\Svctools\desta\config`
5. Restart the Director using the procedures described in Chapter 1.

Web Interface

3.15 Disabling the Web Service

Event Translation

This chapter describes event translation, including automatic and manual translation, simulation testing of translation, and viewing and interpreting translation information.

Translation Defaults	page 4-2
Automatic Translation	page 4-2
Manual Translation	page 4-2
Viewing Translation Information	page 4-2
Interpreting Translation Information	page 4-3
Typical Frame of a Translated Binary Event	page 4-3

Event Translation

4.1 Translation Defaults

4.1 Translation Defaults

By default some events are not processed. Under normal operation, correctable events are not translated. The events that are usually filtered include:

- Correctable System events (entry types 620 and 630)
- Correctable Error Throttling Notification events
- Miscellaneous events not used by analysis, such as:
 - Time Stamp events
 - Volume Mount/Dismount events
 - Cold Start (System Boot) and Shutdown events
 - Software-related events

4.2 Automatic Translation

Automatic translation, which is enabled by default, captures, translates, and displays events in the web interface as they are generated by the system or soon after. As long as the Director is running all the incoming events are processed without user intervention. Translated events are passed to all the web interfaces connected to the Director (on any machine). Translated events are also passed to the Analysis engine to be analyzed according to installed rules sets (see Chapter 5).

4.3 Manual Translation

You can open a binary event log file and request that the events be translated. The resulting reports are only sent to your computer. This activity is known as manual translation.

To translate events from a binary event log file, follow the steps outlined in Chapters 2 and 3 of this guide.

On supported platforms, Compaq Analyze can read and translate error logs produced by any of the supported operating systems. For example, you can use the web interface running on your PC to connect to a Director running on a Tru64 UNIX machine to read, translate, and analyze an event file produced previously on an OpenVMS machine.

4.4 Viewing Translation Information

Translation information is available from the the command line interface and the web interface. Refer to the following chapters for information on viewing translation information:

- CLI – Chapter 2
- Web Interface – Chapter 3

4.5 Interpreting Translation Information

A translated binary event consists of three layers of information: overall, **frame**, and **field**.

4.5.1 Overall

The overall binary event contains one or more translated frames of information. There are several types of binary events, each identified by its class name. In addition to the frames, some other information is stored at the overall layer, such as:

- The class name of the binary event (passed to Event Analysis but not displayed in the web interface)
- The event's "match keys," a set of strings used in identifying analysis rules that may fire for this event (not shown by the web interface)

4.5.2 Frame

A frame within an event consists of one or more translated fields of information. There are many types of frames, each identified by its label. Each frame type contains a defined set of fields. In addition to the fields, some other information is stored at the frame layer, such as:

- The parent binary event of this frame
- The frame's label, displayed at the beginning of each frame

4.5.3 Field

A field within a frame consists of the following:

- The parent frame of this field
- The field's label, both as an identifier (not shown) and as displayable text
- The field's value (of a type defined by the type of field) which is displayed in text form

4.6 Typical Frame of a Translated Binary Event

A typical frame of a translated binary event appears as follows:

```
Event:      2
Description: VMS Asynchronous Device Attention  at Mon Mar 01 20:59:59 MST
2001 f
rom SABL15
File:      ./ca/examples/rx_data.zpd
=====
OS_Type          2          -- OpenVMS AXP
```

Event Translation

4.6 Typical Frame of a Translated Binary Event

Hardware_Arch	4	-- Alpha
CEH_Vendor_ID	3,564	-- Compaq Computer Corp
Hdwr_Sys_Type	22	-- Unrecognized System Type
Logging_CPU	0	-- CPU Logging this Event
CPUs_In_Active_Set	0	
Entry_Type	128,098	-- VMS Asynchronous Device Attention
DSR_Msg_Num	1,813	-- Compaq AlphaServer ES40

This frame contains eight fields: OS_Type, Hardware_Arch, CEH_Vendor_ID, Hdwr_Sys_Type, Logging_CPU, CPUs_In_Active_Set, Entry_Type, and DSR_Msg_Num. Each field has a single value, such as “22”.

Event Analysis

This chapter describes event analysis, including analysis rules, installing rule sets, automatic and manual analysis, simulation testing of automatic analysis, viewing analysis information, interpreting analysis information, and configuration of analysis.

Analysis Rules.	page 5-2
Instance Files.	page 5-2
Managing Rule Sets	page 5-3
Automatic Analysis.	page 5-7
Manual Analysis	page 5-8
Viewing Analysis Information	page 5-9
Interpreting Analysis Information.	page 5-9

5.1 Analysis Rules

Binary events are analyzed by using DeCOR (the analysis engine used by both Compaq Analyze and its predecessor, DECEvent) to apply rules to them. Rules are designed to fire when a particular criteria, such as a threshold, is met. For example, if the number of events within a given time frame exceeds the threshold specified in a rule set, the rule fires.

Depending on the circumstances, a event may or may not fire any rules. In addition, a single event can fire multiple rules. When a rule fires, it may produce none, one, or multiple reports. A report may be generated immediately, or may be generated after a gestation time period defined by the rule. Each report is stored in a **instance file**. After the report's expiration time period, defined by the rules, the report is removed from the instance file.

Analysis rules are coded by Compaq serviceability engineers or other domain knowledge specialists. These rules are stored in Knowledge Rule Set files, typically with the file extension `.krs`. A **KRS** file contains one or more rules. One or more rule set files can be installed, or "registered," into an analysis instance file at the same time. A rule set can later be "unregistered" if it is no longer applicable.

Note

It is possible to run Compaq Analyze without any rule sets registered (if the rule sets have been unregistered or deleted). However, if there are no registered rule sets, analysis will not generate meaningful results. The problem report generated by analysis will indicate if there are no registered rulesets or no applicable rulesets.

5.2 Instance Files

Compaq Analyze stores analysis data in instance files that include the following:

- The paths and filenames of the KRS files to be used for analysis
- Input entry classes, derived from data in the binary events
- Intermediate data such as complex storage classes, derived during analysis
- Output report classes (analysis results)

Typically, the input classes are deleted after reports have been generated from them. Automatic analysis results (see Section 5.4) are stored in the following file:

```
ca/data/decorEvtAuto.ins
```

Manual analysis is separate from automatic analysis (see Section 5.4) in its use of data. The file `ca/data/decorEvtManual.ins_seed` contains only the paths and filenames of the KRS files. Before each manual analysis, this file is copied to `decorEvtManual.ins` in the same directory, which is used to store all data for this analysis only. Once analysis is complete, the file is renamed `decorEvtManual.ins_prev-save`, overwriting any file

of the same name. In this way, each manual analysis is isolated from the results of all other manual analyses as well as from automatic analysis.

Damaged Instance Files

Compaq Analyze can detect and recover from an automatic analysis instance file that is damaged. However, if you believe the instance file is damaged and want to reset it to its original default state containing only the KRS filenames, do the following:

1. Stop all WEBES processes (see Section 1.7).
2. Delete the file `decorEvtAuto.ins`.
3. Restart the Director (see Section 1.6).
4. Re-register the default rule sets with the command **ca regknw rdef** (see Section 5.3).

The manual analysis seed instance file `decorEvtManual.ins_seed` can be restored in the same way if it is damaged, although it is never changed except when rule sets are registered or unregistered.

Contact the Compaq Analyze support team for assistance in diagnosing why an instance file may have been damaged.

5.3 Managing Rule Sets

Compaq Analyze is installed with all rule sets pre-registered in the automatic and manual analysis instance files. These rule sets are the installed files with the `.krs` extension, in the same directory as the instance files.

You can manipulate the rule sets in the following ways:

- View the rule sets that are currently registered (see Section 5.3.1).
- If you receive or create new analysis rule KRS files, you can **register** the new rule sets as needed into both instance files (see Section 5.3.2).
- Unregister rule sets that are no longer needed (see Section 5.3.2).
- Re-register all the default rule sets (see Section 5.3.2).

5.3.1 Viewing Registered Rules

Using the CLI or web interface, you can view the rulesets that are registered for use with Compaq Analyze.

5.3.1.1 CLI

The `listrk` command can be used in either automatic or manual mode, and provides a list of the paths and versions of the knowledge files registered with DeCOR. The syntax for the command is shown here:

```
ca listrk
```

Output

An example of the output from a OpenVMS machine is shown here:

```
Registered analysis knowledge files:
Filename: /SVCTOOLS_HOME/ca/data/dsl0.krs
Revision: Rev_3_0_A
Filename: /SVCTOOLS_HOME/ca/data/ds20.krs
Revision: Rev_3_0_A
Filename: /SVCTOOLS_HOME/ca/data/es40.krs
Revision: Rev_3_0_A0
Filename: /SVCTOOLS_HOME/ca/data/g320_ce_rule.krs
Revision: Rev1_0
Filename: /SVCTOOLS_HOME/ca/data/g320_se_rule.krs
Revision: Rev_01
Filename: /SVCTOOLS_HOME/ca/data/g320_startup_rule.krs
Revision: Rev1_0
Filename: /SVCTOOLS_HOME/ca/data/g320_uce_rule.krs
Revision: Rev_01
Filename: /SVCTOOLS_HOME/ca/data/mcii.krs
Revision: Revision_0
Filename: /SVCTOOLS_HOME/ca/data/storage.krs
Revision: Rev_0.2
```

5.3.1.2 Web Interface

From the web interface:

1. Click the Settings button from the toolbar.
2. Select the Director Settings tab.
3. Click the Register Knowledge button in the navigation frame.

All the available rule sets are listed with a check box. Rule sets with a selected check box are registered.

5.3.2 Registering and Unregistering Rule Sets

You can **register** a set of rules (stored as KRS files) using the Compaq Analyze CLI or web interface. Registered files are used by the automatic analysis instance file `decorEvtAuto.ins` and the manual analysis seed instance file `decorEvtManual.ins_seed`, both of which are located in the `ca\data` directory.

You can re-register all default rule sets from the command line. For example, you may need to do this if you delete either of the instance files, as described in Section [5.2](#).

5.3.2.1 CLI

Use the `regknw` command to register or unregister knowledge rulesets in both the automatic and manual instance files.

Registering and Unregistering Rule Sets

The syntax for registering and unregistering rule sets is shown here (in all cases, the first command shown is used to register rule sets and the second command is used to unregister rule sets):

```
ca regknw r knowledgeFileDir knowledgeFile  
ca regknw u knowledgeFileDir knowledgeFile
```

Where *knowledgeFileDir* represents the directory where the knowledge file is saved and *knowledgeFile* represents the name or names of the desired knowledge files. Any number of directories and files can be supplied.

When registering files, keep the following in mind:

- If you do not use any arguments, you will be prompted as to whether you wish to register or unregister the default knowledge files. See [Default Rule Sets](#) for more information.
- You can use the relative directory structure for the directory, as in the following examples:

```
ca regknw r \ca\data\ds10.krs  
ca regknw u \ca\data\ds10.krs
```

- Wildcards can be used to specify multiple filenames, as shown in the following examples:

```
ca regknw r \ca\data\ds*.krs  
ca regknw u \ca\data\ds*.krs
```

- If you specify a directory without a filename, all the files with a .krs extension in the directory are registered or unregistered. The following examples show commands without any file names:

```
ca regknw r \ca\data\  
ca regknw u \ca\data\
```

Note

When you are specifying individual files to unregister, the file path(s) entered at the command line must exactly match the DeCOR file path. Specifying a relative path is usually sufficient.

However, on OpenVMS systems, a relative or absolute path may not be translated into a format compatible with DeCOR. Use the `ca listrk` command to determine the proper path argument.

Event Analysis

5.3 Managing Rule Sets

Default Rule Sets

The set of *.krs files located in the ca\data directory constitute the default rule sets. You can register all of the default rule sets with either of the following commands:

```
ca regknw r
ca regknw rdef
```

The rdef command does not prompt for confirmation.

You can unregister all of the default rule sets with either of the following commands:

```
ca regknw u
ca regknw udef
```

The udef command does not prompt for confirmation.

If you attempt to register a rule set that is already registered or unregister a rule set that is not registered, error messages will result.

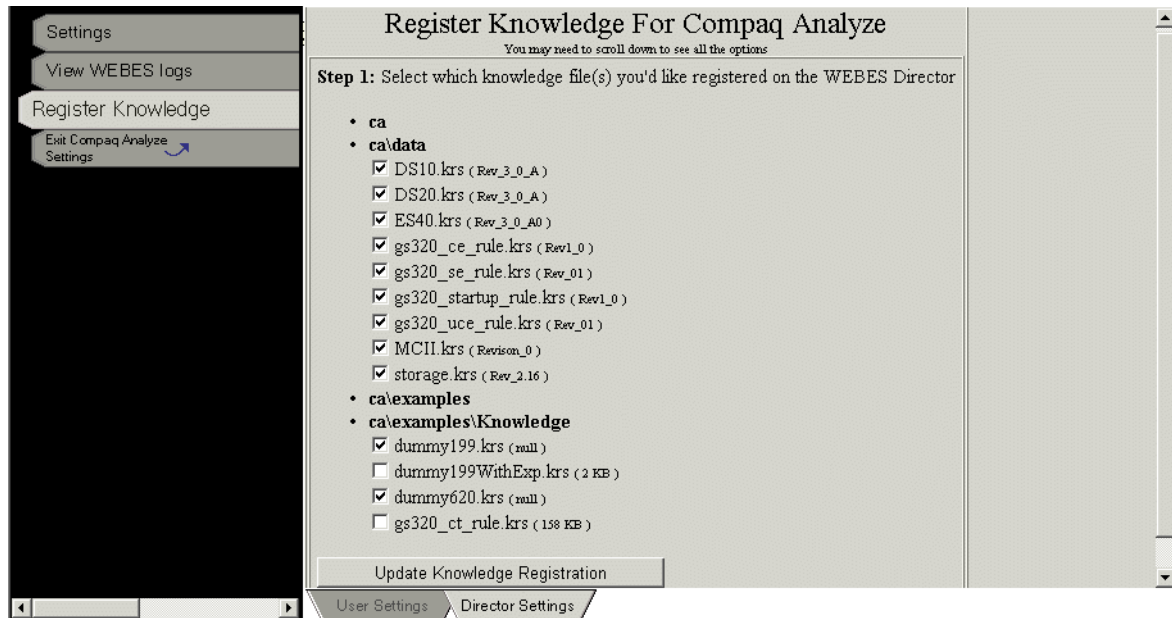
If you want to restore the automatic or manual instance files to their initial state, follow the procedures for damaged instance files, described in Section [5.2](#).

5.3.2.2 Web Interface

To register or unregister a set of rules using the web interface, do the following:

1. Click on the Settings button in the toolbar.
2. Click the Director Settings tab at the bottom of the window.
3. Click the Register Knowledge button in the navigation frame (Figure [5-1](#)).

Figure 5–1 Rules Files



All the available rule sets are listed with a check box. If the check box is selected the rule set is registered, otherwise it is not registered.

4. Register or unregister the necessary rule sets.
 - To register a rule set that is not registered, select the check box next to its name.
 - To unregister a rule set that is currently registered, deselect the check box next to its name.
5. Click the Update Knowledge Registration button to save your changes.

5.4 Automatic Analysis

Automatic analysis is the immediate analysis of an event that has been captured and decomposed by Compaq Analyze as soon as the event is generated by the system (or shortly thereafter). No user intervention is required, and as long as the Director is running, Compaq Analyze analyzes any incoming events, regardless of any interfaces that may be running. Automatic analysis is always enabled. Be aware that automatic analysis does not use the time stamp information associated with events, rather events are assumed to have occurred when the Director receives them.

Problem reports resulting from automatic analysis are sent to all interfaces and to all recipients that are set up to be notified. See Chapter 7 for information about setting up notification services.

Event Analysis

5.5 Manual Analysis

Scavenge

Automatic analysis processes events as they occur. However, when the Director is stopped, Compaq Analyze creates a marker that indicates the last event from the binary log file that was processed. When the system is restarted, Compaq Analyze processes all the events that occurred after the marker was created. This operation is referred to as scavenging. The scavenger operation finds events that are still pending processing and ensures that no events are missed, even when the system is restarted. The first time scavenger occurs, it processes the entire event log. Once this is complete, new events are processed as they occur. The scavenger operation always occurs four minutes after the Director is started. If the Director is started and stopped within four minutes, no scavenger occurs.

Initially, the entire system event log is read to find any events that can be analyzed. A filter is then applied to the analyzable events. All the events that occurred within a week of the most recent analyzable event are processed.

If there are no analyzable events, the scavenger feature becomes dormant and a marker representing an unsupported system is added to the `scavmark.dat` file. As long as the `scavmark.dat` file containing the unsupported system marker is present on the system, no scavenging occurs. If there is at least one recognized event, scavenging occurs every time the Director is stopped and started.

Note

If you set the logging level to `Info`, you can view a count of recognized and unrecognized events.

5.5 Manual Analysis

A user can open a binary event log file and request that the events be translated and analyzed, returning any problem reports to the requesting user. This activity is known as manual translation and analysis. Unlike automatic analysis, manual analysis relies on the time stamp information included with each event to determine when an event occurred.

Manual analysis can be performed from all the interfaces. Refer to the following chapters for information on manual analysis:

- CLI – Chapter 2
- Web Interface – Chapter 3

Regardless of the platform it is installed on, Compaq Analyze can read and translate binary event logs produced by any of the supported operating systems.

5.6 Resource Usage During Analysis

Whenever Compaq Analyze starts, and when you run manual analysis, the program appears to use a lot of system resources and processor cycles. However, Compaq Analyze uses only the capacity that is not being asked for by other programs.

Compaq Analyze always relinquishes processor cycles to other programs whenever they need them. In other words, the program uses whatever resources are available.

At startup Compaq Analyze needs the available capacity for the scavenge process. Depending on the system, and the size and content of the log, the initial startup pass can take many minutes or even hours to complete. After completing the scavenge process, Compaq Analyze drops into idle mode, where resource usage hovers at only a few percent.

If you run Compaq Analyze in manual mode, large amounts of system resources and processor cycles might also get used. As in the case of startup in automatic mode, the condition is directly related to the size and content of the log being processed. Once again by design, Compaq Analyze uses as many resources as are available until processing is completed.

You can speed processing by managing the system error log so that it does not grow indefinitely. When you are using manual analysis, it may be beneficial to filter large log files in order to improve processing times.

5.7 Viewing Analysis Information

You can use any of the Compaq Analyze interfaces to view analysis information from system generated events and binary event log files. Refer to the following chapters for more details on viewing analysis information:

- CLI – Chapter 2
- Web Interface – Chapter 3

5.8 Interpreting Analysis Information

A report consists of a set of String and Value Pairs (**SVP**). A SVP can be short, for example:

```
Entity Type:  
CPU
```

A SVP also can be extensive, such as the Full Description or Evidence SVPs, which can contain many lines of information (see Appendix A for an output example). A problem report resulting from event analysis always contains the following Strings, with Values describing the analysis results.

5.8.1 Managed Entity

The Managed Entity designator provides service information regarding the system on which the problem was found. This includes the system host name (typically the computer name for networking purposes), type of computer system, and the error event identification. The error event identification information uses new common event header Event_ID_Prefix and Event_ID_Count components. The Event_ID_Prefix refers to an OS-specific identification for this event type. The Event_ID_Count indicates the number of this event type that occurred.

5.8.2 Service Obligation

The Service Obligation designator provides information about the service provider and the state of the service contract.

5.8.3 Brief Description

The Brief Description designator provides a high level description of the event. This typically includes whether the error event is related to the CPU, the system (PCI or Storage, for example), or the environmental subsystem within this managed entity.

5.8.4 Callout ID

The Callout ID designator provides information about the analysis rule set. The last 12 characters can be used to determine the revision level of the current analysis rule set. All other characters within this designator are used for Compaq-specific reserved purposes.

5.8.5 Severity

The Severity designator provides the service relevance of the occurrence of the problem found. The current severity hierarchy is shown in Table 5-1.

Table 5–1 Problem Severity Levels

Severity Level	Service Relevance	Comments
1	Critical	This level is not currently used due to system operation required for Compaq Analyze diagnosis.
2	Major	Fatal event that typically requires service if not already administered.
3	Minor	Non-Fatal or Redundant warning event that typically requires future service but system still operates normally.
4	Information	System service event such as enclosure PCI or Fan door is open and only requires system door closure.
5	Unknown	This level is not used currently.

5.8.6 Reporting Node

The Reporting Node designator is the node from which the error was reported. It is synonymous with the Managed Entity host name when Compaq Analyze is used for system diagnosis for the system on which it is running. For future implementations, this may reflect a system server reporting about a client for which Compaq Analyze is performing diagnosis within an enterprise computing environment.

5.8.7 Full Description

The full description designator provides detailed error information about the event. This can include the detected fault or error condition description, specific address or data bit where this fault or error occurred, and other service related information.

5.8.8 FRU List

The Field Replaceable Units (**FRU**) List designator lists the most probable defective FRUs. This list indicates that qualified service needs to be administered to one or more of these FRUs. This information typically provides the FRU probability, manufacturer, system device type, system physical location, part number, serial number, and firmware revision level (if applicable to the FRU).

5.8.9 Evidence

The Evidence designator provides the error event information that triggered the indictment. The evidence shown depends on the system that generated the error log and the registered rules. As a result the contents of the evidence field may vary.

Configuration

This chapter describes configuration, including getting and changing the configuration, global and component configuration attributes, and creating and resetting the configuration.

Getting the Configuration	page 6-2
Changing the Configuration	page 6-3
Global Configuration Attributes	page 6-5
Component Configuration Attributes	page 6-7
Profiles	page 6-7
Creating and Resetting the Configuration.....	page 6-8

Configuration

6.1 Getting the Configuration

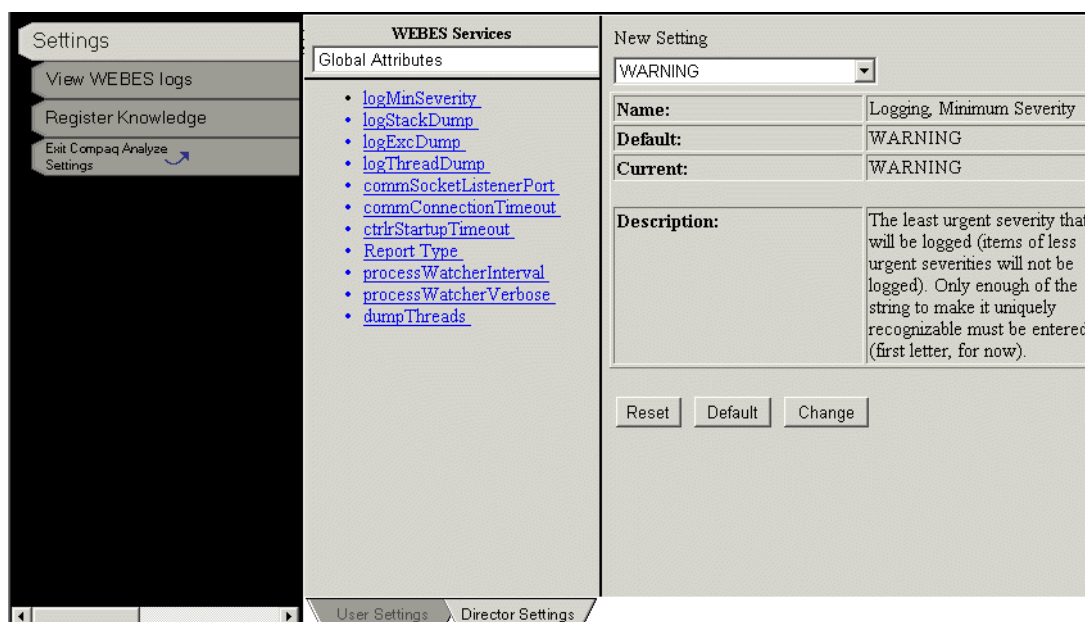
6.1 Getting the Configuration

You can view the configuration settings for your local Director from the web interface.

To view the configuration, use the following procedure:

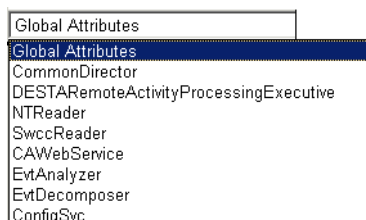
1. Select the Settings button from the toolbar.
2. Select the Director Settings tab. The Director Settings window is shown in the display frame (see Figure 6-1). By default the Settings button is selected.

Figure 6-1 Settings



3. To view the details of a specific Global configuration **attribute**, click on the attribute name. The details are shown on the right side of the window.
4. To view the attributes of a different **service**, click on the WEBES Services drop-down menu. A list of services appears (see Figure 6-2).

Figure 6-2 Selecting an Service



5. Choose one of the services currently enrolled into the system (see Figure 6–3). The attributes associated with service are listed on the left side of the window.

The CAWebService was selected for this example.

Figure 6–3 Attribute Display

The screenshot shows a web interface for configuring services. On the left, under the heading "WEBES Services", a list of attributes for "CAWebService" is displayed: [compName](#), [autoStart](#), [threaded](#), [forcedSockets](#), [HTTPServerPort](#), and [SummaryMode](#). On the right, the "New Setting" section shows the "autoStart" attribute selected with a checked checkbox. Below this, a table displays the attribute's configuration:

Name:	Auto Start at Startup
Default:	true
Current:	true
Description:	Should the system start this component at DESTA startup?

At the bottom of the right panel are three buttons: "Reset", "Default", and "Change". At the very bottom of the window are two tabs: "User Settings" and "Director Settings".

6. To view the current value of an attribute, click on its name on the left side of the window (see Figure 6–3). The attribute's full name and current and default values, are displayed on the right side of the window along with a description of the attribute.

The automatic start component (autoStart) was selected in this example.

6.2 Changing the Configuration

You can modify the attribute configuration settings from the web interface or the CLI.

Normally, it is not necessary to change the attribute settings. The following list describes the attributes that most often need changed, and an example of circumstances which might call for a change.

- **commSocketListenerPort** (Communications, Socket Listener Port Number) – under Global Attributes. Used to change the communications port number. Do not change the commSocket ListenerPort attribute from the web interface, see Section 6.3.2 for information on configuring ports.
You may need to change the port number if there is another, conflicting application.

Configuration

6.2 Changing the Configuration

- `commConnectionTimeout` (Communications, Connection Handshake Timeout) – under Global Attributes. Used to change the amount of time that can elapse before the system times out.
You may want to change the Timeout setting if your network is very slow and you want to allow more time for connections before timing out.
- Report Type – under Global Attributes. Used to change the problem report display from detailed to brief.
Unless you specifically need the full report output, you should use the brief report. See Section 6.3.3 for more information on changing the Report Type.
- `autoMode` (Automatic Mode) – under the Reader attributes (DUReader, VMSReader, or NTReader depending on your operating system). Used to enable or disable automatic processing of the binary system event log.
You may want to change the `autoMode` setting if there are event entries for hardware that is not supported by automatic hardware analysis.
- `HTTPServerPort` – under CAWebService Attributes. Used to change the port used for http communications. See Section 6.3.2 for more information on configuring ports.
You may need to change the port number if there is a usage conflict.

6.2.1 CLI

The CLI has limited configuration abilities.

Socket Ports

The socket ports can only be modified from the command line. Refer to Section 6.3.2 for details on changing the ports.

6.2.2 Web Interface

Using the web interface, you can change attributes from the Configuration Settings window (see Figure 6-1). Attributes that can be changed have a New Setting field and three buttons in the System Configuration window. You must select an attribute to determine if it can be changed.

To change the value of an attribute, enter the new value in the New Setting field. Depending on the attribute that you want to change, you may be able to select the new attribute value from a drop-down list or change a check-box setting. After changing attributes you have several choices.

- Click the Change button to apply the changes to the current attribute.
- Click the Reset button to change the values of the current attribute back to their last applied value.
- Click the Default button to change the values of the current attribute to their default values.

If you leave the Configuration Settings window without clicking the Change button, your modifications will be lost.

6.3 Global Configuration Attributes

The attributes listed under “Global Attributes” affect every component in the Compaq Analyze system on the current machine, whether or not the component has been enrolled in the configuration.

6.3.1 Changing the Attributes

Changes to the Logging attributes (prefaced with “log”) take effect immediately.

Changes to the Communications and Controller attributes (prefaced with “comm” and “ctrlr,” respectively) take effect only when a new Compaq Analyze process is started (such as the Director or another process that connects to the Director).

Be aware that changing a global configuration attribute affects both interfaces.

6.3.2 Changing Ports

Table 6–1 describes the ports used by Compaq Analyze and indicates whether or not they can be configured.

Table 6–1 Ports

Port Number	Used For	Configurable
7901	Connections to the director.	Yes
7902	Web service (http communications)	Yes
7903	Web service (http communications)	No
7904	EVM connection to the Director. (Although EVM is a UNIX tool, the Director listens to this socket on all operating systems.)	No
1998	Service Cockpit	No
8944	QSAP (see Chapter 7 for more details on QSAP)	Yes
25	SMTP mail. This is the standard port used by TCP/IP systems for SMTP (see Chapter 7 for more details on configuring SMTP).	No

Configuration

6.3 Global Configuration Attributes

If a port is configurable, you can change the port number used. Most ports are configured using the web interface, however, the `commSocketListenerPort`, which is used for connections to the director, can only be modified from the CLI.

Connections to the Director

The `commSocketListenerPort` defines the TCP/IP socket port used by the Director to communicate with other processes on the same machine or on other machines on the network (Port 7901, by default).

Note

Do not change the `commSocketListenerPort` attribute with the web interface. If you do, the Director cannot be stopped from that point on. After the socket port is changed, only a service that is already connected can stop the Director running on the old port.

To change the TCP/IP socket port attribute on all operating systems use the following command from the command prompt.

`desta msg -chgport nnn`

Where *nnn* is the new port number

This command changes the port number and then stops the Director and all connected processes. After the Director has finished shutting down, you can safely restart it on the new port.

The Director can only communicate with Directors on other machines that have the same TCP/IP socket port number defined in their configuration.

6.3.3 Changing the Report Type

When you change between the Full Report Type and the Brief Report Type, the changes will not be visible in binary event logs that have already been processed using the web interface. When you change the report type, the output from manual and automatic analysis is cached using the previous report type. To view the analysis results with the new report type, you will need to reprocess the binary log file.

- To reprocess the system event log file, select Full View in the navigation frame and click the Reprocess button located in the display frame.
- To reprocess any other log file, select its entry under the Other Logs heading in the navigation frame and click the Reprocess button located in the display frame.

Refer to Chapter 3 for more information on manual analysis and the Reprocess button.

6.4 Component Configuration Attributes

Attributes for all components fall into two categories (indistinguishable in the web interface): **common attributes** and **extended attributes**. (For additional information about configuration attributes, refer to Chapter 5.)

6.4.1 Common Attributes

Attributes that each component contains by default are known as common attributes. They are still owned by their component, so the autoStart attribute for one component is independent from the autoStart attribute of another component.

6.4.2 Extended Attributes

Attributes specific to a particular component are known as extended attributes. For example, the “watchFlags” attributes of the “EvtAnalyzer” component do not exist in any other components, since they only apply to the Event Analysis service.

6.5 Profiles

When you are using the web interface, your changes to the configuration are saved in a profile. The profile for the current session is saved using the login name you entered (see Chapter 3). To restore your previous configuration settings when you restart the web interface, simply enter the same login name.

Your profile is saved on the machine where you logged on; if you logon to a different machine the it will use the default settings. To customize the settings you will need to create a new profile and change the configuration settings. Thus, if you want to use the same configuration settings on several different machines, you will need to have a profile on each one.

Note

Profile names are case sensitive. Changing between upper case and lower case letters will create additional profiles. To access a profile, you must enter the profile name exactly as it was created.

Configuration

6.6 Creating and Resetting the Configuration

6.6 Creating and Resetting the Configuration

The first time that Compaq Analyze is started on a machine, a warning similar to the following is written to the Director log file. (See the *WEBES Installation Guide* and Chapter 1 of this guide for more on log files.)

```
_____.
WARNING on February 1, 2001 11:23:35 AM MST (0.023 sec elapsed)
      Configuration file
/usr/opt/compaq/svctools/desta/config/Configuration.dat not found, creating
it.
      Current Thread[main,5,main]
```

This warning is expected and correct. The `Configuration.dat` file is created based on the contents of the `ConfigDefaults*.txt` file in the `svctools/config` directory. (The warning example shown is for a Tru64 UNIX system.) The classes named in those files will “enroll themselves” into the configuration, which is then saved as `Configuration.dat`, a binary file that should not be edited directly. Changes made from the web interface are saved in this file by the Director. This warning should not appear on subsequent starts of the Director.

If the configuration becomes damaged, or you wish to return to the default configuration state when Analyze was first started, make sure no Compaq Analyze or WEBES processes are running (including the Director process), and delete the `Configuration.dat` file. When you restart Compaq Analyze, the file will be recreated with the standard defaults, using `ConfigDefaults*.txt` the same way as the first time Compaq Analyze was started.

Notification

This chapter describes how to configure Simple Mail Transfer Protocol (SMTP), System Initiated Call Logging (SICL), and Compaq Remote Support Service (CRSS) for automatic notification as well as how to disable automatic notification.

Configuring SMTP Mail Notification.	page 7-2
Customer Profile File	page 7-3
Enabling and Disabling SICL Notification.	page 7-4
Configuring CRSS Notification	page 7-5
Indictment API	page 7-6

Notification

7.1 Automatic Notification

7.1 Automatic Notification

Automatic notification enables you to distribute problem reports over e-mail without manual intervention. Be aware that problem reports generated by manual analysis are not sent out for notification. Only reports from automatic analysis are sent out.

The following sections describe how to configure automatic notification.

7.2 Configuring SMTP Mail Notification

Automatic notification provides the capability to send problem reports to recipients through the SMTP protocol.

Note

If you want to use SMTP (e-mail) automatic notification, your machine must either have connectivity to another SMTP server on the TCP/IP network, or it must have its own SMTP server. For further information on configuring your machine as a SMTP server, refer to your operating system documentation.

To set up SMTP (E-mail) notification of problem reports, you must edit the `NotifyCA.txt` file. You may have already entered the appropriate information during installation. If so, you will find the information stored in this file.

Use any text editor to open the file and specify what server to use for sending E-mail notification and the users to whom messages should be sent. The `NotifyCA.txt` file is in the following locations, depending on your operating system:

- Tru64 UNIX: `/usr/opt/compaq/svctools/config`
- OpenVMS: `svctools_home:[config]`
- Windows: `install directory\config`
where *install directory* indicates the directory where Compaq Analyze was installed

The basic format of the text file is as follows:

```
SERVER=servername  
FROM=username1@server.xxx.com  
TO=username1@mailaddress1.com; username2@mailaddress2.com  
CC=username3@mailaddress3.com
```

The servername must be either a machine currently running an SMTP server process, or localhost if the machine running Compaq Analyze is also an SMTP server. The users you identify in the TO and CC fields of the `NotifyCA.txt` file are automatically sent problem reports. Extraneous spaces are ignored and the semicolon can be used as a recipient separator

in the TO and CC fields. The CC field is optional. For changes in the `NotifyCA.txt` file to take effect, you must stop the Director, then restart it.

Note for UNIX

If your environment does not allow for SMTP forwarding using the normal protocol, you can add the following line to the `NotifyCA.txt` file:

```
CMD=mailx -s '%s' %t
```

The `mailx` command can be replaced with any other command for sending mail.

The `%s` is substituted for the subject line of the problem report. The `%t` is substituted with a space-separated list of the mail addresses specified on the `TO=` lines of the `NotifyCA.txt` file.

Disabling and Enabling SMTP Notification

The SMTP Notification service is enabled by default, but will not perform any notification until the configuration procedures described in this section are performed (unless the necessary information was provided during installation). To disable any notification of problem reports, use the web interface to deselect the “autoStart” checkbox in the SMTP Notification service’s configuration attributes. The next time the Director is restarted, the Notification service will not be started, and no mail will be sent for problem reports. See Chapter 6 for more information regarding configuration.

To re-enable the service, select the “autoStart” checkbox and restart the Director.

7.3 Customer Profile File

You will need a customer profile file in order to automatically notify your Compaq qualified service provider of problems detected by Compaq Analyze. The profile file provides contact and system information used by your service provider.

Normally, the customer profile file is named `profile.txt` and depending on your operating system, the file’s location defaults to the following directory:

- Tru64 UNIX: `/usr/opt/compaq/svctools/data`
- OpenVMS: `svctools_home:[data]`
- Windows: `install_directory\compaq\svctools\data`
where *install_directory* indicates the directory where Compaq Analyze was installed

You can change the name and location of the profile file, however, you will need to modify the path to reflect those changes (see Section 7.3.2).

Notification

7.4 Enabling and Disabling SICL Notification

7.3.1 Profile File Contents

The installation process creates a profile file for you, however, if you need to change the file you can do so using a text editor. The file includes contact information, company information, and system information.

If you modify the profile file, you should maintain the format of the information and save your changes in the appropriate directory.

7.3.2 Path Setup

In order to use a profile file, you must specify the fully qualified path. Specify the path in the *install directory\svctools\desta\config\desta.reg* file (*install directory* refers to the directory where Compaq Analyze was installed). Add the following line to the *desta.reg* file:

```
CA.ACHSProfile=filename
```

Where *filename* is the path and name of the profile file. Be aware that backslash characters must be duplicated in order to be interpreted correctly.

For example, on a Windows system using the default file name and location, the path statement would appear as follows:

```
CA.ACHSProfile=C:\\Program Files\\compaq\\svctools\\data\\profile.txt
```

7.4 Enabling and Disabling SICL Notification

SICL enables the Compaq Analyze software to log service calls with a Compaq Customer Support Center. Before you enable SICL notification make sure that you have **DSNLink** installed.

SICL notification is enabled and disabled from the command prompt. The syntax is given below:

```
Enable – ca sicl on
```

```
Disable – ca sicl off
```

Once you have entered the command to enable or disable SICL, you will be prompted to verify the action. To complete the process, answer the prompt.

If you don't want to view the prompts, you can disable SICL with the following command:

```
ca sicl off silent
```


After enabling or disabling SICL, stop and restart the Director so the changes take effect. For more information on stopping and starting the Director, refer to Chapter 1.

7.5 Configuring CRSS Notification

Note

CRSS is only used with Windows Intel systems with the CRSS kit installed. Refer to Section 7.4 for information on configuring SICL for systems without the CRSS kit.

CRSS provides automatic notification for Windows systems. For CRSS to function properly, you need to configure your system.

7.5.1 Enabling and Disabling QSAP Notification

Before you can use CRSS, you will need to enable communications with a Qualified Service Access Point (QSAP) node.

QSAP is enabled and disabled from the command prompt:

Enable – `desta qsap on`

Disable – `desta qsap off`

When you disable QSAP, you will be prompted to verify the action. To complete the process, answer the prompt.

To disable QSAP without being prompted, use the following command:

`desta qsap off silent`

7.5.2 Event Log Settings

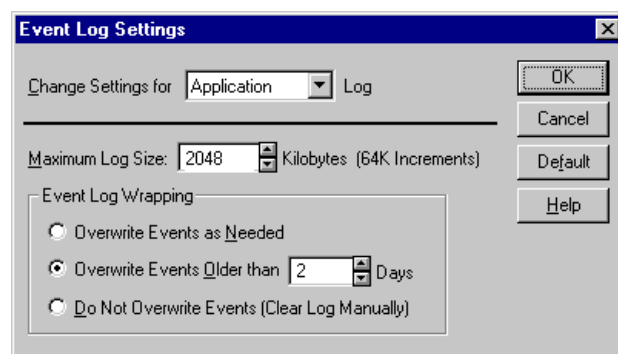
If your event log is completely full no more events can be logged and CRSS will not be able to perform automatic notification. In order to ensure that the log does not fill, you should make sure the event log is set to automatically remove old events. Change the event log settings using the following procedure.

1. Open the Start menu and select Programs | Administrative Tools (Common) | Event Viewer. The Event Viewer opens.
2. Select Log Settings from the Log pull-down menu. The Event Log Settings dialog box opens (Figure 7-1).

Notification

7.6 Indictment API

Figure 7–1 Event Log Settings Dialog Box



3. Select the Application Log using the drop-down list at the top of the dialog box.
4. Use the following settings for the Application Log:
 - Maximum Log Size – 2048 Kilobytes
 - Overwrite Events Older than 2 Days
5. Click the OK button to apply your changes.

7.6 Indictment API

Note

Indictment API only operates on GS80, GS160, and GS320 platforms running Tru64 UNIX version 5.1 and newer. If both conditions are true, the thread running Indictment API will automatically start, otherwise it cannot be started.

Component indictment describes the process of analyzing specific failure patterns, either independently or over a given time interval, and recommending a component's removal. Normally, a service request is initiated to replace indicted components.

The Indictment API provides a common mechanism for Compaq Analyze to notify the operating system that a component is faulty and needs to be replaced. The Hardware Component Module receives the indictment notification, marks the component as indicted, places the indicted state in a permanent store, and posts an indictment event to the Event Management Subsystem.

The indictment event can then be passed to:

- SMS – notifies the administrator that a component has been indicted by changing the graphical representation of the indicted component.

Notification

7.6 Indictment API

- EVM – notifies the administrator about the indictment via its configurable forwarding facility.

Notification
7.6 Indictment API

Sample Outputs

This appendix provides examples of translated event output and analysis output.

Sample Configuration Entry	page A-5	Sample Analysis Output	page A-2
Sample Translated Event Output			page A-3

Sample Outputs

A.1 Sample Configuration Entry page A-5 Sample Analysis Output

A.1 Sample Configuration Entry page A-5 Sample Analysis Output

Problem Found: Memory Channel Link Transmit Error at Mon Apr 17 12:20:43 EDT 2000

Managed Entity:

----- Product Information -----
Computer Name: sabl28
Record Number: Prefix: xB7EA

Service Obligation Data:

Service Obligation: Valid
Service Obligation Number: CSC1369
System Serial Number: A123456789
Service Provider Company Name: Compaq

Brief Description:

Memory Channel Link Transmit Error

Callout ID:

TPE03x0018x1011-08

Severity:

2

Reporting Node:

sabl28

Full Description:

----- Standard HUB Error Description and FRU Callout -----
This reporting Adapter detected an error in the transmit FIFO path.

Most Probable Cause:
This reporting CCMAB-AA Adapter.
Next Most Probable Cause:
The CCMLB-AA Linecard connected to this Adapter.

FRU List:

Standard Hub FRU List:
Highest Probability: This Reporting CCMAB-AA Adapter
Manufacturer: Compaq
Description: PCI Memory Channel Adapter
Location: PCI Slot: x00000009
Part Number: 54-24962-01

Next Highest Probability: CCMLB-AA
Manufacturer: Compaq
Description: Memory Channel Linecard Interface
Part Number: 54-24966-01
This Adapter is connected to the Linecard in slot 0 of the HUB.

Evidence:

Local Time of Event: Thu, 8 Jan 2001 15:45:38 -0400
Link Control and Status Register: x0000C07B
Memory Channel Error Register: x12020258

A.2 Sample Translated Event Output

The following samples show both full and brief translation output.

A.2.1 Full

```

Event:          2
Description: VMS Asynchronous Device Attention  at Mon Mar 01 20:59:59 MST
2001 f
rom SABL15
File:           ./ca/examples/rx_data.zpd
=====

OS_Type          2                -- OpenVMS AXP
Hardware_Arch     4                -- Alpha
CEH_Vendor_ID     3,564            -- Compaq Computer Corp
Hdwr_Sys_Type     22              -- Unrecognized System Type
Logging_CPU       0                -- CPU Logging this Event
CPUs_In_Active_Set 0
Entry_Type        128,098          -- VMS Asynchronous Device Attention
DSR_Msg_Num       1,813            -- Compaq AlphaServer ES40
                                   .... CPU Slots: 1 (500Mhz)
                                   .... PCI Slots: 10
                                   .... MMB Slots: 8 (DIMMs)
                                   -- EV6 21264

Chip_Type         8
CEH_Device        49
CEH_Device_ID_0   x0000 0000
CEH_Device_ID_1   x0000 0000
CEH_Device_ID_2   x0000 0000
Unique_ID_Count   93
Unique_ID_Prefix  2
TLV_DSR_String    Compaq AlphaServer ES40
TLV_DDR_String
TLV_Sys_Serial_Num NI73702WH1
TLV_Time_as_Local Mon, 1 Mar 2001 20:59:59 -0700
TLV_OS_Version    X601-SSB
TLV_Computer_Name SABL15
emb_ertcnt        x0000 0016
emb_class         128              Bus Class
emb_type          49              Memory Channel
emb_bcmt         0
emb_errcnt        1
emb_func          0
ucb_name_len      10
ucb_name          SABL15$MCA
ucb_dtnamelen     0
ucb_dtname
Revision_Information x0000 0001
Family_ID         x0000 0016
Member_MC_ID      x0000 0007
MC_PCI_Bus_Number x0000 003D
MC_PCI_Slot_Number x0000 0003
MC_PCI_Frame_Size x0000 00A4
Vendor_ID         x1011
Device_ID_MC      x0018
Bus_Cmd           x0146
Bus_Status        x0400
Rev_ID            176
RegProg           x00
Sub_Class         x80
Base_Class        x02
Cache_Line_Size   x00
Latency_Timer     x10
Header_Type       x00

```

Sample Outputs

A.2 Sample Translated Event Output

```
BIST                                x00
Window_Cntl                         x08
PCITbar                             x78 0000
Base_Addr_1                         x7800 0008
Base_Addr_2                         x0000 0000
Base_Addr_3                         x0000 0000
Base_Addr_4                         x0000 0000
Base_Addr_5                         x7800 0008
Cardbus_CIS                         x0000 0000
Sys_Vendor_ID                       x0000
Subsystem_ID                        x0000
Expansion_ROM_Base_Addr             x07C0 0000
Interrupt_Line                       12
Interrupt_Pin                        1
Min_Gnt                             0
Max_Lat                             0
PCT_Data                            x0000 0000
MCLcsr                              x0000 C07A
    RPE[1]                           x1
    Rx_Err_Ena[3]                     x1
    Tx_Err_Ena[4]                     x1
    MC_Int_Ena[5]                     x1
    Port_Change_Ena[6]                x1
    Port_Change_Int[14]               x1
    INT_Summary[15]                   x1

PCIRbar                             xF800 0000
MCError                             x1202 0202
    Rx_Err_on_Data[1]                 x1
    Cntl_Packet_History[9]            x1
    Heartbeat_Ena[17]                 x1
    Sum_Rx_Err[25]                     x1
    Sum_Tx_Err[28]                     x1

MCPort                              x5642 0000
    Line_Card_Slot[21:16]              x02
    Hub_Type[24:22]                    x1
    Rsvd_1[25]                         x1
    Heartbeat_Timeout_Sel[26]          x1
    Adapter_OK[28]                     x1
    Hub_OK[30]                         x1

Config                              x0000 001F
Port_Online                          x0000 0000
Cluser_Status_Low                    x0000 0002
Cluser_Status_High                   x0000 0000
Node_0_Low                           x0000 0000
Node_0_High                           x0000 0000
Node_1_Low                           x0000 0000
Node_1_High                           x0000 0000
Node_2_Low                           x0000 0009
Node_2_High                           x0000 0000
Node_3_Low                           x0000 0000
Node_3_High                           x0000 0000
Node_4_Low                           x0000 0009
Node_4_High                           x0000 0000
Node_5_Low                           x0000 0000
Node_5_High                           x0000 0000
Node_6_Low                           x0000 0000
Node_6_High                           x0000 0000
Node_7_Low                           x0000 0000
Node_7_High                           x0000 0000
```


A.2.2 Brief

```
Event:      2
Description: VMS Asynchronous Device Attention  at Mon Mar 01 20:59:59 MST
2001 f
rom SABL15
File:      ./ca/examples/rx_data.zpd
=====
```

```
OS_Type      2      -- OpenVMS AXP
Hardware_Arch 4      -- Alpha
CEH_Vendor_ID 3,564  -- Compaq Computer Corp
Hdwr_Sys_Type 22     -- Unrecognized System Type
Logging_CPU   0      -- CPU Logging this Event
CPUs_In_Active_Set 0
Entry_Type    128,098 -- VMS Asynchronous Device Attention
DSR_Msg_Num   1,813  -- Compaq AlphaServer ES40
               .... CPU Slots: 1 (500Mhz)
               .... PCI Slots: 10
               .... MMB Slots: 8 (DIMMs)
               -- EV6 21264

Chip_Type     8
CEH_Device    49
CEH_Device_ID_0 x0000 0000
CEH_Device_ID_1 x0000 0000
CEH_Device_ID_2 x0000 0000
Unique_ID_Count 93
Unique_ID_Prefix 2
TLV_DSR_String Compaq AlphaServer ES40
TLV_DDR_String
TLV_Sys_Serial_Num NI73702WH1
TLV_Time_as_Local Mon, 1 Mar 2001 20:59:59 -0700
TLV_OS_Version   X601-SSB
TLV_Computer_Name SABL15
emb_class        128      Bus Class
emb_type         49
```

A.3 Sample Configuration Entry

COMMON EVENT HEADER (CEH) V2.0

```
OS_Type      1      -- Tru64 UNIX
Hardware_Arch 4      -- Alpha
CEH_Vendor_ID 3,564  -- Compaq Computer Corp
Hdwr_Sys_Type 35     -- GS40/80/160/320 Series
Logging_CPU   0      -- CPU Logging this Event
CPUs_In_Active_Set 1
Entry_Type    110     -- Configuration Event
DSR_Msg_Num   1,968  -- Compaq AlphaServer GS160
Chip_Type     11     -- EV67 21264A
CEH_Device    54
CEH_Device_ID_0 x0000 03FF
CEH_Device_ID_1 x0000 0007
CEH_Device_ID_2 x0000 0007
Unique_ID_Count 0
Unique_ID_Prefix 32,640
```

TLV Section of CEH

```
TLV_Time_as_Local Tue, 21 Mar 2000 07:11:16 -0700
TLV_Computer_Name wfsi21
TLV_DSR_String    Compaq AlphaServer GS160 6/731
TLV_OS_Version    Digital UNIX V4.0G (Rev. 1511)
TLV_Sys_Serial_Num PROTO-WF21
```

Sample Outputs

A.3 Sample Configuration Entry

Configuration Entry

NOTE

- CONFIGURATION ENTRY encountered in Event Log File.
- A Decomposed Configuration Tree Report is available for this event, and may be selected seperately for display in certain user modes.

Known Messages in Compaq Analyze

This appendix describes known messages sent by Compaq Analyze to its message logs (see Chapter 1 of this guide for more information on the message logs). Though they may appear to indicate problems, they are known and expected.

Configuration File Created	page B-2
Start-up Errors in DUReader, Binlog, and Scavenge	page B-2
JIT Compiler Not Found	page B-2
Two Director Processes	page B-3
File Not Found	page B-3

Known Messages in Compaq Analyze

B.1 Configuration File Created

B.1 Configuration File Created

```
_____.
WARNING on February 1, 2001 11:23:35 AM MST (0.023 sec elapsed)
Configuration file
/usr/opt/compaq/svctools/desta/config/Configuration.dat not found, creating
it.
Current Thread[main,5,main]
```

This warning is expected and correct the first time the Compaq Analyze Director is executed on a machine. See Chapter 6 of this guide for more information.

B.2 Start-up Errors in DUReader, Binlog, and Scavenge

```
_____.
RECOVERED FROM ERROR on February 2, 2001 4:09:51 PM MST (1.263 sec elapsed)
<local>:16063208187:com.compaq.svctools.ca.services.eventreaders.DUReader:2
Error during connected read of Mailbox:
Current Thread[Thread-10:
com.compaq.svctools.ca.services.eventreaders.DUWaiter for
com.compaq.svctools.ca.services.eventreaders.DUReader:2,5,main]
EXCEPTION com.compaq.svctools.desta.core.DESTAException: binlog not open at
com.compaq.svctools.ca.services.eventreaders.Binlogd.read(Compiled Code) at
com.compaq.svctools.ca.services.eventreaders.DUReader.connect(Compiled Code)
at com.compaq.svctools.ca.services.eventreaders.DUWaiter.run(Compiled Code)
_____.
RECOVERED FROM ERROR on February 2, 2001 4:10:01 PM MST (11.296 sec elapsed)
Scavenge didn't start:
Current Thread[Thread-11,5,main]
EXCEPTION com.compaq.svctools.desta.core.DESTAException: timed out
at
com.compaq.svctools.ca.services.eventreaders.EvtReader.scavengeLog(Compiled
Code)
at com.compaq.svctools.ca.services.eventreaders.EvtReader$1.run(Compiled
Code)
```

These messages appear if a user without privileges to read the system error log file attempts to start the Director. The Director continues to execute, but events written to the system error log are not captured. The previous messages show examples for Tru64 UNIX. Other operating systems may show similar error messages.

If the user starting the Director does have superuser privileges, then these messages may appear if the binlogd daemon is not running. If the command `ps -ef | grep binlogd` does not show a binlogd process running, it can be restarted by a superuser with the command `/usr/sbin/binlogd`.

B.3 JIT Compiler Not Found

```
dlopen: Cannot map library libsuncompiler.so (libsuncompiler.so)
Warning: JIT compiler "suncompiler" not found. Will use interpreter.
```

This message only appears on Tru64 UNIX systems when the standalone Java Runtime Environment (JRE) is installed instead of the full Java Development Kit (JDK). It is generated by the Java Virtual Machine when any Java code is started using the `jre` command and displays when the `desta` or `ca` script is used to start a Compaq Analyze process. It is expected and correct.

B.4 Two Director Processes

Refer to Section 1.5 for information on the WEBES processes.

On Tru64 UNIX and Windows

With all WEBES products installed, `desta start` starts two instances of the java executable (`java` on UNIX, `java.exe` on Windows). The first instance contains the DESTA Director and all WEBES services except the Crash Analyzer service (CCAT). The Director spawns this crash analyzer as the second instance, which is a subprocess of the Director.

Because the DeCOR analysis engine (a C++ library) does not support multiple simultaneous databases and is not re-entrant, each service that wishes to use DeCOR separately must run in a separate process. There are two services that use the DeCOR library – Compaq Analyze's event analyzer, and CCAT's crash analyzer. The Compaq Analyze service runs in the main process with the Director, and CCAT's analyzer is spawned in a separate process at startup. All services started by the Director continue to run for the lifetime of the java processes. If CCAT is not installed, there is no second instance.

On OpenVMS

There may be two WEBES processes, but they are labelled differently in the SHOW SYSTEM output. The first process is labelled DESTA DIRECTOR. The second is normally SYSTEM_1 for example, if the SYSTEM user starts the Director. The numeric suffix may vary. WEBES processes are labelled *USERNAME_n*, where *USERNAME* is the user that started it, and *n* is the *n*th process started by that user.

B.5 File Not Found

```
Could not find file: CApplet403BeanInfo.class
```

This message appears in the Director's log file the first time the web interface is activated. It does not affect proper operation of any part of Compaq Analyze and can be ignored.

B.6 Indictment CCAT Error

```
_____  
RECOVERED FROM ERROR on March 31, 2001 1:52:29 AM JST (109.722 sec elapsed)
```

Known Messages in Compaq Analyze

B.6 Indictment CCAT Error

```
Could not format/send a com.compaq.svctools.desta.messages.services.
ProblemReportMessage@800a504
Current Thread[Thread-39: com.compaq.svctools.ca.services.notification.
IndictmentNotification ,5,main]
EXCEPTION java.lang.ClassNotFoundException:
com.compaq.svctools.ccat.analyzer.
CCATAnalysisReport_DefaultRole_Indictment_Formatter
B
    at java.net.URLClassLoader$1.run (URLClassLoader.java:202) (pc 69)
    at java.security.AccessController.doPrivileged
(java.security.PrivilegedExceptionAction,java.security.AccessControlContext)
    at java.net.URLClassLoader.findClass (URLClassLoader.java:191) (pc
13)
    at java.lang.ClassLoader.loadClass(java.lang.String,boolean)
(ClassLoader.java:300) (pc 42)
    at sun.misc.Launcher$AppClassLoader.loadClass (Launcher.java:285) (pc
36)
    at java.lang.ClassLoader.loadClass(java.lang.String)
(ClassLoader.java:257) (pc 3)
    at java.lang.Class.forName0
    at java.lang.Class.forName(java.lang.String) (Class.java:124) (pc 5)
    at com.compaq.svctools.desta.services.notification.
NotificationRole.getFormatter (NotificationRole.java:42) (pc 102)
    at com.compaq.svctools.desta.services.notification.
Notification.processMessage(com.compaq.svctools.desta.messages.DataMessage)
(Notification.java:143) (pc 81)
    at com.compaq.svctools.desta.messages.DataMessage.handleMe
(DataMessage.java:163) (pc 2)
    at com.compaq.svctools.desta.services.notification.
Notification.handleMessage (Notification.java:68) (pc 83)
    at com.compaq.svctools.desta.core.DESTAComponent.
startProcessingData (DESTAComponent.java:277) (pc 158)
    at com.compaq.svctools.desta.core.DESTAComponent.run
(DESTAComponent.java:204) (pc 31)
    at java.lang.Thread.run          (Thread.java:479)          (pc 11)
```

This message may be added to the Director's log file (/usr/opt/compaq/svctools/logs/desta_dir.log) for every CCAT problem report generated. This only occurs if CCAT is installed on an AlphaServer GSxx running Tru64 UNIX version 5.1 or later. This message does not indicate a problem with CCAT or the Director and can be safely ignored.

Glossary

A

ACHS

Automatic Call Handling System. Within the service provider's customer service center, ACHS accepts incoming event analysis messages that were initiated by **SICL**.

analysis

The process of interpreting events from a binary event log and generating problem reports that describe any problems and possible corrective actions. There are two modes of analysis supported by Compaq Analyze, **automatic** and **manual**.

attribute

A component of a **service**. Some attributes can be configured by the user to modify how Compaq Analyze services operate.

Automated Call Handling Service

See **ACHS**.

automatic

One of the **analysis** modes supported by Compaq Analyze. In automatic mode, Compaq Analyze monitors the binary system event log, analyzes events, and generates reports without user intervention.

B

binary event log

A log file containing system data saved in binary format. Binary error logs are processed by Compaq Analyze and the results of this analysis are presented in problem reports.

Glossary

C

Bit To Text

See *BTT*.

BTT

Bit to Text. The process used to translate the events contained in a binary log file and produce text output. See also, *translation*.

C

CCAT

Compaq Crash Analysis Tool. CCAT is a remote operating system failure analysis tool and is a **WEBES** component.

CEH

Common Event Header. The header format used for binary event logs on supported products. See the *Compaq Analyze Release Notes* for a list of the supported products.

CLI

Command Line Interface. The Compaq Analyze interface that uses the command prompt to interact with the system. The CLI processes commands entered at the command prompt and returns information and results as text, either to the terminal window or to designated output file(s).

Command Line Interface

See *CLI*.

common attributes

Standard configuration settings available for all Compaq Analyze services.

Common Event Header

See *CEH*.

Compaq Analyze

Compaq Analyze is a remote system event monitoring tool and is a **WEBES** component.

Compaq Crash Analysis Tool

See *CCAT*.

Compaq Remote Support Service

See *CRSS*.

CRSS

Compaq Remote Support Service. CRSS is the next generation of SICL and is capable of operating effectively in a distributed environment.

D

DeCOR

The rules-based analysis engine used by DECevent, Compaq Analyze, and CCAT. Compaq Analyze uses DeCOR to apply rules to binary events and produce analysis results. Different rules are supplied with DECevent and CCAT.

DESTA

Distributed Enterprise Service Tools Architecture. DESTA is Compaq's high-availability system fault management architecture.

DHCP

Dynamic Host Configuration Protocol. DHCP is a protocol for automatic TCP/IP configuration that provides dynamic and static address allocation and management.

Director

The WEBES component responsible for managing a machine and communicating with other machines.

Distributed Enterprise Service Tools Architecture

See *DESTA*.

DSNLink

Automatic notification tool that sends the results of analysis to your service provider.

Dynamic Host Configuration Protocol

See *DHCP*.

Glossary

E

E

event

System data written to the binary event log.

extended attributes

Configuration settings unique to a single Compaq Analyze service.

F

field

Component of a frame containing a label and its corresponding value.

Field Replaceable Unit

See *FRU*.

frame

Part of an event consisting of one or more translated fields of information.

FRU

Field Replaceable Unit. A hardware component installed on a system.

G

global attribute

An attribute that affects all the Compaq Analyze interfaces.

group

Multiple nodes associated in the navigation frame of the web interface.

H

HTML

Hypertext Markup Language. The tagging language used to format and display information on the web.

Hypertext Markup Language

See *HTML*.

I

instance file

A file used by Compaq Analyze to store analysis data including, the paths and filenames of the KRS files to be used for analysis, the input entry classes, the intermediate data such as complex storage classes, and the analysis results.

J

Java

Platform-independent, object-oriented programming language.

K

Knowledge Rule Set

See *KRS*.

KRS

Knowledge Rule Set. Files that define what conditions must be met in order to trigger automatic analysis. Also known as rules or rule sets.

L

log file

Either a binary file containing system events or a text file containing error and informational messages written by WEBES processes.

M

manual

One of the modes of operation supported by Compaq Analyze. In manual mode, the binary log files and events to be analyzed must be specified by the user.

Glossary

N

N

node

A remote system accessed through its Director.

notification

Procedure for relaying analysis information to the interested parties. Compaq Analyze supports automatic notification via e-mail, SICL, or CRSS.

P

problem report

The output generated by analysis. Reports contain information about errors and suggested corrective actions.

profile

Configuration information that is associated with a log on name. The profile contains information about Director settings and navigation frame appearance that can be propagated to future sessions.

Q

QSAP

Qualified Service Access Point. The QSAP acts as a gateway for CRSS managed servers to connect with the outside world.

Qualified Service Access Point

See *QSAP*.

R

RCM

Revision and Configuration Management. RCM is a remote system configuration tool and is a WEBES component.

register

The process of installing or activating a knowledge rule set.

Revision and Configuration Management

See *RCM*.

rule and rule set

See *KRS*.

S

service

A component responsible for providing a Compaq Analyze function.

service obligation

An agreement with Compaq for the use of the WEBES tools. The service obligation defines the terms of your support agreement with Compaq.

SICL

System Initiated Call Logging. SICL refers to the concept of automatically sending fault and failure messages to the service provider's customer service center. The messages are then received by ACHS, analyzed, and acted upon as appropriate.

Simple Mail Transfer Protocol

See *SMTP*.

SMTP

Simple Mail Transfer Protocol. SMTP is a TCP/IP protocol governing e-mail transmission and reception.

String and Value Pairs

See *SVP*.

SVP

String and Value Pairs. The format used to present information in generated reports. The string describes the type of information presented and the value indicates the system specific information.

system configuration

The software settings for Compaq Analyze. The system configuration can be changed using any of the interfaces.

Glossary

T

System Initiated Call Logging

See *SICL*.

T

TCP/IP

Transmission Control Protocol/Internet Protocol. TCP/IP provides communication between computers across interconnected networks, even when the computers have different hardware architectures and operating systems.

translation

The process of converting binary event logs into readable output. See also *BTT*.

Transmission Control Protocol/Internet Protocol

See *TCP/IP*.

U

UniCensus

The Tru64 UNIX version of RCM.

unregister

The process of removing or deactivating a knowledge rule set.

W

WBEM

Web-Based Enterprise Management. WBEM is distributed, web-based system management.

WCC

WEBES Common Components. The WCC are the portions of WEBES that allow the tool suite to function as an integrated installation. The WCC are separate from the individual tools in the WEBES suite (Compaq Analyze, CCAT, and RCM) and are transparent to the user.

Web-Based Enterprise Management

See *WBEM*.

Web-Based Enterprise Service

See *WEBES*.

WEBES

Web-Based Enterprise Service. WEBES is an integrated set of web-enabled service tools that include: Compaq Analyze, Compaq Crash Analysis Tool (CCAT), and Revision Configuration Manager (RCM). See also *DESTA*, *WBEM*.

WEBES Common Components

See *WCC*.

web interface

The Compaq Analyze interface accessed through a web browser. The web interface uses graphical displays to present information and relies on a combination of mouse and keyboard actions to interact with the system.

Glossary

W

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