Compaq Analyze and WEBES

Advanced 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. The advanced guide contains additional information about operations useful to Compaq service personnel and system managers as well as additional information about working with the WEBES Director.

Internal Use Only; Rev. 10/23/00–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, and 7.2-1H1

Software Version:  
Compaq Analyze 3.1
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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.

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Intended Audience

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

The advanced sections located at the end of several chapters contain information for Compaq service personnel and system managers knowledgeable in the details of binary events logged by Compaq hardware. The extra features enable in-depth investigation of binary event logs using Compaq Analyze, outside the realm of its automatic or manual analysis capabilities. The advanced information is not required to use Compaq Analyze and is intended for internal use only.

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. |
| **Variables** | 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. Additional information about WEBES is available in the *WEBES Release Notes*.
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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Environment Setup ....................................................... page 1–9
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Advanced Options ....................................................... page 1–10
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 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.

1.3.1 Director

The Director manages the machine it is running on and can communicate to Directors on other machines through various communication mechanisms, such as TCP/IP sockets.

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

In the example, a UNIX machine and an Windows machine, each running a single Director, communicate with each other over a network. The web interface running on the UNIX machine is connected to the Director on the Windows machine and can display the analysis results from binary event log files on the Windows machine. A telnet session running on the
Introduction
1.4 Starting the Director

Windows machine can issue CLI commands that are processed by the UNIX machine’s director. Note that it is not necessary to have the Director running on the local machine for either type of remote connection.

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 1.4 and 1.5 for more information regarding starting and stopping the Director.

1.3.2 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.

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.

1.4 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 (SYS$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.

1.5 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.

1.6 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.

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.

### Tru64 UNIX

All WEBES processes are started with the wrapper program `desta_exec`. The processes currently running can be displayed with the command:

```
ps ugxww | grep desta_exec | grep -v "grep desta_exec"
```

Example output is shown here:

```
root  59899  0.0  0.0 2.11M  8K pts/1 I N 16:34:12 0:00.04 sh -c /usr/opt/compaq/svctools/bin/desta_exec -ss 512K -ms 8M -mx 1024M
root  59901  0.0  0.0 2.11M  56K pts/1 I N 16:34:28 0:00.06 sh -c /usr/opt/compaq/svctools/bin/desta_exec -ss 256K -ms 8M -mx 24M -w
root  59903  0.0  2.7 16.8M  3.4M pts/1 S N 16:34:28 0:01.71 /usr/opt/compaq/svctools/bin/desta_exec -ss 256 -ms 8 -mx 24 -w
root  59904  0.0 17.8 31.5M  22M pts/1 S N 16:34:12 5:43.56 /usr/opt/compaq/svctools/bin/desta_exec -ss 512 -ms 8 -mx 1024
thomas 158960 0.1  5.1 15.9M  6.4M pts/2 S + 13:49:43 0:01.86 /usr/opt/compaq/svctools/ca/cli/ManuallyAnalyze hscir1.zpd
```

The processes beginning with `sh -c` are parent processes of the `desta_exec` processes, which do not start with `sh -c`. (Use the `j` option to the `ps` command instead of `g` to see the process and parent process IDs).

The processes without parameters after the `-mx nnnn` field constitute the Director’s set of processes. Processes containing parameters are other WEBES processes. In the example above, the user `thomas` is manually analyzing the file `hscir1.zpd` using the Compaq Analyze CLI, shown by the parameter `...ca.cli.ManuallyAnalyze....`

### OpenVMS

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

```
show system
```
Example output is shown here:

```
  Pid  Process Name State Pri I/O CPU Page flts Pages
000000101 SWAPPER HIB 16 0 0 00:04:10.34 0 0
000000106 IPCACP HIB 10 10 0 00:00:00.00 30 23
000000107 ERRFMT HIB 8 33813 0 00:00:10.05 189 61
000000109 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 started with the wrapper program `DESTA_exec.exe`, so all WEBES processes appear in the Task Manager list as such. You can distinguish the Director set of processes from other WEBES processes by looking at the Base Priority of the `DESTA_exec.exe` processes. The Director processes always run at Low priority. All other WEBES processes run at Normal or High priority. Because the Director runs as a Windows service, there is an additional process named `DESTAService.exe`, which wraps the `DESTA_exec.exe` processes of the Director and runs for the lifetime of the Director. The `DESTAService.exe` process 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.

### 1.7 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 1.11 for more information about the different log files.
Introduction
1.7 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.

1.7.1 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.
1.7.2 Logging Level

The messages logged by WEBES processes are stored in the Director log files described in Section 1.7.1. 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.

The minimum severity level is a global attribute that you can modify from the command line or the web interface. Be aware that changes to the logging level affect all the interfaces. Thus, if you change the logging level using the command line, your changes will be reflected in the web interface and vice versa.

See Chapter 6 for more information on configuring attributes.

1.8 License Agreement

The first time you use the Compaq Analyze web interface, the license agreement is shown. To accept the terms of the license agreement, enter the serial number from your computer and press the Enter key. If you do not accept the agreement, you will not be able to use Compaq Analyze.

1.9 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.

You can update your service obligation information, extend an existing service obligation, or enter a new service obligation using the CLI.

1.10 Environment Setup

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

1.11 Nomenclature Differences

- 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.

1.11 Nomenclature Differences

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

- 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

1.12 Advanced Options

The features described here only apply to advanced users.

1.12.1 Unanalyzed Event Logger

Compaq Analyze offers an additional logging service, called the Unanalyzed Event Logger, that is not enabled by default.

The Unanalyzed Event Logger service writes raw, unanalyzed events to a separate binary event log. This stores events that cannot be processed by Compaq Analyze so they are available for service personnel.
In order to limit the size of the created files, the service rotates log files. Each Unanalyzed Event Logger file has a size limit. When the size limit is reached, the old file is saved and closed and the additional events are written to a new file. The number of files is also limited, and when the limit is reached, the oldest log file is deleted. The log files use the following naming convention:

```
unanalyzed_events_log.xxx
```

Where `xxx` refers to the version number (000, 001, 002, and so on). Files are numbered sequentially, and when 999 is reached the next file is assigned a version of 000.

## Setup

To configure the Unanalyzed Event Logger for use with Compaq Analyze, use the following procedure:

1. While the Director is running, issue the command given for your operating system:

   **Tru64 UNIX and Windows**

   ```
   desta msg -enroll com.compaq.svctools.desta.services.analysis.UnanalyzedEventLogger
   ```

   **OpenVMS**

   ```
   desta msg -enroll "com.compaq.svctools.desta.services.analysis.UnanalyzedEventLogger"
   ```

2. Stop the Director. Refer to Section 1.5 for more information on stopping the Director.

3. Using a text editor, open the Compaq Analyze configuration defaults file (located in the \svctools\config directory).

   The name of the configuration defaults file depends on your operating system:

   **Tru64 UNIX** – ConfigDefaultsCAUNIX.txt
   **OpenVMS** – ConfigDefaultsCAVMS.txt
   **Windows** – ConfigDefaultsCAWindows.txt

4. Delete the pound sign (#) at the beginning of the following line:

   ```
   #com.compaq.svctools.desta.services.analysis.UnanalyzedEventLogger
   ```

5. Restart the Director. Refer to Section 1.4 for more information on starting the Director.

## Configuration

If you have enabled the Unanalyzed Event Logger service, you can modify its configuration from the web interface using the Settings window. The Unanalyzed Event Logger attributes are located under UnanalyzedEventLogger service and the attributes described in Table 1–1 can be modified.
Table 1–1 Unanalyzed Event Logger Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>logName</td>
<td>The absolute (not relative) path and file name where the created log files are stored.</td>
</tr>
<tr>
<td>logMaxSize</td>
<td>The maximum size for a log file in Kb. Possible values range from 50 to 1000 and the default is 100.</td>
</tr>
<tr>
<td>archiveVersions</td>
<td>The number of log files saved before the oldest file is deleted. Possible values range from 0 to 50 and the default is 5.</td>
</tr>
<tr>
<td>enabled</td>
<td>Indicates whether the service will write unanalyzed events to a log file. Values are either true or false. This attribute can be used to turn the service off without editing the configuration file.</td>
</tr>
</tbody>
</table>

Refer to Chapter 6 for more information on changing the configuration from the Settings window.
This chapter describes the Command Line Interface (CLI) for Compaq Analyze including its usage and functionality.

Overview ............................................................... page 2–2
Command Syntax ....................................................... page 2–3
Command Verbs ........................................................ page 2–5
Analysis ................................................................. page 2–8
Translation .............................................................. page 2–11
Summary of Events .................................................... page 2–12
Creating New Binary Event Log Files ......................... page 2–14
Input Files ............................................................ page 2–15
Output Files .......................................................... page 2–16
Filtering .............................................................. page 2–17
Knowledge Rulesets .................................................. page 2–25
Configuration ......................................................... page 2–25
Notification ........................................................ page 2–25
Service Obligations ................................................... page 2–25
Getting Help ........................................................ page 2–27
Advanced Operations ................................................ page 2–27
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 an 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.
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.

---

**Table 2–1 Syntax Conventions**

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bold</td>
<td>Command text. Bold is used for information that must be typed as it appears here. For example, command verbs are shown in bold.</td>
</tr>
<tr>
<td>Italic</td>
<td>Variables. Italics are used for information that varies depending on your requirements. For example, <code>inputfile</code> indicates that you should enter the name of the file you want to process.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Mutually Exclusive Entries. The bar separates mutually exclusive entries.</td>
</tr>
</tbody>
</table>
2.2 Command Syntax

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>
<thead>
<tr>
<th>Command Syntax</th>
<th>Default Syntax Translation Command Format</th>
<th>Not Default Syntax Translation Command Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Syntax</td>
<td><code>ca trans</code></td>
<td><code>ca x trans</code></td>
</tr>
<tr>
<td>DECevent Emulator (UNIX)</td>
<td><code>ca -a</code></td>
<td><code>ca u -a</code></td>
</tr>
<tr>
<td>DECevent Emulator (VMS)</td>
<td><code>ca /tra</code></td>
<td><code>ca v /tra</code></td>
</tr>
<tr>
<td>New Common Syntax</td>
<td><code>ca tra</code></td>
<td><code>ca n tra</code></td>
</tr>
</tbody>
</table>
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.

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.
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>
<thead>
<tr>
<th>Command Syntax</th>
<th>DECevent Emulator (UNIX)</th>
<th>DECevent Emulator (VMS)</th>
<th>New Common Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>analyze</td>
<td>ana</td>
<td>/ana</td>
<td>ana (analyze)</td>
<td>Switches to manual mode and analyzes one or more binary event logs. See Section 2.5.1 for more details.</td>
</tr>
<tr>
<td>trans</td>
<td>-a</td>
<td>/tra</td>
<td>tra (translation)</td>
<td>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.</td>
</tr>
<tr>
<td>summ</td>
<td>-o sum</td>
<td>/sum</td>
<td>sum (summarize)</td>
<td>Returns a summary of all the events contained in a binary event log. See Section 2.7 for more details.</td>
</tr>
<tr>
<td>filterlog</td>
<td>-b</td>
<td>/bin</td>
<td>bin (binary)</td>
<td>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.</td>
</tr>
<tr>
<td>help</td>
<td>help</td>
<td>/help</td>
<td>help</td>
<td>Displays a text-based help file. The text-file describes the syntaxes supported by your operating system.</td>
</tr>
</tbody>
</table>

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.
2.3 Command Verbs

2.3.2 DESTA Commands

The Director commands are formed using the following convention:

\[ \text{DESTA} \ command\_verb \]

Where \textit{command\_verb} indicates the action you want to perform.

Table 2–6 describes the command verbs used with \textit{DESTA}.

\begin{table}[h]
\centering
\begin{tabular}{|l|l|}
\hline
Verb & Description \\
\hline
\texttt{bldknw} & (Advanced) Rebuilds the frame knowledge used to translate events. See Section 2.15.6 for more details. \\
\texttt{msg} & Changes the Compaq Analyze logging level and port configuration settings. See Section 2.11 for more details on port settings. See Chapter 6 for more information on the logging level. \\
\texttt{qsap} & Toggles on or off the Compaq Analyze Qualified Service Access Point (QSAP) feature, which automatically logs calls with Compaq Services. See Section 2.12 for syntax information and Chapter 7 for more details on QSAP. \\
\hline
\end{tabular}
\end{table}
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:

```plaintext
ca n tra myinput.zpd out myoutput.txt index=(start:10) brief
ca n brief index=(start:10) out myoutput.txt 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. For information about using the `analyze` command to simulate automatic analysis on all the binary event logs in a directory, see 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>
<thead>
<tr>
<th>Table 2–7 Manual Analysis Commands</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Command Syntax</strong></td>
</tr>
<tr>
<td>Common Syntax</td>
</tr>
<tr>
<td>DECevent Emulator (UNIX)</td>
</tr>
<tr>
<td>DECevent Emulator (VMS)</td>
</tr>
<tr>
<td>New Common Syntax</td>
</tr>
</tbody>
</table>

#### 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. For information on using the command line interface to simulate automatic analysis, refer to Section 2.15.1 and 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]
```

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.

By default, correctable events are excluded from translation output. If you want to see the translation results for all the events in a binary log file, refer to Section 2.15.2. 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>
<thead>
<tr>
<th>Command Syntax</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Syntax</strong></td>
<td>**ca x trans [inputfile] [outtext</td>
</tr>
<tr>
<td></td>
<td>“filtersstatement”</td>
</tr>
<tr>
<td>DECevent Emulator (UNIX)</td>
<td>**ca u -a [-f inputfile] [brief</td>
</tr>
<tr>
<td>DECevent Emulator (VMS)</td>
<td>**ca v [tra</td>
</tr>
<tr>
<td>New Common Syntax</td>
<td>**ca n tra [inputfile] [out outputfile] [filterstatement</td>
</tr>
</tbody>
</table>

**Note**

By default, correctable events are not shown in the output produced by translation. The common syntax and the new common syntax can translate all the events in a log file using the showall and all modifiers, respectively. See Section 2.15.2 for more information on translating all events.

## 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>
<thead>
<tr>
<th>Syntax</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Syntax</strong></td>
<td><code>ca x summ [index] [inputfile]</code></td>
</tr>
<tr>
<td><strong>DECevent Emulator (UNIX)</strong></td>
<td><code>ca u -o sum [-f inputfile] [filter flags]</code></td>
</tr>
<tr>
<td><strong>DECevent Emulator (VMS)</strong></td>
<td><code>ca v /sum[filter flags] [inputfile]</code></td>
</tr>
<tr>
<td><strong>New Common Syntax</strong></td>
<td>`ca n sum [index] [inputfile] [out</td>
</tr>
</tbody>
</table>
2.7 Summary of Events

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
First Entry Date: Thu May 27 09:18:06 MDT 1999
Last Entry Date: Thu May 27 13:00:32 MDT 1999
```

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

<table>
<thead>
<tr>
<th>Command Syntax</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Syntax</td>
<td><strong>ca x</strong> filterlog <em>inputfile</em> <em>outputfile</em> [&quot;filterstatement&quot;]</td>
</tr>
<tr>
<td>DECevent Emulator (UNIX)</td>
<td><strong>ca u</strong> -b <em>outputfile</em> [&quot;-I <em>inputfile(s)</em>&quot;] [filter_flags]</td>
</tr>
<tr>
<td>DECevent Emulator (VMS)</td>
<td><strong>ca v</strong> /bin=*outputfile[/filter_flags] [inputfile(s)]</td>
</tr>
<tr>
<td>New Common Syntax</td>
<td><strong>ca n</strong> bin [inputfile(s)] <strong>out</strong> <em>outputfile</em> [filterstatement]</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Format</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Syntax</td>
<td>Append the directory and filename of the desired input file to the end of the command.</td>
<td>ca x analyze examples\ds20.errlog</td>
</tr>
<tr>
<td>DECEvent Emulator (UNIX)</td>
<td>-f filename Where filename indicates the name and location of the input file.</td>
<td>ca u ana -f examples/ds20.errlog</td>
</tr>
<tr>
<td>DECEvent Emulator (VMS)</td>
<td>Append the directory and filename of the desired input file to the end of the command.</td>
<td>ca v /ana [.examples]ds20.errlog</td>
</tr>
<tr>
<td>New Common Syntax</td>
<td>Include the directory and filename of the desired input file after the command verb.</td>
<td>ca n ana examples\ds20.errlog</td>
</tr>
</tbody>
</table>

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

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

  ca analyze examples\ds20.errlog hscir1.zpd

- 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.
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.

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Format</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Syntax</strong></td>
<td>• outtext filename</td>
<td>ca x analyze outtext results.txt</td>
</tr>
<tr>
<td></td>
<td>• outhtml filename</td>
<td>ca x analyze outhtml results.html</td>
</tr>
<tr>
<td></td>
<td>The outtext option creates a text output file and the outhtml option creates a html output file. In both cases, filename refers to the directory and filename where you want to save the output.</td>
<td></td>
</tr>
<tr>
<td><strong>DECevent Emulator (UNIX)</strong></td>
<td>&gt; filename</td>
<td>ca u ana &gt; results.txt</td>
</tr>
<tr>
<td></td>
<td>Where filename 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.</td>
<td></td>
</tr>
<tr>
<td><strong>DECevent Emulator (VMS)</strong></td>
<td>/out=filename</td>
<td>ca v /ana/out=results.txt</td>
</tr>
<tr>
<td></td>
<td>Where filename indicates the name and location of the output file. Output files are always saved in text format.</td>
<td></td>
</tr>
<tr>
<td><strong>New Common Syntax</strong></td>
<td>• out filename</td>
<td>ca n ana out results.txt</td>
</tr>
<tr>
<td></td>
<td>• outhtml filename</td>
<td>ca n ana outhtml results.html</td>
</tr>
<tr>
<td></td>
<td>The out option creates a text output file and the outhtml option creates a html output file. In both cases, filename refers to the directory and filename where you want to save the output.</td>
<td></td>
</tr>
</tbody>
</table>
Table 2–13 General Filtering Rules

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Rules</th>
</tr>
</thead>
</table>
| Common Syntax         | • Filtering can be used with the `trans` and `filterlog` commands.  
|                       | • Use the `filter` keyword before the filter statement when filtering with the `trans` 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         | • Filtering can be used with the `-a`, `-o sum`, and `-b` 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          | • Filtering can be used with the `/tra`, `/sum`, and `/bin` 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     | • Filtering can be used with the `tr`, `sum`, and `bin` 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, `index` could be abbreviated as `ind`.                                                                                                         |

Table 2–14 describes filtering statements for each syntax.
### Table 2–14 Filtering Statements

<table>
<thead>
<tr>
<th>Common Syntax</th>
<th>DECevent UNIX</th>
<th>DECevent VMS</th>
<th>New Common Syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>db=*date (date_time_begin)</td>
<td>-t s: date e: date</td>
<td>/SIN=date /BEF=date</td>
<td>begin=*date since=*date end=*date</td>
</tr>
<tr>
<td>dte=*date (date_time_end)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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, dd-mmm-yyyy hh:mm:ss). You do not need to include the time (hh:mm:ss) with the date. Be aware of the following guidelines:

- The DECevent UNIX syntax combines the start and end times are 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.

| rt\*b=days \(rel\_time\_days\_begin\) | | | |
| rt\*de=days \(rel\_time\_days\_end\) | | | |
| rth\*b=hours \(rel\_time\_hours\_begin\) | | | |
| rth\*e=hours \(rel\_time\_hours\_end\) | | | |

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 rt\*b=3 will processes all the events that occurred within three days of the first event in the file.

<table>
<thead>
<tr>
<th>et=nn</th>
<th>et!=nn</th>
<th>et&lt;nn</th>
<th>et&gt;nn</th>
</tr>
</thead>
</table>

Filters based on the numeric event type. Be aware of the following guidelines:

- 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.
- You can also use filtering to control the presence of correctable events. Refer to Sections 2.15.2 and 2.15.3 for more on filtering and correctable events.

For more information on filtering based on event type refer to Section 2.15.3.

| -i keyword | /INC(keyword) | include=keyword |
| -x keyword | /EXC(keyword) | exclude=keyword |

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.

| cn=name \(computer\_name\) | -H name | /NOD=\*name |
| cn!=name | | node=\*name |
Filters based on the node responsible for generating the event.
• With the common syntax \& \neq operators you can enter multiple entry types by separating them
with commas.
• The \textit{name} argument is case sensitive.

\begin{itemize}
\item ost=\texttt{n}
\item ost\!=\texttt{n}
\item (os\_type)
\end{itemize}

Filters based on the operating system type, using the numeric representation for each operating
system.
• With the common syntax \& \neq operators you can enter multiple entry types by separating them
with commas.

\begin{itemize}
\item idx=\texttt{nn}
\item idx\!=\texttt{nn}
\item idx<\texttt{nn}
\item idx>\texttt{nn}
\item (event\_index)
\end{itemize}

Filters based on the event’s position in the event log.
• With the common syntax \& \neq operators you can enter multiple entry types by separating them
with commas.

\begin{itemize}
\item sort=keyword
\end{itemize}

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

\begin{itemize}
\item -R
\item /REV
\end{itemize}

Processes the events in reverse order according to the event index number.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|}
\hline
\textbf{Table 2–14 Filtering Statements (continued)} & \textbf{Common Syntax} & \textbf{DECe}vent \textbf{UNIX} & \textbf{DECe}vent \textbf{VMS} & \textbf{New Common Syntax} \\
\hline
\hline
Filters based on the node responsible for generating the event. & & & & \\
\hline
• With the common syntax \& \neq operators you can enter multiple entry types by separating them
with commas. & & & & \\
• The \textit{name} argument is case sensitive. & & & & \\
\hline
\begin{itemize}
\item ost=\texttt{n}
\item ost\!=\texttt{n}
\item (os\_type)
\end{itemize} & & & & \\
\hline
Filters based on the operating system type, using the numeric representation for each operating
system. & & & & \\
• With the common syntax \& \neq operators you can enter multiple entry types by separating them
with commas. & & & & \\
\begin{itemize}
\item idx=\texttt{nn}
\item idx\!=\texttt{nn}
\item idx<\texttt{nn}
\item idx>\texttt{nn}
\item (event\_index)
\end{itemize} & -e s:\texttt{nn e:nn} & /\textsc{ent}=(s:\texttt{nn e:nn}) & index=\texttt{nn} & index=(start:\texttt{nn end:nn}) \\
\hline
Filters based on the event’s position in the event log. & & & & \\
• With the common syntax \& \neq operators you can enter multiple entry types by separating them
with commas. & & & & \\
\begin{itemize}
\item sort=keyword
\end{itemize} & & & & \\
\hline
Used with a keyword to organize the output. The following keywords are supported: & \begin{itemize}
\item entry – sorts based on entry type from highest entry type number to lowest
\item reventry – sorts based on entry type from lowest entry type number to highest
\item time – sorts based on entry time from most recent to oldest
\item revtime – sorts based on entry time from oldest to most recent
\item idx – sorts based on the entry index number from highest to lowest
\item revidx – sorts based on the entry index number from lowest to highest
\end{itemize} & -R & /REV & reverse \\
\hline
\end{tabular}
\end{table}
### Table 2–15 Event Type Keywords (continued)

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Description</th>
<th>Supported Syntaxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>mchk-cpu</td>
<td>All cpu machine check events.</td>
<td>• Common Syntax</td>
</tr>
<tr>
<td>mchk-env</td>
<td>All environmental machine check events.</td>
<td>• Common Syntax</td>
</tr>
<tr>
<td>cam</td>
<td>All SCSI entries logged by the CAM logger (199).</td>
<td>• DECevent</td>
</tr>
<tr>
<td>control_entries</td>
<td>System startup entries or new error log creation entries (32, 35, 300).</td>
<td>• DECevent</td>
</tr>
<tr>
<td>cpus</td>
<td>Machine check entries for AXP (mchk-cpu).</td>
<td>• DECevent</td>
</tr>
<tr>
<td>environmental_entries</td>
<td>Power entries (mchk-env).</td>
<td>• DECevent</td>
</tr>
<tr>
<td>swxcr</td>
<td>Entries logged by SWXCR (198).</td>
<td>• DECevent</td>
</tr>
<tr>
<td>machine_checks or mchks</td>
<td>Events with machine checking information (mchk).</td>
<td>• DECevent</td>
</tr>
<tr>
<td>operating_system=value</td>
<td>Events with a specific operating system type.</td>
<td>• DECevent</td>
</tr>
<tr>
<td>os= value</td>
<td>The value parameter indicates the numeric code for the desired operating system.</td>
<td>• DECevent</td>
</tr>
<tr>
<td>panic</td>
<td>Crash re-start, system panic, or user panic entries (37, 302).</td>
<td>• DECevent</td>
</tr>
<tr>
<td>software_informationals or swi</td>
<td>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).</td>
<td>• DECevent</td>
</tr>
<tr>
<td>osf_entry</td>
<td>Events logged on a Tru64 UNIX operating system.</td>
<td>• DECevent</td>
</tr>
<tr>
<td>mchk_sys</td>
<td>All system machine check events.</td>
<td>• New Common Syntax</td>
</tr>
<tr>
<td>mchk_cpu</td>
<td>All cpu machine check events.</td>
<td>• New Common Syntax</td>
</tr>
<tr>
<td>mchk_env</td>
<td>All environmental machine check events.</td>
<td>• New Common Syntax</td>
</tr>
</tbody>
</table>
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"
```


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

\[
\text{ca x trans filter "entry_index>15"}
\]

\[
\text{ca x filterlog inputfile.zpd outputfile.bin "entry_index>15"}
\]

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.

\[
\text{ca u -a -H ComputerName}
\]

\[
\text{ca u -o sum -H ComputerName}
\]

\[
\text{ca u -b outputfile.bin -f inputfile.zpd -H ComputerName}
\]

Processes events from the system described by *ComputerName*.

\[
\text{ca u -a -t e:31-Jan-2000,20:33:57}
\]

\[
\text{ca u -o sum -t e:31-Jan-2000,20:33:57}
\]

\[
\text{ca u -b outputfile.bin -f inputfile.zpd -t e:31-Jan-2000,20:33:57}
\]


\[
\text{ca u -a -i cpu}
\]

\[
\text{ca u -o sum -i cpu}
\]

\[
\text{ca u -b outputfile.bin -f inputfile.zpd -i cpu}
\]

Processes all CPU machine check events.

\[
\text{ca u -a -x operating_system=1 -R}
\]

\[
\text{ca u -o sum -x operating_system=1}
\]

\[
\text{ca u -b outputfile.bin -f inputfile.zpd -x operating_system=1}
\]

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

\[
\text{ca u -a -e s:15}
\]

\[
\text{ca u -o sum -e s:15}
\]

\[
\text{ca u -b outputfile.bin -f inputfile.zpd -e s:15}
\]

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.

\[
\text{ca v /tra/nod=ComputerName}
\]

\[
\text{ca v /sum/nod=ComputerName}
\]

\[
\text{ca v /bin=outputfile.bin/nod=ComputerName inputfile.zpd}
\]

Processes events from the system described by *ComputerName*.

\[
\text{ca v /tra/bef=31-Jan-2000,20:33:57}
\]

\[
\text{ca v /sum/bef=31-Jan-2000,20:33:57}
\]

\[
\text{ca v /bin/bef=31-Jan-2000,20:33:57}
\]

```
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 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 inputfile.zpd out outputfile.bin end=31-Jan-2000,20:33:57
```


```
ca n tra include=mchk_cpu, mchk_sys reverse
ca n sum include=mchk_cpu, mchk_sys
ca n bin 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 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 -log level` – changes the logging level for the Director and Compaq Analyze processes (see Chapters 1 and 6 for more information).
- `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 sicl` – 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 and Section 2.15.4 for information on overriding and changing service obligations.

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 help`
- OpenVMS – `help ca` and `help desta`, and `ca /help`
- Windows – `ca 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.

2.15 Advanced Operations

The advanced commands are not necessary for normal operation.

2.15.1 Simulate Automatic Analysis

The command line can also help you simulate automatic analysis with the following commands.

- `ca msg -auto eventLogFile` – simulates automatic analysis for a single binary event log file (see Chapter 5).
- `ca msg -autoall eventLogFileDir` – simulates automatic analysis for all the binary event log files in a directory (see Chapter 5).
2.15 Advanced Operations

2.15.2 Translating All Events

By default, Compaq Analyze excludes correctable events (those with an event type of 620 or 630) from the translation output. If you want to see all the events in the binary event log file, add the command modifier for your syntax:

```
ca x trans showall
ca n translate all
```

2.15.3 Event Type Filtering

Commands that specify filters automatically consider all the events in a binary event log file. Therefore, if you use a filter, correctable events that are normally ignored will be displayed unless you explicitly filter them. The following common syntax filter statement will remove correctable events from the output:

```
filter “evt_type!=620,630”
```

In order to help you control the processing of correctable and uncorrectable events, the following filtering keywords are supported by the common syntax Event_Type filter.

- mchk-corr – all correctable machine checks
- mchk-uncorr – all uncorrectable machine checks

If you are using the new common syntax, the following keywords perform the same function.

- mchk_corr – all correctable machine checks
- mchk_uncorr – all uncorrectable machine checks

2.15.4 Manipulate Service Obligation

In addition to overriding the service obligation, you can also change the existing obligation or rerun the service obligation installation script. In order for your service obligation changes to take effect, you must stop and restart the director once your changes are complete. Refer to Chapter 1 for more information on stopping and restarting the Director.

2.15.4.1 Change

To change your service obligation enter the following command:

```
desta servob change
```
When you change your obligation, the information about your current obligation is presented followed by prompts where you can enter new information. The following example shows the information and prompts presented along with sample answers:

WEBES Obligation Change
-----------------------
Service Obligation change date: Mon Mar 27 14:11:34 MST 2000
Service Obligation current state: Valid
Service Obligation current start date: Mon Mar 27 00:00:00 MST 2000

Service Provider Company Name: Compaq
Service Provider Employee Name: Jack Smith
Service Provider Employee ID#: 000000000000
Please enter new service obligation start date <dd-mmm-yyyy>: 28-MAR-2000
Please enter service obligation term end date: 28-MAR-2001
Service Obligation term: 1 years, 0 days, 0 hours, 0 minutes, 0 seconds

Is this correct [y]:

If you enter incorrect information, enter no at the final prompt to redisplay the prompts.

2.15.4.2 Install

You can also update the service obligations settings by running the installation script again. To run the installation script again, use the following command:

desta servob install

The prompts that appeared during installation are shown again. The following example shows the prompts presented and the default answers:

WEBES Service Obligation Validation
-----------------------------------
Please input service provider name [COMPAQ]:
Please input system/subsystem serial number [1234567]:
Is the Service Obligation number the same as the serial number [y]:
Please enter the start date of the current obligation [28-Mar-2000]:
Service Provider: COMPAQ
System/subsystem serial number: 1234567
Service obligation number: 1234567
Service obligation start date: 28-Mar-2000
Is this information correct [y]:

2.15.5 FRU Tree

You can use the CLI to view the FRU tree associated with a binary log file. The syntax for viewing the FRU tree is as follows:
2.15 Advanced Operations

2.15.5.1 Input Files

Specifying an input file generates the first FRU tree for that file. If you do not specify a binary event log, the system’s FRU tree is shown. See Section 2.9.1 for more details on specifying an input file.

**Note**

You can not specify multiple input files with the FRU tree command.

2.15.5.2 Example

An example of an entry from the generated output is shown here:

```
<== NODE_FRU_DESC
===> NODE_FRU_DESC FRU Version 6.0
ID: 0xb680 (NODE_FRU_DESC)
Parent: 0xb340 (NODE_FRU_DESC)
Next: 0xb580 (NODE_FRU_DESC)
Prev: 0xb780 (NODE_FRU_DESC)

N_Type 21
N_Sbtyp 29 Power Supply
N_Size x0100
Hd_extension x0000 0000
Owner_Handle_V6 x0000 0000 0000 0000
Current_Owner_V6 x0000 0000 0000 0000
Node_ID xF002 FFFF 0281 FFFF
Node_Flags x0000 0000 0000 0200

rev 0
change_counter 0
Config_Handle_V6 x0000 0000 0000 0000
Affinity_Handle_V6 x0000 0000 0000 0000
Parent_Handle_V6 x0000 0000 0000 B340
Next_Sibling_Handle_V6 x0000 0000 0000 B580
Previous_Sibling_Handle_V6 x0000 0000 0000 B780
Child_Handle_V6 0
FW_Usage x0000 0000 0000 0000
OS_Usage x0000 0000 0000 0000
```
2.15.6 Rebuild Frame Knowledge

All the event frames supported by the event decomposer service are listed in a binary file installed with Compaq Analyze. The decomposer reads this binary file when translating binary events. By default, the binary file is saved as:

`installed_directory/desta/data/KnowledgeStore.dat`

The list of event frames is derived from the Java classes contained in the supplied *Knowledge.jar* files.

If necessary, you can rebuild the *KnowledgeStore.dat* file. The file might need rebuilt for the following reasons:

- If the *KnowledgeStore.dat* file was deleted or damaged
- If the jar files were changed or replaced manually (not as part of the WEBES installation or Knowledge Update process)

If you need to rebuild the *KnowledgeStore.dat* file using the current .jar files, execute the following command:

`desta bldknw`
Command Line Interface (CLI)
2.15 Advanced Operations
This chapter describes how to access and use the Compaq Analyze web interface.

- Description .......................................................... page 3–2
- Accessing the Web Interface ............................................. page 3–3
- Toolbar ............................................................. page 3–7
- Navigation ........................................................... page 3–7
- The Navigation Tree ................................................... page 3–9
- Analysis Information .................................................. page 3–20
- Processing Status ..................................................... page 3–25
- Settings ............................................................ page 3–26
- Getting Help ........................................................ page 3–30
- Log Off ............................................................ page 3–30
- Service Obligation ................................................... page 3–32
- Disabling the Web Service ........................................... page 3–32
- Advanced Operations ................................................. page 3–33
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 process their binary event log files. Processing a log file involves translation and analysis.

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. The web interface performs translation as part of analysis, and translation information is shown along with analysis results. 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.

### 3.2 Accessing the Web Interface

The following sections contain information about accessing the web interface.

#### 3.2.1 Supported Web Browsers

The web interface requires a web browser program that supports Java 1.1 applets and HTML frames. The minimum browser versions for each operating system are provided here:

- Tru64 UNIX – Netscape version 3.0.3 through 4.x (version 4.5 and later recommended) and Internet Explorer version 4.0 and later
- OpenVMS – Netscape version 3.0.3
- Windows – Netscape version 3.0.3 through 4.x (version 4.5 and later recommended) and Internet Explorer version 4.0 and later

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.
- 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.
3.2 Accessing the Web Interface

- Netscape and Internet Explorer – Do not use your browser’s Back button unless you are viewing the details of a problem report or translated event. Using the Back button may have unexpected results.
- Netscape and Internet Explorer – Do not use your browser’s Refresh button at the top of your browser while using the Web Interface. The Refresh button terminates the active profile’s Compaq Analyze session. In order to use the profile, you must manually log out the profile name and then logon to Compaq Analyze again.
- Netscape and Internet Explorer – The web interface is composed of three frames (the toolbar, the navigation tree, and the display frame). If, at any time, one of these frames is not updated with the latest information or does not load, you should refresh the frame.

To refresh a frame, right-click in the desired frame and either select the Reload Frame (Netscape) or Refresh (Internet Explorer) option from the pop-up menu.

- 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.
- Netscape – Once you logon to Compaq Analyze, you cannot resize the browser window. In addition, the browser window cannot be resized, even after you logoff Compaq Analyze.

To resize your browser window after using Compaq Analyze, open a new window and close the window where Compaq Analyze was running.

- 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/).

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:

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:
     \[
     \text{http://hostname.domain.com:7902}
     \]
     Substitute the target machine’s hostname and domain.
   - To connect to the same machine that the web browser is running on, enter:
     \[
     \text{http://localhost:7902}
     \]
     In some network configurations, the name localhost may not be recognized. Enter the machine’s hostname or its IP address (such as \text{http://14.77.189.23:7902}) instead. If you use Internet Explorer, be aware that you must include the \text{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.

To access the advanced features of the web interface, use the advanced version of your profile name. Refer to Section 3.14 for details. Advanced features allow detailed event investigation and are not normally needed to analyze an event log file.

The web interface main screen is shown in Figure 3–2.
3.2 Accessing the Web Interface

The value of the URL field appears as follows:

```
http://hostname:7902/\&profile:username\&connId=nnn
```

Where `hostname` indicates the machine you logged into, `username` indicates your profile, and `nnn` represents your numeric connection ID.

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Bar</td>
<td>Shows the software version, active profile, and operating system.</td>
</tr>
<tr>
<td>Toolbar</td>
<td>Provides access to the on-line help and system configuration. See Section 3.3 for more information.</td>
</tr>
<tr>
<td>Navigation Tree</td>
<td>Lists the available groups, nodes, and log files.</td>
</tr>
<tr>
<td>Display Frame</td>
<td>Displays interactive windows and system information.</td>
</tr>
<tr>
<td>Information Bar</td>
<td>Displays messages from the browser and context sensitive help information. See Section 3.9.1 for more information on the web interface’s context sensitive help.</td>
</tr>
</tbody>
</table>

Initially, the display frame shows product information.
3.3 Toolbar

Figure 3–3 shows the web interface toolbar.

![Figure 3–3 Toolbar](image)

Table 3–2 describes the toolbar commands:

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help Button</td>
<td>Opens a new browser window containing the on-line user guide. See Section 3.9 for more information on getting help.</td>
</tr>
<tr>
<td>Settings Button</td>
<td>Opens the system settings window in the display frame. See Section 3.8 for more information on changing the settings.</td>
</tr>
<tr>
<td>Log Off Button</td>
<td>Ends the Compaq Analyze session and returns you to the Logon Window (Figure 3–1). See Section 3.10 for more details.</td>
</tr>
</tbody>
</table>

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.
3.4 Navigation

- 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.

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

![Collapsed Tree](image)

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.

![Navigation Tree](image)

Each entry in the frame 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 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.

If your changes do not appear after 20 seconds, you may need to manually refresh the frame. Refer to Section 3.2.3 for information on refreshing the web interface.

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 window appears in the display frame.
2. Select the Add Groups tab at the bottom of the window (Figure 3–6).
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 window appears in the display frame.
2. Select the Remove Groups tab at the bottom of the window (Figure 3–7).

![Figure 3–7 Remove Group](image)

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 window appears in the display frame.
2. Select the Add Nodes tab at the bottom of the window (Figure 3–8).

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.

![Node Maintenance For Remote Group](image)
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 create a node named “newNode”. You can only display the results of automatic analysis if there is a node named “newNode” on the system.

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 window appears in the display frame.

2. Select the Remove Nodes tab at the bottom of the window (Figure 3–9).
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 a 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).
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](image)

Node 16.63.44.42
is activated! Please wait while refreshing tree...

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](image)

Node tarzan.cxo.dec.com
could not be activated. Try to activate node later, or double check to make sure the node’s WEBES Director is up and running without errors.

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 window (see Section 3.8).
### 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 window appears in the display frame.
2. Select the Add Categories tab at the bottom of the window (Figure 3–13).

![Category Maintenance Window](image)

#### Figure 3–13 Add Category

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 an 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 window appears in the display frame.
2. Select the Remove Category tab at the bottom of the window (Figure 3–14).

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 window 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](image)

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

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

![Add Log Files to Tree](image)

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:

1. Click on the Other Logs entry for the desired node in the navigation tree and select the Remove Files tab (Figure 3–16).
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).
If the file cannot be processed for any reason, a message similar to the one in Figure 3–18 is shown.

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
- Events – translation of the events contained in the log file
- Configuration Entries – log file entries related to FRU configuration
3.6.1 Automatic Analysis Features

When you are performing automatic analysis, the buttons shown in Figure 3–19 appear in the display windows.

Figure 3–19 Synchronize and Clear Buttons

The synchronize and clear buttons are available on both tabs, and appear under the last entry listed. These buttons are described in Table 3–3.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synchronize</td>
<td>Refreshes the display tabs to show all the entries (problem reports, events, and configuration entries) found with automatic analysis. All the active problem reports are listed, as well as the events logged by the system since the node was activated with the web interface.</td>
</tr>
<tr>
<td>Clear</td>
<td>Removes all the entries (problem reports, events, and configuration entries) from the display tabs. To add entries again, press the Synchronize button.</td>
</tr>
</tbody>
</table>

3.6.2 Manual Analysis Features

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

Figure 3–20 Reprocess Button

The reprocess button appears at the bottom of the window for each tab. 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 Problem Reports

The Problem Reports tab displays the reports that were generated by analysis. Initially, all the problem reports that resulted from analyzing a binary event log file are listed. An example of the problem report list is shown in Figure 3–21.

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.

3.6.4 Summary

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 3–22).
3.6.5 Events

The Events tab provides translation information for the events in the binary event log file. Initially, the events are listed in reverse chronological order (Figure 3–23).

Events that have been processed are listed along with date and time information. Events that have not completed processing yet appear without date and time information. Be aware that when you perform manual analysis, not all events require processing. For example, duplicate events and event types not useful to analysis are not processed. As a result, even after analysis
completes the date and time information for these events is not shown. You can still display these events just like any other event.

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.

### 3.6.6 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 3–24.

![Figure 3–24 Navigation Buttons](File:///usr/opt/compaq/svtools/ca/examples/id20.errlog)

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 3.8.3 for more information on user settings.

### 3.7 Processing Status

You can quickly determine the status of automatic or manual analysis by looking at the icons in the navigation tree. Figure 3–25 shows the icons used to indicate analysis results.
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. The normal icon is used until processing is completed. 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 log off the web interface session.

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).

### 3.8 Settings

You can use the web interface to change the director and user configuration settings, modify the registered rule sets, and view the Director and Compaq Analyze informational log files. To access this information, click the Settings button from the toolbar. The Settings window opens in the display frame (Figure 3–26).
3.8.1 Viewing Text Error/Information 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” link is not visible when you are logged into a OpenVMS machine.

You can view the text-based error/information log files from the Settings window (Figure 3–26) by clicking the “View Compaq Analyze Logs” link. The log files are concatenated into one large file for display and shown in a separate browser window. For an example of the informational log files refer to Appendix A.

The following log files are 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`
Web Interface
3.8 Settings

- 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

3.8.2 Director Settings

You can view the configuration settings for the Director by selecting the Director Settings tab. Chapter 6 describes how to change the Director settings.

3.8.3 User Settings

The user settings change how the navigation tree handles log files other than the system log. To access the user settings, click the User Settings tab (see Figure 3–27).
The User Settings window 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.

- **Put Entries in a Separate 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.

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

The web interface can register new rule sets for use with analysis from the Register Knowledge tab. Refer to Chapter 5 for more information on rule sets and analysis.

3.9 Getting Help

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

3.9.1 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.

3.9.2 On-Line User Guide

Click on the Help button from the Compaq Analyze toolbar (the question mark in the yellow oval) to view an HTML version of the Compaq Analyze User Guide. The help opens in a new browser window.

3.10 Log Off

When you want to end your web interface session, click the Log Off button located in the toolbar. After you log off, the message in Figure 3–28 appears.

Figure 3–28 Log Off Message

Logging off of Compaq Analyze.
Now cleaning up memory resources...
Sending you to the logon screen in 10 seconds...

Please allow at least ten seconds to log off a username before attempting to log back on with that username.

Once your session has closed, the Logon window (Figure 3–1) appears.
You will need to log off if you want to use your profile from a different machine or change to advanced mode.

**Note**

If you do not log off when you end your Compaq Analyze session, your profile will continue to use resources on the WEBES Director until either the Director is restarted or you log off.

If you attempt to log on to Compaq Analyze using a profile that is already logged on, the error message in Figure 3–29 appears.

**Figure 3–29 Profile Already Logged On Message**

The Username: "username" is already Logged On!
Enter in a different Username, or click on the Log Off Username button.
Warning: If someone is using "username" and you log them off, their version of Compaq Analyze will crash and may disrupt the WEBES Director.

Click the Log Off Username button to free the profile so you can use it.

### 3.11 Lost Connection

If your connection to the Director is lost for any reason, the message in Figure 3–30 appears in the toolbar.

**Figure 3–30 Lost Connection Message**

Connection To WEBES Was Lost!
If you lose the connection to the Director, you may need to log off your profile before you can use it to access the web interface again (see Section 3.10 for more information about logging off).

### 3.12 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:
   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)
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
```

### 3.13 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:
3.14 Advanced Operations

You can access the web interface in advanced mode, which disables automatic filtering. By default, the web interface filters out events that can be automatically corrected. If you want to see all the events for a system, use the advanced mode. To open the web interface in advanced mode, add \texttt{-adv} to your username in the login window. The following example shows the syntax:

\begin{verbatim}
username -adv
\end{verbatim}

Where \textit{username} is the name of the profile you want to access. The profile is unaffected by the \texttt{-adv} modifier.
When you use the advanced mode, (Advanced) appears in the browser title bar after your profile name. There are several changes to the web interface when you use the advanced mode.

- The Configuration Entries tab is added to the analysis output in the display frame.
- Events that are filtered in the normal mode are shown.
- The example log files are listed in the Other Logs screen.

### 3.14.1 Configuration Entries

Decomposed configuration tree events are normally filtered out by the web interface. In advanced mode, the web interface can display both normal configuration events and decomposed configuration tree events. Decomposed configuration tree events are listed on the Configuration Entries tab, which only appears in advanced mode (see Figure 3–31).

![Configuration Entries Tab](image)

Once analysis has completed, all the decomposed configuration tree events contained in the log file are listed on the Configuration Entries tab. To view the content of a decomposed configuration tree in the display frame, click the desired entry.

**Note**

If the ReportType setting is brief, you will not see the entire configuration tree. To view the full tree, set the ReportType to full. Refer to Chapter 6 for more information on changing settings.

### Automatic Analysis

If you are viewing the results of automatic analysis results (the Real Time Monitoring entry in the navigation tree), the decomposed configuration tree events from the binary system event log are listed as normal. In addition, you can generate a current FRU tree by clicking the FRU button located on the Configuration Entries tab (see Figure 3–32).
If you click the FRU Table button and the machine does not have an FRU table, an error message similar to the following one appears in the display frame.

```
Error getting FRU Tree information from node Hogarth.cxo.dec.com
com.compaq.svctools.desta.core.DESTAException: Timeout of 30 seconds expired.
com.compaq.svctools.desta.core.DESTAException: Timeout of 30 seconds expired.
at com/compaq/svctools/ca/services/web/CAWebTimer.run (CAWebTimer.java:29)
```

**Note**

Only machines listed in the supported products section of the *Compaq Analyze Release Notes* will return a valid FRU tree. For example, all Windows Intel machines will display the error message, since they do not support the FRU configuration specification. However, Compaq AlphaServer DS10 machines will return a valid FRU tree.

### Manual Analysis

The FRU Table button is only available for automatic analysis. When you manually analyze a binary event log file in advanced mode, its decomposed configuration tree events are added to the Configuration Entries tab.

There is a decomposed configuration tree entry for each configuration event in a manually analyzed binary log file. The decomposed configuration tree entries can be associated with their corresponding configuration event by matching their timestamps.

### 3.14.2 Filtered Events

In advanced mode, the automatic filtering performed by the web interface is turned off. This means that all events in a binary event log file are shown. These events (which are usually filtered) include:

- Correctable System events (entry types 620 and 630)
- Correctable Error Throttling Notification events

These events can be selected and viewed in exactly the same manner as other events.
3.14.3 Example Log Files

In advanced mode, the example log files included with Compaq Analyze are listed on the Add Files tab of the Other Logs screen (see Figure 3–33).

**Note**

If the system is busy processing other requests, the Other Logs screen may not list any log files. If there are example logs on the system, wait until the system is not busy and then click Other Logs again to display them or use the entry field at the bottom of the window to add the log file.

You can add log files to the navigation tree 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. See Section 3.8.3 for more information on categories.

1. Click on the Other Logs entry for the desired node in the navigation tree. Once the Other Logs window opens in the display frame, select the Add Files tab (Figure 3–33).
2. Select the desired binary event log files using either or both of the following methods:
   - Click the check box that corresponds to the desired file. You can select multiple check boxes.
   - Enter the path and filename in the Other Log field.

3. Click the Add Log Files to Tree button.

The selected binary event log files are added to the navigation tree under the Other Logs entry or appropriate category for the node.
Web Interface
3.14 Advanced Operations
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 4–3
Interpreting Translation Information ................................ page 4–3
Typical Frame of a Translated Binary Event ....................... page 4–4
Advanced Operations .................................................. page 4–4
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

If you want to translate all the events in a binary event log file, refer to the instructions for showing all events (disabling filtering) located in Chapters 2 and 3.

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.

Note

In the web interface, manual translation is combined with manual analysis. Thus, when you process a log file you will see the results of both activities.

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 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
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 1999 from 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
```

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”.

4.7 Advanced Operations

If you need to test the operation of Compaq Analyze and its analysis rules you may want to simulate automatic translation. If you are unsure whether you wish to perform manual translation or simulation of automatic translation, then you should follow Section 4.3 on manual translation.

4.7.1 Simulation of Automatic Translation

You can simulate the occurrence of events and their automatic translation by using the CLI to open a binary event log file while the web interface is running, and then observing the results in the web interface. The events are translated and analyzed as if the events occurred on the local system at the current time. Events appear in all the web interfaces, just as automatic events do. No results are shown in the CLI window where the command was issued. The command merely notifies the Director process to read and process the log file and does not wait for or display the translated events.

Refer to Section 5.8.2 for the CLI command used to perform automatic translation and analysis. Simulations always perform translation and analysis together.
Although Compaq Analyze can read and translate binary error logs produced by any of the supported platforms (see Section 4.3), simulating automatic translation and analysis on a platform other than the one that created the file can lead to unpredictable results due to conflicts between true automatic analysis and simulations from another platform.
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
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5.1 Analysis Rules

Binary events are analyzed by using DeCOR (the analysis engine used by both Compaq Analyze and its predecessor, DECevert) 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, an 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 an 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 any results.

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
```

The results of simulated automatic analysis (see Section 5.8.2) are also included in the file and may affect the results of future analysis operations.

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 1.5).
2. Delete the file `decorEvtAuto.ins`.
3. Restart the Director (see Section 1.4).
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 (see Section 5.8.3.3 for more information). 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, you can view the rulesets that are registered for use with Compaq Analyze. 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
```
5.3 Managing Rule Sets

Output

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

<table>
<thead>
<tr>
<th>Filename</th>
<th>Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SVCTOOLS_HOME/ca/data/ds10.krs</td>
<td>Rev_3_0_A</td>
</tr>
<tr>
<td>/SVCTOOLS_HOME/ca/data/ds20.krs</td>
<td>Rev_3_0_A</td>
</tr>
<tr>
<td>/SVCTOOLS_HOME/ca/data/es40.krs</td>
<td>Rev_3_0_A0</td>
</tr>
<tr>
<td>/SVCTOOLS_HOME/ca/data/gs320_ce_rule.krs</td>
<td>Rev1_0</td>
</tr>
<tr>
<td>/SVCTOOLS_HOME/ca/data/gs320_se_rule.krs</td>
<td>Rev_01</td>
</tr>
<tr>
<td>/SVCTOOLS_HOME/ca/data/gs320_startup_rule.krs</td>
<td>Rev_01</td>
</tr>
<tr>
<td>/SVCTOOLS_HOME/ca/data/gs320_uce_rule.krs</td>
<td>Rev_01</td>
</tr>
<tr>
<td>/SVCTOOLS_HOME/ca/data/mcii.krs</td>
<td>Revision_0</td>
</tr>
<tr>
<td>/SVCTOOLS_HOME/ca/data/storage.krs</td>
<td>Rev_0.2</td>
</tr>
</tbody>
</table>

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; however, to unregister a rule set you must use the CLI. 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 regk nw r \ca\data\ds10.krs
  ca reg k nw u \ca\data\ds10.krs
  ```
- Wildcards can be used to specify multiple filenames, as shown in the following examples:
  
  ```
  ca regk nw r \ca\data\ds*.krs
  ca regk nw 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 regk nw r \ca\data\ 
  ca regk nw 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.

**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 regk nw r
ca regk nw 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 regk nw u
ca regk nw 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 a set of rules using the web interface, do the following:

1. Click on the Settings button in the toolbar. The Settings window appears in the display frame.
2. Click the Register Knowledge tab at the bottom of the window (Figure 5–1).

![Figure 5–1 Rules Files](image)

3. Click on the name of the desired rule set to register it.

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.

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 scavenge operation finds events that are still pending processing and ensures that no events are missed, even when the system is restarted. The first time scavenge occurs, it processes the entire event log. Once this is complete, new events are processed as they occur. The scavenge operation always occurs four minutes after the Director is started. If the Director is started and stopped within four minutes, no scavenge occurs.

Note

Like automatic analysis, the scavenge operation does not use event time stamp information. As a result, if you stop the Director while your system continues to log events, you may receive unexpected analysis results when you restart the Director. For example, if you stop the Director for five days while your system continues to log events, when you restart the Director, the scavenge operation assumes that all the events from those five days occurred at the current date and time.

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 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

5.7 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.

5.7.1 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.

5.7.2 Service Obligation

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

5.7.3 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.
5.7.4 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.

5.7.5 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>
<thead>
<tr>
<th>Severity Level</th>
<th>Service Relevance</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Critical</td>
<td>This level is not currently used due to system operation required for Compaq Analyze diagnosis.</td>
</tr>
<tr>
<td>2</td>
<td>Major</td>
<td>Fatal event that typically requires service if not already administered.</td>
</tr>
<tr>
<td>3</td>
<td>Minor</td>
<td>Non-Fatal or Redundant warning event that typically requires future service but system still operates normally.</td>
</tr>
<tr>
<td>4</td>
<td>Information</td>
<td>System service event such as enclosure PCI or Fan door is open and only requires system door closure.</td>
</tr>
<tr>
<td>5</td>
<td>Unknown</td>
<td>This level is not used currently.</td>
</tr>
</tbody>
</table>

5.7.6 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.

5.7.7 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.
5.7.8 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).

5.7.9 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.

5.8 Advanced Operations

If you are testing Compaq Analyze and its analysis rules, you may need to simulate automatic analysis. If you are unsure whether you wish to perform manual analysis or simulation of automatic analysis, then you should follow Section 5.5 on manual analysis.

5.8.1 Regenerating a Problem Report using Automatic Analysis

By default, any given problem report will only be generated once by automatic analysis or simulated automatic analysis within a 24 hour period. For example, if you use simulated automatic analysis to process a binary event log file and a problem report is generated, subsequent simulated automatic analysis of the same log file will not produce the problem report. This remains true for a 24 hour period, since DeCOR prevents the same callout report from being generated during that time frame. To force Compaq Analyze to generate the same problem report a second time within a 24 hour period, use the following procedure:

1. Close Compaq Analyze.
2. Stop the Director. Refer to Chapter 1 for more information on stopping the Director.
3. Delete the automatic analysis instance file.
   \ca\data\decorEvtAuto.ins
   For more information on instance files, see Section 5.2.
4. Start the Director. Refer to Chapter 1 for more information on starting the Director.
5. Restart Compaq Analyze and run the analysis again.
5.8.2 Simulation of Automatic Analysis

You can simulate the occurrence of events and their automatic analysis by issuing a command-line command to open a log file (or files) while a web interface is running, and observe the results in the web interface. The events are translated and analyzed as if they occurred on the local system at the current time. Events and problem reports from analysis appear in the appropriate display frame of each open web interface, just as automatic events do. No results appear in the window where the command is issued. The command merely notifies the Director to read and process the log file and does not wait for or display the translated events or problem reports.

Unlike automatic and manual analysis, the `ca msg` command does not consider any time stamp information associated with events. All events are processed as if they occurred within a few seconds of each other. As a result, the `ca msg` command may generate problem reports that would not occur if you were using automatic or manual analysis. In effect, the `ca msg` command forces the rules to consider events that would otherwise be disregarded because of their age. Hence, you should only use the `ca msg` command for testing purposes.

Although Compaq Analyze can read, translate, and analyze error logs produced by any of the supported platforms, simulating automatic analysis on a different platform than the one that created the log file can lead to unpredictable results, due to conflicts between true automatic analysis and simulation from another platform.

Simulating automatic analysis may add entries in the automatic analysis database that impact future analysis results. Therefore, after simulating automatic analysis you should clean the automatic analysis database using the procedures described in Section 5.8.2.3.

**Note**

The `ca msg` command does not support relative path names. Regardless of the operating system you are using, you must enter the absolute path. In addition, when you are specifying a single log file, you must include both the path and the filename. Filenames without a path are not supported.

If the path contains spaces, enclose the entire path in quotation marks. For example: `ca msg -auto "C:\Program Files\Path\Filename.ext"`

5.8.2.1 Analysis of a Log File

Use the following CLI commands to open a log file, according to your operating system.

For Tru64 UNIX

Enter `ca msg -auto /path/filename.ext`

Enter your own `path` and `filename`. 
5.8 Advanced Operations

For OpenVMS

Enter `ca msg -auto [MYUSERNAME.PATH]FILENAME.EXT`

Enter your own `path` and `filename`.

For Windows

Enter `ca msg -auto C:\Path\Filename.ext`

Enter your own `path` and `filename`.

5.8.2.2 Analysis of all Event Logs in a Directory

According to your operating system, use the following commands to open log files for processing. All `*.zpd`, `*.sys`, and `*.errlog` files in the given directory will be analyzed and no outputs are presented in the command prompt window.

**Note**

If you do not specify a path, all the event logs in the `examples` subdirectory of the WEBES installation directory are analyzed.

For Tru64 UNIX

Enter `ca msg -autoall /path/`

Enter your own `path`.

For OpenVMS

Enter `ca msg -autoall [USERNAME.PATH]`

Enter your own `path`.

For Windows

Enter `ca msg -autoall C:\Path\`

Enter your own `path`.
5.8.2.3 Simulated Analysis Cleanup

Simulated automatic analysis may add entries to the automatic analysis database. Therefore, after simulating automatic analysis, be sure to clean the database using the following procedure:

1. Stop the director using the appropriate command for your operating system:
   
   UNIX – `desta stop`
   
   VMS – `desta stop`
   
   Windows – `net stop desta service`

2. Delete the automatic analysis database.

   UNIX – `rm /usr/opt/compaq/svctools/ca/data/decorEvtAuto.ins`
   
   VMS – `delete SVCTOOLS_HOME:[CA.DATA]DECOREVTAUTO.*;*`
   
   Windows – `delete C:\Program Files\Compaq\svctools\ca\data\decorEvtAuto.*`

3. Delete the scavenge marker to force the Director to process all the events in the system error log.

   UNIX – `rm /usr/opt/compaq/svctools/ca/data/scavmark.dat`
   
   VMS – `delete SVCTOOLS_HOME:[CA.DATA]SCAVMARK.*;*`
   
   Windows – `delete C:\Program Files\Compaq\svctools\ca\data\scavmark.*`

4. Start the Director.

   UNIX – `desta start`
   
   VMS – `desta start`
   
   Windows – `net start desta_service`

5. Register the default rule sets using the `ca regknw rdef` command.

5.8.3 Configuration of Analysis

The following sections describe modifying the configuration, including the DeCOR Class file and instance file names, and watch flags.
5.8.3.1 Modifying the Configuration

Certain attributes of the EvtAnalyzer component of Compaq Analyze are configurable. To see and change these values, do the following:

1. Select Configure System from the toolbar.
2. From the System Configuration window, select EvtAnalyzer from the attributes drop-down list. The configuration attributes for the Analyzer component are shown.
3. Click on the desired attribute’s name (such as “watchFlags”) to modify its value.

Additional information about the System Configuration window is provided in the following sections.

5.8.3.2 DeCOR Class File

If you wish to use a DeCOR Class file other than the standard decor.cls provided in the installation, change the “classFileName” attribute to the complete path and filename of the alternate file. All future analysis, both automatic and manual, will use this file.

5.8.3.3 Automatic and Manual Analysis Instance Files

The “autoInstanceFileName” and “manualInstanceFileName” attributes define the instance files to which the DeCOR analysis engine writes its data (see Section 5.2).

You can change the file used for this purpose, but realize that the registered knowledge sets depend on the instance file used. If no rule set file names are registered in an instance file, then no analysis occurs for incoming events. You can enter an instance file name that does not yet exist. The first activity you perform that requires using the instance file (such as registering a rule set) causes Compaq Analyze to create the file.

5.8.3.4 Watch Flags

The “watchFlags” attribute of the EvtAnalyzer component, provides the ability to turn on one or more types of debug outputs from the DeCOR analysis engine.

The attribute value is the summation of all bit values, where the bits have the meanings described here. Setting a bit to a 1 turns the flag on. For example, entering a value of 5 (4 + 1) turns on only the “facts” and “rules” watch flags. A value of -1 turns on all watch flags (because its binary value is 111111...). A value of 0 turns off all watch flags.
### Event Analysis

#### 5.8 Advanced Operations

The debug outputs will appear in the standard output log file as described in Chapter 1.

<table>
<thead>
<tr>
<th>bit</th>
<th>value</th>
<th>flag</th>
<th>bit</th>
<th>value</th>
<th>flag</th>
</tr>
</thead>
<tbody>
<tr>
<td>b0</td>
<td>1=</td>
<td>facts</td>
<td>b9</td>
<td>512=</td>
<td>instances</td>
</tr>
<tr>
<td>b1</td>
<td>2=</td>
<td>activations</td>
<td>b10</td>
<td>1024=</td>
<td>slots</td>
</tr>
<tr>
<td>b2</td>
<td>4=</td>
<td>rules</td>
<td>b11</td>
<td>2048=</td>
<td>messages</td>
</tr>
<tr>
<td>b3</td>
<td>8=</td>
<td>compilations</td>
<td>b12</td>
<td>4096=</td>
<td>messageHandlers</td>
</tr>
<tr>
<td>b4</td>
<td>16=</td>
<td>all</td>
<td>b13</td>
<td>8192=</td>
<td>genericFunctions</td>
</tr>
<tr>
<td>b5</td>
<td>32=</td>
<td>focus</td>
<td>b14</td>
<td>16384=</td>
<td>methods</td>
</tr>
<tr>
<td>b6</td>
<td>64=</td>
<td>statistics</td>
<td>b15</td>
<td>32768=</td>
<td>dribble</td>
</tr>
<tr>
<td>b7</td>
<td>128=</td>
<td>globals</td>
<td>b16</td>
<td>65536=</td>
<td>krsDebug</td>
</tr>
<tr>
<td>b8</td>
<td>256=</td>
<td>deffunctions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Event Analysis
5.8 Advanced Operations
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 6–4
Global Configuration Attributes ........................................ page 6–5
Component Configuration Attributes ................................... page 6–7
Profiles ........................................................................... page 6–7
Creating and Resetting the Configuration ............................. page 6–8
Advanced Operations ...................................................... page 6–8
6.1 Getting the Configuration

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

To view the system configuration, use the following procedure:

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

2. 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.

3. 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).
4. 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.

5. 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.

Component Class Name (compName) 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 `commSocketListenerPort` 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.

- `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.

- `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>
<thead>
<tr>
<th>Port Number</th>
<th>Used For</th>
<th>Configurable</th>
</tr>
</thead>
<tbody>
<tr>
<td>7901</td>
<td>Connections to the director.</td>
<td>Yes</td>
</tr>
<tr>
<td>7902</td>
<td>Web service (http communications)</td>
<td>Yes</td>
</tr>
<tr>
<td>7903</td>
<td>Web service (http communications)</td>
<td>No</td>
</tr>
</tbody>
</table>
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. 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.
6.6 Creating and Resetting the Configuration

Only a single instance of a profile can be connected to any given Director. If you try to connect to a Director from several different browsers using the same profile, you will receive an error message. Be aware that the normal and advanced versions of a profile are considered to be the same profile.

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.

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, 1999 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.

6.7 Advanced Operations

You may need to adjust the configuration of Compaq Analyze, in order to perform troubleshooting.
6.7.1 Logging Level

The logging level determines which events are written to the Director and Compaq Analyze informational log files (see Chapter 1 for more information). You may need to configure the logging level to help diagnose problems with Compaq Analyze. Changing the logging severity allows more visibility into the internal process of Compaq Analyze. You can change the logging level from either the CLI or the web interface.

6.7.1.1 CLI

If you want to use the CLI to set the logging level, the command is the same for all operating systems.

    desta msg -log LEVEL

Where LEVEL is at least the first letter (case-insensitive) of one of the following minimum severity levels:

- DEBUG
- INFO
- WARNING
- RECOVERED (FROM ERROR)
- CRIPPLED (FROM ERROR)
- FATAL (ERROR)

For example, to have all messages with a severity of INFO or greater written to the informational log files, use the following command:

    desta msg -log i

6.7.1.2 Web Interface

To change the logging severity level, open the settings window and select logMinSeverity (Logging, Minimum Severity) under Global Attributes. Select the name of the desired logging level in the entry field.
Configuration
6.7 Advanced Operations
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
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 (including simulated 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. Information on configuring an OpenVMS machine as a SMTP server is available at the following URL:


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@servername.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).
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
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).
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.
This appendix provides examples of translated event output and analysis output.

Sample Analysis Output ................................................ page A–2
Sample Translated Event Output ...................................... page A–3
Sample Configuration Entry ........................................... page A–5
Text Error/Information Log File Output ............................. page A–6
Sample Outputs
A.1 Sample Analysis Output

A.1 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 Apr 1999 15:45:38 -0400
Link Control and Status Register: x00000009
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 1999 from 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)
Chip_Type 8 -- EV6 21264
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 AlphaServer 1200 5/533 4MB
TLV_DDR_String
TLV_Sys_Serial_Num NI73702WH1
TLV_Time_as_Local Mon, 1 Mar 1999 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_bcnt 0
emb_errcnt 0
emb_func 0
ucb_name_len 10
ucb_name SABL15$MCA
ucb_dtname_len 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

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIST</td>
<td>x00</td>
</tr>
<tr>
<td>Window_Cntl</td>
<td>x08</td>
</tr>
<tr>
<td>PCITbar</td>
<td>0x78 0000</td>
</tr>
<tr>
<td>Base_Addr_1</td>
<td>0x7800 0008</td>
</tr>
<tr>
<td>Base_Addr_2</td>
<td>x0000 0000</td>
</tr>
<tr>
<td>Base_Addr_3</td>
<td>x0000 0000</td>
</tr>
<tr>
<td>Base_Addr_4</td>
<td>x0000 0000</td>
</tr>
<tr>
<td>Base_Addr_5</td>
<td>0x7800 0008</td>
</tr>
<tr>
<td>Cardbus_CIS</td>
<td>x0000 0000</td>
</tr>
<tr>
<td>Sys_Vendor_ID</td>
<td>0x0000</td>
</tr>
<tr>
<td>Subsystem_ID</td>
<td>0x0000</td>
</tr>
<tr>
<td>Expansion_ROM_Base_Addr</td>
<td>0x07c0 0000</td>
</tr>
<tr>
<td>Interrupt_Line</td>
<td>12</td>
</tr>
<tr>
<td>Interrupt_Pin</td>
<td>1</td>
</tr>
<tr>
<td>Min_Gnt</td>
<td>0</td>
</tr>
<tr>
<td>Max_Lat</td>
<td>0</td>
</tr>
<tr>
<td>PCT_Data</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>MCLcsr</td>
<td>0x0000 C07A</td>
</tr>
<tr>
<td>RPE[1]</td>
<td>x1</td>
</tr>
<tr>
<td>Rx_Err_Ena[3]</td>
<td>x1</td>
</tr>
<tr>
<td>Tx_Err_Ena[4]</td>
<td>x1</td>
</tr>
<tr>
<td>MC_Int_Ena[5]</td>
<td>x1</td>
</tr>
<tr>
<td>Port_Change_Ena[6]</td>
<td>x1</td>
</tr>
<tr>
<td>Port_Change_Int[14]</td>
<td>x1</td>
</tr>
<tr>
<td>INT_Summary[15]</td>
<td>x1</td>
</tr>
<tr>
<td>PCIRbar</td>
<td>0xF800 0000</td>
</tr>
<tr>
<td>MCErrror</td>
<td>0x1202 0202</td>
</tr>
<tr>
<td>Rx_Err_on_Data[1]</td>
<td>x1</td>
</tr>
<tr>
<td>Cntl_Packet_History[9]</td>
<td>x1</td>
</tr>
<tr>
<td>Heartbeat_Ena[17]</td>
<td>x1</td>
</tr>
<tr>
<td>Sum_Rx_Err[25]</td>
<td>x1</td>
</tr>
<tr>
<td>Sum_Tx_Err[28]</td>
<td>x1</td>
</tr>
<tr>
<td>MCPort</td>
<td>0x5642 0000</td>
</tr>
<tr>
<td>Line_Card_Slot[21:16]</td>
<td>0x02</td>
</tr>
<tr>
<td>Hub_Type[24:22]</td>
<td>x1</td>
</tr>
<tr>
<td>Radvd_1[25]</td>
<td>x1</td>
</tr>
<tr>
<td>Heartbeat_Timeout_SEL[26]</td>
<td>x1</td>
</tr>
<tr>
<td>Adapter_OK[28]</td>
<td>x1</td>
</tr>
<tr>
<td>Hub_OK[30]</td>
<td>x1</td>
</tr>
<tr>
<td>Config</td>
<td>0x0000 001F</td>
</tr>
<tr>
<td>Port_Online</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Cluser_Status_Low</td>
<td>0x0000 0002</td>
</tr>
<tr>
<td>Cluser_Status_High</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_0_Low</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_0_High</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_1_Low</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_1_High</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_2_Low</td>
<td>0x0000 0009</td>
</tr>
<tr>
<td>Node_2_High</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_3_Low</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_3_High</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_4_Low</td>
<td>0x0000 0009</td>
</tr>
<tr>
<td>Node_4_High</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_5_Low</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_5_High</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_6_Low</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_6_High</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_7_Low</td>
<td>0x0000 0000</td>
</tr>
<tr>
<td>Node_7_High</td>
<td>0x0000 0000</td>
</tr>
</tbody>
</table>
A.2.2 Brief

Event: 2
Description: VMS Asynchronous Device Attention at Mon Mar 01 20:59:59 MST 1999 from 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)
Chip_Type 8 -- EV6 21264

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
A.4 Text Error/Information Log File Output

Configuration Entry

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

jarjar.cxo.dec.com's Compaq Analyze and Webes log files
webes_delete.log
webes_install.log
setld_error.log
wcc_install.log
desta_dir.log
cca_delete.log
cca_install.log
ccat_install.log

Contents of webes_delete.log:
Compaq Web-Based Enterprise Service Suite Delete Log
[Return to index of log files]

Contents of webes_install.log:
Compaq Web-Based Enterprise Service Suite Install Log
Error: java.lang.ArrayIndexOutOfBoundsException
Error: java.lang.ArrayIndexOutOfBoundsException
[Return to index of log files]

Contents of setld_error.log:
Checking file system space required to install specified subsets:
File system space checked OK.
1 subset(s) will be installed.
Loading 1 of 1 subset(s)....
Compaq Analyze X3.0
Copying from /usr/opt/compaq/svctools/kits/ca (disk)
Verifying
1 of 1 subset(s) installed successfully.

Compaq Analyze X3.0 has been successfully loaded.

Configuring "Compaq Analyze X3.0" (CABASE300)
Please wait. Registering the Knowledge files will take a while.
Creating Java VM
Starting DESTA Director process.
Logging outputs to: /usr/opt/compaq/svctools/logs/desta_dir.log
The Director process has started successfully.

Creating Java VM
Who should receive responses for logged calls [mark.ware@compaq.com]: Where is the profile located

[/usr/opt/compaq/svctools/data/profile.txt]:
Checking file system space required to install specified subsets:
File system space checked OK.
1 subset(s) will be installed.
Loading 1 of 1 subset(s)....
**********************************************************************
UniCensus Kit Installation
kit will be installed in /var/opt/UniCensus
Step 1. Checking for any prior installed versions.
Step 2. Checking for other preinstallation requirements.

Are you going to setup UniCensus for:
1. Revision Configuration Management (RCM) collection
2. Unified Customer Repository (UCR) collection
3. RCM and UCR collection
4. Exit

[ 1-4 ] [ q,? ] (default = 1): checking for RCM prerequisites

RCM requires that dupatch be installed and baselined if you wish to gather information on the patches installed on your system.

Please install before attempting to run RCM.

Installation will now continue.

CT5 system... DECEvent not required.

Proceeding with installation.

UniCensus for Alpha AXP Digital UNIX - T4.4.0 beta 5
Copying from /usr/opt/compaq/svctools/kits/unicen (disk)
Verifying
1 of 1 subset(s) installed successfully.

unicensus(8) man page installed
unisetup(8) man page installed

Configuring "UniCensus for Alpha AXP Digital UNIX - T4.4.0 beta 5" (UNICEN440)
Unisetup script will now be run

*******************************************************************************
# Copyright 1999 Compaq Computer Corporation. COMPAQ, the Compaq logo and the
# Digital logo are registered in the U.S. Patent and Trademark Office.
# Proprietary service tool software. Valid license from Compaq or authorized
# sublicensor required for possession, use or copying. Consistent with FAR
# 12.211 and 12.212, Commercial Computer Software, Computer Software
# Documentation, and Technical Data for Commercial Items are licensed to the
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#
# Compaq service tool software, including associated documentation, is the
# property of and contains confidential technology of Compaq Computer
# Corporation. Service customer is hereby licensed to use the software only
# for activities directly relating to the delivery of, and only during the
# term of, the applicable services delivered by Compaq or its authorized
# service provider. Customer may not modify or reverse engineer, remove or
# transfer the software or make the software or any resultant diagnosis or
# system management data available to other parties without Compaq's or its
# authorized service providers consent. Upon termination of the services
# customer will, at Compaq's or its service providers option, destroy or return
# the software and associated documentation in its possession.
#
# Found an existing configuration file: rcm_config
# please wait while default settings are loaded from this file.
#
# Found an existing customer info file: rcm_customer_info
# please wait while default settings are loaded from this file.

The prompts to the questions are mapped as follows:
The Question String? [ Some_Options ] [ q,7,o ] (default= ans):
(q) Quits this utility (exits)
(?) Shows mini help file and returns
(o) Shows overview file and returns
Please type "o" now to receive an overview of UniCensus.

Do you want short explanations with the questions?
[ yes/no ] [ q,7,o ](default= no): The current UniCensus Installation parameter settings are:

CollectionDirectory = /var/tmp
KitDirectory = /usr/var/opt/UniCensus
ArchiveDirectory = /var/opt/UniCensus/archive
MaxArchives = 10
ManualDirectory = /var/opt/UniCensus/manual_collections
UniCensusTempWorkDir = /var/tmp
UniCensusSubscribeAction = no
UniCensusAdhocDir = /var/opt/UniCensus/adhoc
UniCensusRecoverySaves = /var/opt/UniCensus/recovery

Do you want to change any of these parameters?
[ yes/no ] [ q,7,o ](default= no): The current UniCensus Customer Data parameter settings are:

CompanyName = Compaq
ContactName = Mark Ware
ContactTelephone = (719) 592-5140
ContactEmail = mark.ware@compaq.com
CustomerAccessID = WEBES-FT-1
TAMName =
TAMEmail = tom.thompson@compaq.com

Do you want to change any of these parameters?
[ yes/no ] [ q,7,o ](default= no):
The current UniCensus System Data parameter settings are:

SystemSerialNo = NI92006814

Do you want to change any of these parameters?
[ yes/no ] [ q,7,o ](default= no):
The RCM collection option is switched on. Do you want to switch it off?
[ yes/no ] [ q,7,o ](default= no): The current RCM option settings are:

TransportOption = email
LocalTransportOption = none

Do you want to change any of these parameters?
[ yes/no ] [ q,7,o ](default= no): The current RCM Schedule details are:

Frequency = none
DayOfWeek =
DayOfMonth =
Time =

Do you want to change any of these parameters?
[ yes/no ] [ q,7,o ](default= no):

Do you wish to enable RCM to make a collection every time this machine reboots?
[ yes/no ] [ q,7,o ](default= no):
saving the options you have just entered to file... please wait
configuration options saved in rcm_config file.....
customer details saved in rcm_customer_info file.....

**************** UniCensus Setup is complete ****************

UniCensus options can be changed at any time
by running unisetup again.
To run UniCensus the following options are recommended:
default /usr/var/opt/UniCensus/unicensus -all
RCM output /usr/var/opt/UniCensus/unicensus -config
See the overview notes for full detail on execution options.

please wait while archived data from previous installation is being restored
... restoration of archived data completed.
This machine is not running Compaq Tru64 UNIX V5.0 or higher
The UniCensus SYSMAN utilities will not be installed.

Checking to see if this is a CT5 machine.
This may take a few seconds...
Please wait...
This machine uses Configuration Tree 5 as it's hardware/software description method
Checking to see if a suitable CT5 Collector is installed....
Please wait...
No CT5 Collector is installed.... installing collector....
blocksize = 256
x kit
x kit/instctrl
x kit/instctrl/CT5BASE018.inv, 3262 bytes, 7 tape blocks
x kit/instctrl/CT5BASE018.ctrl, 139 bytes, 1 tape blocks
x kit/instctrl/CT5BASE018.scp, 4239 bytes, 9 tape blocks
x kit/instctrl/CT5.image, 24 bytes, 1 tape blocks
x kit/CT5BASE018, 133120 bytes, 260 tape blocks
x kit/INSTCTRL, 20480 bytes, 40 tape blocks
x kit/CT5.image, 24 bytes, 1 tape blocks
x kit/INSTALL.txt, 2632 bytes, 6 tape blocks
Checking file system space required to install specified subsets:
File system space checked OK.
1 subset(s) will be installed.
Loading 1 of 1 subset(s)....
CT5 Reader Tool - V1.1.0
Copying from /usr/var/opt/UniCensus/ct5/kit (disk)
Verifying
1 of 1 subset(s) installed successfully.
Configuring "CT5 Reader Tool - V1.1.0" (CT5BASE018)

Installation of the CT5 Reader Tool - V1.1.0 CT5BASE018 subset is complete !!!!!!!
Please read the README file in the installation
directory (/usr/opt/compaq/svctools/rcm/ct5 by default) for instructions on how to use this tool.

CT5 Collector successfully installed
Exiting....
please wait while the WEBES registry is being updated
WEBES registry update completed
UniCensus installation is now complete
Checking file system space required to install specified subsets:
File system space checked OK.
1 subset(s) will be installed.
Loading 1 of 1 subset(s)....
Compaq Crash Analysis Tool X3.0
Copying from /usr/opt/compaq/svctools/kits/ccat (disk)
Verifying
1 of 1 subset(s) installed successfully.
We will install rules only for this operating system version unless you choose otherwise.
Remove all non knowledge rule (KRS) files? [yes/no] [ q,? ](default= yes):
COMPAQ Crash Analysis Tool (CCAT) X3.0 subset CCATBASE300 has been successfully loaded.

Configuring "Compaq Crash Analysis Tool X3.0" (CCATBASE300)
Creating Java VM
Creating Java VM

All DESTA registry variables and SMTP mail variables should now be set.
Starting DESTA Director process.
Logging outputs to: /usr/opt/compaq/svctools/logs/desta_dir.log
The Director process has started successfully.

[Return to index of log files]

Contents of wcc_install.log:

Wed Apr 12 11:24:44 MDT 2000
Error: java.lang.ArrayIndexOutOfBoundsException
Error: java.lang.ArrayIndexOutOfBoundsException

[Return to index of log files]

Contents of desta_dir.log:

_________________________ desta start issued Thu Apr 20 09:10:41 MDT 2000.
Creating Java VM

WARNING on April 20, 2000 9:10:42 AM MDT (0.02 sec elapsed)
Configuration file /usr/opt/compaq/svctools/desta/config/Configuration.dat not found, creating it.
Current Thread[main,5,main]
Web-based Enterprise Service Common Components X3.0 (Build 9 ), member of WEBES X3.0 (Build 9 )
The Director process has started successfully.
_________________________ desta start issued Thu Apr 20 09:12:17 MDT 2000.
Creating Java VM
Web-based Enterprise Service Common Components X3.0 (Build 9 ), member of WEBES X3.0 (Build 9 )
Compaq Analyze X3.0 (Build 9 )
The Director process has started successfully.
[Dekor V105] CreateDOR, Creating NEW DeCOR State File -
/usr/opt/compaq/svctools/ca/data/decorEvtAuto.ins
[Dekor V105] CreateDOR, Creating NEW DeCOR State File -
/usr/opt/compaq/svctools/ca/data/decorEvtAuto.ins
[Dekor V105] CreateDOR, Creating NEW DeCOR State File -
/usr/opt/compaq/svctools/ca/data/decorEvtManual.ins_seed
_________________________ desta start issued Thu Apr 20 09:15:51 MDT 2000.
Creating Java VM
Web-based Enterprise Service Common Components X3.0 (Build 9 ), member of WEBES X3.0 (Build 9 )
Compaq Analyze X3.0 (Build 9 )
The Director process has started successfully.
Invalid Fru Link origin: 34 -> dest[0]: 0
Invalid Fru Link origin: 34 -> dest[1]: 0
Invalid Fru Link origin: 34 -> dest[2]: 0
Invalid Fru Link origin: 34 -> dest[3]: 0
Invalid Fru Link origin: 42 -> dest[0]: 0
Invalid Fru Link origin: 42 -> dest[1]: 0
Invalid Fru Link origin: 42 -> dest[2]: 0
Invalid Fru Link origin: 42 -> dest[3]: 0
Invalid Fru Link origin: 46 -> dest[0]: 0
Invalid Fru Link origin: 46 -> dest[1]: 0
Invalid Fru Link origin: 46 -> dest[2]: 0
Invalid Fru Link origin: 46 -> dest[3]: 0
Invalid Fru Link origin: 4a -> dest[0]: 0
Invalid Fru Link origin: 4a -> dest[1]: 0
Invalid Fru Link origin: 4a -> dest[2]: 0
Invalid Fru Link origin: 4a -> dest[3]: 0
Invalid Fru Link origin: 3c -> dest[0]: 0
Invalid Fru Link origin: 3c -> dest[1]: 0
Invalid Fru Link origin: 3c -> dest[2]: 0
Invalid Fru Link origin: 3c -> dest[3]: 0
Invalid Fru Link origin: 33 -> dest[0]: 0
Invalid Fru Link origin: 33 -> dest[1]: 0
Invalid Fru Link origin: 33 -> dest[2]: 0
Invalid Fru Link origin: 33 -> dest[3]: 0
Invalid Fru Link origin: 33 -> dest[0]: 0
Invalid Fru Link origin: 33 -> dest[1]: 0
Invalid Fru Link origin: 33 -> dest[2]: 0
Invalid Fru Link origin: 33 -> dest[3]: 0
Invalid Fru Link origin: 33 -> dest[0]: 0
Invalid Fru Link origin: 33 -> dest[1]: 0
Invalid Fru Link origin: 33 -> dest[2]: 0
Invalid Fru Link origin: 33 -> dest[3]: 0
Invalid Fru Link origin: 41 -> dest[0]: 0
Invalid Fru Link origin: 45 -> dest[0]: 0
Invalid Fru Link origin: 49 -> dest[0]: 0
Invalid Fru Link origin: 3b -> dest[0]: 0

__ desta start issued Thu Apr 20 09:24:37 MDT 2000. __

Creating Java VM
Web-based Enterprise Service Common Components X3.0 (Build 9 ), member of WEBES X3.0 (Build 9 )
> Creating Java VM
Compaq Analyze X3.0 (Build 9 )
The Director process has started successfully.

__.
WARNING on April 20, 2000 9:24:54 AM MDT (16.444 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_CCAT-IVP.KRS not found
Current Thread[Thread-55,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_CCAT-IVP.KRS not found
Processing will probably fail without this file.

__.
FATAL ERROR on April 20, 2000 9:25:16 AM MDT (38.868 sec elapsed)
ERROR waiting for subprocess to finish.
Current Thread[Thread-6: com.compaq.svctools.desta.core.DESTAProcess_Proc wrapper for
com.compaq.svctools.ccat.analyzer.CrashAnalyzer,5,main]
EXCEPTION java.lang.ThreadDeath
__.
WARNING on April 20, 2000 9:25:18 AM MDT (40.868 sec elapsed)
System did not shut down cleanly. Extra threads stopped:
Thread[Thread-55,5,main] (current thread)
Thread[stdout reader pid=27666,5,main]
Thread[stderr reader pid=27666,5,main]
com.compaq.svctools.ccat.analyzer.CrashAnalyzer:2,5,main]
Thread[Thread-12: com.compaq.svctools.desta.core.DESTAProcess_Proc$RemoteError for
com.compaq.svctools.ccat.analyzer.CrashAnalyzer:2,5,main]
Threads left after stop:
Thread[main,5,main] (current thread)
Thread[process reaper,5,main] (owned by Java VM)
Current Thread[main,5,main]

__ desta start issued Thu Apr 20 09:25:34 MDT 2000. __

Creating Java VM
Web-based Enterprise Service Common Components X3.0 (Build 9 ), member of WEBES X3.0 (Build 9 )
> Creating Java VM
Compaq Analyze X3.0 (Build 9 )
The Director process has started successfully.

__.
WARNING on April 20, 2000 9:27:45 AM MDT (129.784 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V30.KRS not found
Current Thread[Thread-55,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V30.KRS not found
Processing will probably fail without this file.

__.
FATAl ERROR on April 20, 2000 9:27:46 AM MDT (129.759 sec elapsed)
ERROR waiting for subprocess to finish.
Current Thread[Thread-6: com.compaq.svctools.desta.core.DESTAProcess_Proc wrapper for
com.compaq.svctools.ccat.analyzer.CrashAnalyzer,5,main]
EXCEPTION java.lang.ThreadDeath
__.
WARNING on April 20, 2000 9:27:46 AM MDT (129.759 sec elapsed)
System did not shut down cleanly. Extra threads stopped:
Thread[Thread-55,5,main] (current thread)
Thread[stdout reader pid=27666,5,main]
Thread[stderr reader pid=27666,5,main]
com.compaq.svctools.ccat.analyzer.CrashAnalyzer:2,5,main]
Thread[Thread-12: com.compaq.svctools.desta.core.DESTAProcess_Proc$RemoteError for
com.compaq.svctools.ccat.analyzer.CrashAnalyzer:2,5,main]
Threads left after stop:
Thread[main,5,main] (current thread)
Thread[process reaper,5,main] (owned by Java VM)
Current Thread[main,5,main]

__.
WARNING on April 20, 2000 9:27:48 AM MDT (131.156 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V30.KRS not found
Current Thread[Thread-55,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V30.KRS not found
Processing will probably fail without this file.

__.
RECOVERED FROM ERROR on April 20, 2000 9:27:48 AM MDT (131.156 sec elapsed)
Rule set already enrolled, this attempt cancelled, Rule Set File:
/us/..
WARNING on April 20, 2000 9:27:49 AM MDT (132.549 sec elapsed)
> Current Thread [Thread-5: com.compaq.svctools.ccat.analyzer.CrashAnalyzer remote process,5,main]
> [MAIN], clKRS, init, duplicate instances not allowed
> _ _ _ .
> RECOVERED FROM ERROR on April 20, 2000 9:27:49 AM MDT (132.549 sec elapsed)
> Rule set already enrolled, this attempt cancelled, Rule Set File:

/usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_Generic.KRS
> Did not enroll file into Instance File: /usr/opt/compaq/svctools/ccat/data/ccatCrash.ins
> Current Thread [Thread-5: com.compaq.svctools.ccat.analyzer.CrashAnalyzer remote process,5,main]
> [MAIN], clKRS, init, duplicate instances not allowed
> _ _ _ .
> WARNING on April 20, 2000 9:27:51 AM MDT (133.941 sec elapsed)
> DeCOR returned return code: 4
> Current Thread [Thread-5: com.compaq.svctools.ccat.analyzer.CrashAnalyzer remote process,5,main]
> _ _ _ .
> RECOVERED FROM ERROR on April 20, 2000 9:27:51 AM MDT (133.941 sec elapsed)
> Rule set already enrolled, this attempt cancelled, Rule Set File:

/usr/opt/compaq/svctools/ccat/data/Tru64_Unix_INCLUDE_Text01_Generic.KRS
> Did not enroll file into Instance File: /usr/opt/compaq/svctools/ccat/data/ccatCrash.ins
> Current Thread [Thread-5: com.compaq.svctools.ccat.analyzer.CrashAnalyzer remote process,5,main]
> [MAIN], clKRS, init, duplicate instances not allowed
> _ _ _ .
> WARNING on April 20, 2000 9:27:51 AM MDT (133.939 sec elapsed)
> DeCOR returned return code: 4
> Current Thread [Thread-5: com.compaq.svctools.ccat.analyzer.CrashAnalyzer remote process,5,main]
> _ _ _ .
> WARNING on April 20, 2000 9:27:52 AM MDT (135.574 sec elapsed)
> DeCOR returned return code: 4
> Current Thread [Thread-5: com.compaq.svctools.ccat.analyzer.CrashAnalyzer remote process,5,main]
> _ _ _ .
> RECOVERED FROM ERROR on April 20, 2000 9:27:52 AM MDT (135.574 sec elapsed)
> Rule set already enrolled, this attempt cancelled, Rule Set File:

/usr/opt/compaq/svctools/ccat/data/Tru64_Unix_INCLUDE_Text02_Generic.KRS
> Did not enroll file into Instance File: /usr/opt/compaq/svctools/ccat/data/ccatCrash.ins
> Current Thread [Thread-5: com.compaq.svctools.ccat.analyzer.CrashAnalyzer remote process,5,main]
> [Dekor V105] CreateDOR, Creating NEW DeCOR State File -

/usr/opt/compaq/svctools/ccat/data/ccatCrash.ins
> WARNING on April 20, 2000 9:27:56 AM MDT (141.18 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V30A.KRS not found
Current Thread [Thread-57,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V30B.KRS not found
Processing will probably fail without this file.

WARNING on April 20, 2000 9:28:00 AM MDT (144.765 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V30B.KRS not found
Current Thread [Thread-58,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V30C.KRS not found
Processing will probably fail without this file.

WARNING on April 20, 2000 9:28:03 AM MDT (148.144 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V31.KRS not found
Current Thread [Thread-59,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32.KRS not found
Processing will probably fail without this file.

WARNING on April 20, 2000 9:28:06 AM MDT (151.54 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32.KRS not found
Current Thread [Thread-60,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V33.KRS not found
Processing will probably fail without this file.

WARNING on April 20, 2000 9:28:10 AM MDT (155.112 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32A.KRS not found
Current Thread[Thread-61,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32A.KRS not found
Processing will probably fail without this file.

> [Dekor V105] CreateDOR, Creating NEW DeCOR State File -

/usr/opt/compaq/svctools/ccat/data/ccatCrash.ins

WARNING on April 20, 2000 9:28:13 AM MDT (158.52 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32A.KRS not found
Current Thread[Thread-63,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32A.KRS not found
Processing will probably fail without this file.

WARNING on April 20, 2000 9:28:17 AM MDT (161.897 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32B.KRS not found
Current Thread[Thread-64,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32B.KRS not found
Processing will probably fail without this file.

> [Dekor V105] CreateDOR, Creating NEW DeCOR State File -

/usr/opt/compaq/svctools/ccat/data/ccatCrash.ins

WARNING on April 20, 2000 9:28:24 AM MDT (168.873 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32B.KRS not found
Current Thread[Thread-65,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32B.KRS not found
Processing will probably fail without this file.

WARNING on April 20, 2000 9:28:27 AM MDT (172.258 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32C.KRS not found
Current Thread[Thread-66,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32C.KRS not found
Processing will probably fail without this file.

WARNING on April 20, 2000 9:28:31 AM MDT (175.843 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32D.KRS not found
Current Thread[Thread-67,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32D.KRS not found
Processing will probably fail without this file.

> [Dekor V105] CreateDOR, Creating NEW DeCOR State File -

/usr/opt/compaq/svctools/ccat/data/ccatCrash.ins

WARNING on April 20, 2000 9:28:43 AM MDT (188.192 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32D.KRS not found
Current Thread[Thread-68,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32D.KRS not found
Processing will probably fail without this file.

WARNING on April 20, 2000 9:28:47 AM MDT (191.779 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32D.KRS not found
Current Thread[Thread-69,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32D.KRS not found
Processing will probably fail without this file.

WARNING on April 20, 2000 9:28:50 AM MDT (195.204 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_UNIX_RULES_V32E.KRS not found
Current Thread[Thread-70,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32E.KRS not found
Processing will probably fail without this file.

> [Dekor V105] CreateDOR, Creating NEW DeCOR State File -
/usr/opt/compaq/svctools/ccat/data/ccatCrash.ins

___.

WARNING on April 20, 2000 9:29:03 AM MDT (207.718 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32E.KRS not found
Current Thread[Thread-71,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32E.KRS not found
Processing will probably fail without this file.

___.

WARNING on April 20, 2000 9:29:06 AM MDT (211.112 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32E.KRS not found
Current Thread[Thread-72,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32E.KRS not found
Processing will probably fail without this file.

___.

WARNING on April 20, 2000 9:29:09 AM MDT (214.48 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32F.KRS not found
Current Thread[Thread-73,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32F.KRS not found
Processing will probably fail without this file.

___.

WARNING on April 20, 2000 9:29:13 AM MDT (218.077 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32G.KRS not found
Current Thread[Thread-74,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V32G.KRS not found
Processing will probably fail without this file.

___.

WARNING on April 20, 2000 9:29:16 AM MDT (221.456 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V40.KRS not found
Current Thread[Thread-75,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V40.KRS not found
Processing will probably fail without this file.

___.

WARNING on April 20, 2000 9:29:29 AM MDT (234.093 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V40A.KRS not found
Current Thread[Thread-76,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V40A.KRS not found
Processing will probably fail without this file.

___.

WARNING on April 20, 2000 9:29:32 AM MDT (237.4 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V40B.KRS not found
Current Thread[Thread-78,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V40B.KRS not found
Processing will probably fail without this file.

___.

WARNING on April 20, 2000 9:29:36 AM MDT (240.789 sec elapsed)
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V40C.KRS not found
Current Thread[Thread-78,5,main]
Ruleset: /usr/opt/compaq/svctools/ccat/data/Tru64_Unix_RULES_V40C.KRS not found
Processing will probably fail without this file.

___.
Sample Outputs
A.4 Text Error/Information Log File Output

Contents of ca_delete.log:
Compaq Analyze delete log:

Contents of ca_install.log:
Thu Apr 20 09:11:48 MDT 2000
Creating Java VM

WARNING on April 20, 2000 9:12:11 AM MDT (0.071 sec elapsed)
Component class com.compaq.svctools.desta.core.CommonDirector already enrolled, enroll attempt

cancelled.
Current Thread[main,5,main]
ChangeEnrollments: All components in /usr/opt/compaq/svctools/config/ConfigDefaultsCADUnix.txt were
enrolled successfully.
Error: java.lang.Exception: Key ca.Version already exists
Creating Java VM
Registering /usr/opt/compaq/svctools/ca/data/DS10.krs
Registering /usr/opt/compaq/svctools/ca/data/DS20.krs
Registering /usr/opt/compaq/svctools/ca/data/ES40.krs
Registering /usr/opt/compaq/svctools/ca/data/ME11.krs
Registering /usr/opt/compaq/svctools/ca/data/gs320_ce_rule.krs
Registering /usr/opt/compaq/svctools/ca/data/gs320_se_rule.krs
Registering /usr/opt/compaq/svctools/ca/data/gs320_uce_rule.krs
Registering /usr/opt/compaq/svctools/ca/data/storage.krs
Waiting for all files to be registered before shutting down...

Contents of ccat_install.log:

Creating Java VM

WARNING on April 20, 2000 9:24:19 AM MDT (0.274 sec elapsed)
Component class com.compaq.svctools.desta.services.notification.SMTPNotification already enrolled,
enroll attempt cancelled.
Current Thread[main,5,main]
ChangeEnrollments: All components in /usr/opt/compaq/svctools/config/ConfigDefaultsCCAT.txt were
enrolled successfully.
Creating Java VM
Creating Java VM
Creating Java VM
Creating Java VM
Creating Java VM
Creating Java VM
Creating Java VM
Creating Java VM
Creating Java VM
Creating Java VM
Creating Java VM
Creating Java VM
Error: java.lang.Exception: Key ccat.SMTPContact does not exist.
Unknown DRI command "root@jarjar", remainder of line ignored.
Creating Java VM

[Return to index of log files]
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.

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Two Instances of “desta_exec” ....................................... page B–3
B.1 Configuration File Created

```
WARNING on February 1, 1999 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, 1999 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, 1999 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 Security Properties Not Found

```
security properties not found. using defaults.
```

This message only appears on Tru64 UNIX systems when the `desta` or `ca` script is used to start a WEBES or Compaq Analyze process. It is expected and correct.
The message is generated by the Java Virtual Machine when any Java code is started using Java Native Interface (JNI), an interface that Compaq Analyze uses.

**B.4 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.5 Two Instances of “desta_exec”**

Refer to Section 1.3 for information on the WEBES processes.

**On Tru64 UNIX and Windows**

desta_exec is the wrapper executable around any WEBES process, not just the Director.

With all WEBES products installed, desta_start starts two instances of desta_exec. 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 desta_exec 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 nth process started by that user.
Known Messages in Compaq Analyze
B.5 Two Instances of “desta_exec”
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 DECeent, Compaq Analyze, and CCAT. Compaq Analyze uses DeCOR to apply rules to binary events and produce analysis results. Different rules are supplied with DECeent 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**

**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.
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.

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.

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.

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

\textbf{T}

\textbf{System Initiated Call Logging}

See \textit{SICL}.

\textbf{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.

\textbf{translation}

The process of converting binary event logs into readable output. See also \textit{BTT}.

\textbf{Transmission Control Protocol/Internet Protocol}

See \textit{TCP/IP}.

\textbf{U}

\textbf{UniCensus}

The Tru64 UNIX version of RCM.

\textbf{unregister}

The process of removing or deactivating a knowledge rule set.

\textbf{W}

\textbf{WBEM}

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

\textbf{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.

\textbf{Web-Based Enterprise Management}

See \textit{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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