

# Web-Based Enterprise Services

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## Installation Guide

This document provides instructions and supporting information necessary to install, configure, and verify HP Web-Based Enterprise Services (WEBES) on Windows® 2000, Windows 2003 and XP, HP Tru64 UNIX®, HP-UX, Linux, and HP OpenVMS Alpha systems.

*Rev. 9/16/04–A*

<b>Operating Systems:</b>	Microsoft® Windows 2000, Windows 2003 32-bit and XP HP Tru64 UNIX versions 4.0F, 4.0G, 5.1A or higher HP-UX version 11.0 or higher Red Hat Linux versions 7.3 and 8.0 HP OpenVMS Alpha versions 7.2–2 or higher
<b>Software Version:</b>	WEBES Version 4.3.4

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Examples used throughout this document are fictitious. Any resemblance to actual companies, persons, or events is purely coincidental.

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**Change Summary**

The following table summarizes the changes to this document:

<b>Revision</b>	<b>Description</b>
9/16/04-A	Initial 4.3.4 copy



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# Contents

<b>Title Page</b>	<b>i</b>
<b>Copyright Statement</b>	<b>ii</b>
<b>Change Summary</b>	<b>iii</b>
<b>List of Figures</b>	<b>ix</b>
<b>List of Tables</b>	<b>xi</b>
<b>1 General Information</b>	<b>1-1</b>
1.1 What is WEBES? .....	1-2
1.1.1 The Tools .....	1-2
1.1.2 WEBES Common Components .....	1-2
1.1.3 The WCCProxy .....	1-2
1.2 Supported Hardware .....	1-3
1.3 Supported Operating Systems .....	1-3
1.4 Installation Kits .....	1-3
1.5 Upgrades .....	1-4
1.6 This Document .....	1-4
1.7 Further Information .....	1-4
<b>2 Installing on Windows</b>	<b>2-1</b>
2.1 Pre-Installation .....	2-2
2.1.1 WEBES Common System Requirements .....	2-2
2.1.2 SEA System Requirements .....	2-4
2.1.3 CCAT System Requirements .....	2-5
2.1.4 RCM Transition .....	2-6
2.1.5 Permissions .....	2-6
2.1.6 Archiving and Cleaning the Error Log .....	2-7
2.1.7 Installing on Terminal Servers .....	2-8
2.1.8 Installing on a Storage Management Appliance .....	2-8
2.2 Installing WEBES .....	2-9
2.3 Post-Installation .....	2-11
2.3.1 Adding a Tool .....	2-11
2.3.2 Determining Which Tools are Installed .....	2-12

## Contents

2.3.3	Determining Which Versions are Installed	2-13
2.3.4	Storing User Files	2-13
2.3.5	Disabling EVA SNMP Trap Notifications	2-14
2.4	Upgrading WEBES	2-14
2.5	Uninstalling WEBES	2-15
2.5.1	Uninstalling Individual WEBES Tools	2-15
2.5.2	Uninstalling All WEBES Tools	2-16
2.5.3	Uninstalling on Terminal Servers	2-16
2.5.4	Uninstalling on a Storage Management Appliance	2-17

## 3 Installing on Tru64 UNIX 3-1

3.1	Pre-Installation	3-2
3.1.1	WEBES Common System Requirements	3-2
3.1.2	SEA System Requirements	3-3
3.1.3	CCAT System Requirements	3-5
3.1.4	RCM Transition	3-5
3.1.5	Permissions	3-5
3.1.6	Archiving and Cleaning the Error Log	3-5
3.1.6.1	Verify the binary.errlog CDSL	3-7
3.1.6.2	Clear the Log with binlogd Running	3-8
3.1.7	Verifying the Serial Number	3-8
3.1.8	Extracting the Installation Kit	3-9
3.2	Installing WEBES	3-9
3.2.1	Component Installation	3-10
3.2.2	Interactive Configuration Utility	3-11
3.2.2.1	Initial Configuration	3-11
3.2.2.2	Configuration Options	3-13
3.3	SEA Installation Notes	3-14
3.4	CCAT Installation Notes	3-15
3.5	Post-Installation	3-15
3.5.1	Adding a Node to a Cluster	3-15
3.5.2	Path Update	3-15
3.5.3	Determining Which Tools are Installed	3-16
3.5.4	Determining Which Versions are Installed	3-16
3.5.5	Storing User Files	3-17
3.5.6	Timestamp Adjustments	3-17
3.6	Upgrading WEBES	3-18
3.7	Uninstalling WEBES	3-19
3.7.1	Using the Interactive Utility	3-19
3.7.1.1	Uninstalling Individual WEBES Tools	3-19
3.7.1.2	Uninstalling All WEBES Tools	3-19
3.7.2	Using the setld Utility	3-19

## 4 Installing on HP-UX 4-1

4.1	Pre-Installation	4-2
4.1.1	WEBES Common System Requirements	4-2
4.1.2	SEA System Requirements	4-3
4.1.3	CCAT System Requirements	4-4
4.1.4	Permissions	4-4

4.1.5 Extracting the Installation Kit . . . . .	4-4
4.2 Installing WEBES . . . . .	4-4
4.2.1 Component Installation . . . . .	4-5
4.2.2 Interactive Configuration Utility . . . . .	4-6
4.2.2.1 Initial Configuration . . . . .	4-6
4.2.2.2 Configuration Options . . . . .	4-7
4.3 SEA Installation Notes . . . . .	4-9
4.4 CCAT Installation Notes . . . . .	4-9
4.5 Post-Installation . . . . .	4-9
4.5.1 Path Update . . . . .	4-9
4.5.2 Determining Which Tools are Installed . . . . .	4-9
4.5.3 Determining Which Versions are Installed . . . . .	4-9
4.5.4 Storing User Files . . . . .	4-10
4.6 Upgrading WEBES . . . . .	4-10
4.7 Uninstalling WEBES . . . . .	4-11
4.7.0.1 Uninstalling Individual WEBES Tools . . . . .	4-11
4.7.0.2 Uninstalling All WEBES Tools . . . . .	4-11

**5 Installing on Linux 5-1**

5.1 Pre-Installation . . . . .	5-2
5.1.1 WEBES Common System Requirements . . . . .	5-2
5.1.2 SEA System Requirements . . . . .	5-3
5.1.3 CCAT System Requirements . . . . .	5-4
5.1.4 Permissions . . . . .	5-4
5.1.5 Extracting the Installation Kit . . . . .	5-4
5.2 Installing WEBES . . . . .	5-5
5.2.1 Common Component Installation . . . . .	5-5
5.2.2 Interactive Configuration Utility . . . . .	5-5
5.2.2.1 Initial Configuration . . . . .	5-6
5.2.2.2 Configuration Options . . . . .	5-7
5.3 SEA Installation Notes . . . . .	5-8
5.4 CCAT Installation Notes . . . . .	5-9
5.5 Post-Installation . . . . .	5-9
5.5.1 Path Update . . . . .	5-9
5.5.2 Determining Which Tools are Installed . . . . .	5-9
5.5.3 Determining Which Versions are Installed . . . . .	5-10
5.5.4 Storing User Files . . . . .	5-10
5.6 Upgrading WEBES . . . . .	5-11
5.7 Uninstalling WEBES . . . . .	5-11
5.7.1 Using the Interactive Utility . . . . .	5-11
5.7.1.1 Uninstalling Individual WEBES Tools . . . . .	5-11
5.7.1.2 Uninstalling All WEBES Tools . . . . .	5-11
5.7.2 Using the rpm Utility . . . . .	5-11

**6 Installing on OpenVMS 6-1**

6.1 Pre-Installation . . . . .	6-2
6.1.1 WEBES Common System Requirements . . . . .	6-2
6.1.2 SEA System Requirements . . . . .	6-6
6.1.3 CCAT System Requirements . . . . .	6-8

## Contents

6.1.4 RCM Transition . . . . .	6-8
6.1.5 Privileges . . . . .	6-9
6.1.6 Archiving and Cleaning the Error Log . . . . .	6-9
6.1.7 Verifying the Serial Number . . . . .	6-10
6.1.8 Cluster Node Access to Install Directory . . . . .	6-11
6.1.9 Shared Non-System Disk Installations . . . . .	6-12
6.1.10 Extracting the Installation Kit . . . . .	6-13
6.2 Installing WEBES . . . . .	6-14
6.2.1 Installing SEA . . . . .	6-16
6.2.2 Installing CCAT . . . . .	6-17
6.2.3 Finishing the WEBES Installation . . . . .	6-17
6.3 Post-Installation . . . . .	6-17
6.3.1 Adding a Node to a Cluster . . . . .	6-18
6.3.2 Correcting Node Data in Clusters . . . . .	6-18
6.3.3 Configuration Options . . . . .	6-20
6.3.4 Determining Which Tools are Installed . . . . .	6-21
6.3.5 Determining Which Versions are Installed . . . . .	6-22
6.3.6 Storing User Files . . . . .	6-23
6.3.7 Timestamp Adjustments . . . . .	6-24
6.3.8 Alternate Boot Start and Stop Methods . . . . .	6-24
6.4 Upgrading WEBES . . . . .	6-27
6.5 Uninstalling WEBES . . . . .	6-28
6.5.1 Removing a Tool . . . . .	6-28
6.5.2 Removing all of WEBES . . . . .	6-28
6.5.3 Clusters . . . . .	6-29

## Glossary

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## List of Figures

2-1 Adding Domain Admins. . . . .	2-7
2-2 Sample WEBES Tool Selection . . . . .	2-10
2-3 Adding a WEBES Tool. . . . .	2-12
2-4 Removing a WEBES Tool . . . . .	2-16
6-1 Shared Non-System Disk Installation. . . . .	6-13



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## List of Tables

2-1	Windows Browser Requirements . . . . .	2-4
2-2	WEBES Information Required During Installation . . . . .	2-10
2-3	Determining WEBES and Tool Versions . . . . .	2-13
3-1	Tru64 UNIX Browser Requirements . . . . .	3-4
3-2	Customer Information Required for Initial Configuration . . . . .	3-11
3-3	System Information Required for Initial Configuration . . . . .	3-12
3-4	Service Obligation Information Required for Initial Configuration . . . . .	3-13
3-5	Configuration Options . . . . .	3-14
3-6	Determining WEBES and Tool Versions . . . . .	3-16
4-1	HP-UX Browser Requirements . . . . .	4-3
4-2	Customer Information Required for Initial Configuration . . . . .	4-6
4-3	System Information Required for Initial Configuration . . . . .	4-7
4-4	Service Obligation Information Required for Initial Configuration . . . . .	4-7
4-5	Configuration Options . . . . .	4-8
4-6	Determining WEBES and Tool Versions . . . . .	4-10
5-1	Linux Browser Requirements . . . . .	5-3
5-2	Customer Information Required for Initial Configuration . . . . .	5-6
5-3	System Information Required for Initial Configuration . . . . .	5-6
5-4	Service Obligation Information Required for Initial Configuration . . . . .	5-7
5-5	Configuration Options . . . . .	5-8
5-6	Determining WEBES and Tool Versions . . . . .	5-10
6-1	OpenVMS Browser Requirements . . . . .	6-6
6-2	WEBES Information Required During Installation . . . . .	6-15
6-3	Service Obligation Information Required for WEBES . . . . .	6-16
6-4	PRS Customer Service Gateway Information Required for SEA . . . . .	6-16
6-5	Configuration Options . . . . .	6-20
6-6	Determining WEBES and Tool Versions . . . . .	6-23



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## General Information

*This chapter provides an overview of the WEBES suite of tools and this document. Detailed instructions for installing WEBES on each supported operating system are provided in subsequent chapters.*

What is WEBES? .....	page 1-2
Supported Hardware .....	page 1-3
Supported Operating Systems.....	page 1-3
Installation Kits.....	page 1-3
Upgrades .....	page 1-4
This Document .....	page 1-4
Further Information.....	page 1-4

## General Information

### 1.1 What is WEBES?

## 1.1 What is WEBES?

Web-Based Enterprise Services ([WEBES](#)) is a suite of applications developed within HP for system diagnosis of computing platforms and on a variety of connected equipment, such as storage arrays.

### 1.1.1 The Tools

WEBES consists of a master installation kit that allows you to install any or all of the following components:

- System Event Analyzer ([SEA](#))—for remote system event monitoring
- Computer Crash Analysis Tool ([CCAT](#))—for remote operating system failure analysis

### 1.1.2 WEBES Common Components

The WEBES common components (WCC) are required 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 and are almost always transparent to the user.

### 1.1.3 The WCCProxy

Like the WCC, the WCCProxy is another required part of WEBES. After WEBES installation, the WCCProxy appears as a separately installed kit and represents WEBES functionality not developed in the Java™ environment.

The WCCProxy contains functions that allow WEBES to interact properly with the operating system and with HP Instant Support Enterprise Edition (ISEE). The ISEE Client kit also includes a copy of the WCCProxy. Here are a few additional guidelines regarding the WCCProxy:

- WEBES and the ISEE Client need the WCCProxy, so avoid uninstalling just the WCCProxy if you have WEBES or the ISEE Client installed.
- If you install either product, and the other is not installed, it will install its WCCProxy.
- If you install either product, and the other is already installed, it will leave the WCCProxy alone unless its WCCProxy is newer, in which case it will replace the WCCProxy (which will still work with the other product).
- Uninstalling WEBES or ISEE will leave the WCCProxy installed if the other product is still installed.
- Uninstalling WEBES or ISEE will uninstall the WCCProxy if the other product is not installed.

## 1.2 Supported Hardware

WEBES can be installed on the following hardware platforms. Do not confuse the supported hardware with the products that SEA can analyze, listed in the *WEBES Release Notes*.

- 32-bit Intel® based systems manufactured by HP, such as the ProLiant or the HP OpenView Storage Management Appliance

Note that WEBES usually will operate on any industry standard, 32-bit Intel-based system. However, because HP does not qualify WEBES on third-party products, functionality on such systems is provided on an as-is basis only.

- HP AlphaServer systems
- HP 9000 series systems

See the specific operating system chapters for more information about platforms.

## 1.3 Supported Operating Systems

WEBES supports systems running the following operating systems:

- Windows 2000, Windows 2003 and XP
- HP Tru64 UNIX versions 4.0F, 4.0G, 5.1A or higher
- HP OpenVMS Alpha versions 7.2–2 or higher

### Note

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You can install and run WEBES on HP-UX and Linux, but currently it does not analyze *native* error logs for events occurring on those platforms.

You can, however, copy an error log from another system (Windows, Tru64 UNIX, or OpenVMS) to an HP-UX or Linux system for manual analysis there.

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- HP-UX version 11.0 or higher
- Red Hat Linux versions 7.3 and 8.0

## 1.4 Installation Kits

The WEBES master installation program installs the WEBES common components (**WCC**) and any or all of the two component tools: SEA and CCAT. For proper WEBES installation, always run the master kit program as described in this manual, even if you only want to install one component tool.

## General Information

### 1.5 Upgrades

Kits for WEBES are available at the HP Service Tools website:  
<http://h18000.www1.hp.com/support/svctools/>

Users within the HP network can go to the URL:  
[http://searay-cxo.cxo.cpqcorp.net/service\\_tools/webes/](http://searay-cxo.cxo.cpqcorp.net/service_tools/webes/)

### 1.5 Upgrades

Upgrades can incorporate anything from a major WEBES release down to a minor kit with only rule updates or small functional improvements. Upgrades install without first uninstalling WEBES yourself. Be sure to check the websites for the latest upgrades to your WEBES version.

Upgrades for WEBES are available at the HP Service Tools website:  
<http://h18000.www1.hp.com/support/svctools/>

Users within the HP network can go to the URL:  
[http://searay-cxo.cxo.cpqcorp.net/service\\_tools/webes/](http://searay-cxo.cxo.cpqcorp.net/service_tools/webes/)

### 1.6 This Document

The *Installation Guide* is divided into the following sections:

- [General Information](#)
- [Installing on Windows](#)
- [Installing on Tru64 UNIX](#)
- [Installing on HP-UX](#)
- [Installing on Linux](#)
- [Installing on OpenVMS](#)
- [Glossary](#)

### 1.7 Further Information

For additional information following the formal release of WEBES, see the following:

The HP Service Tools website:  
<http://h18000.www1.hp.com/support/svctools/>

Users within the HP network can go to the URL:  
[http://searay-cxo.cxo.cpqcorp.net/service\\_tools/webes/](http://searay-cxo.cxo.cpqcorp.net/service_tools/webes/)

For additional documentation, see these related publications:

## General Information

### 1.7 Further Information

- *WEBES Release Notes*
- *SEA User Guide*
- *Computer Crash Analysis Tool User Guide*



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## Installing on Windows

*This chapter describes how to install the WEBES suite of tools on Windows 2000, Windows 2003 and XP. Note that this also includes the HP OpenView Storage Management Appliance.*

Pre-Installation .....	page 2-2
Installing WEBES .....	page 2-9
Post-Installation .....	page 2-11
Upgrading WEBES .....	page 2-14
Uninstalling WEBES .....	page 2-15

## Installing on Windows

### 2.1 Pre-Installation

## 2.1 Pre-Installation

Follow these pre-installation guidelines. Depending on which WEBES components you wish to install, ensure that your system meets the requirements described in the appropriate sections:

- [2.1.1 WEBES Common System Requirements](#)
- [2.1.2 SEA System Requirements](#)
- [2.1.3 CCAT System Requirements](#)

Also, see the following additional pre-installation guidelines:

- [2.1.4 RCM Transition](#)
- [2.1.5 Permissions](#)
- [2.1.6 Archiving and Cleaning the Error Log](#)
- [2.1.7 Installing on Terminal Servers](#)
- [2.1.8 Installing on a Storage Management Appliance](#)

### 2.1.1 WEBES Common System Requirements

The system must meet the following basic requirements before you install WEBES:

- Processor architecture—HP 32-bit Intel® based systems

*Non-HP Systems:* WEBES is a proprietary service tool and is not a fully qualified off-the-shelf product such as Norton SystemWorks. As such, only platforms manufactured by HP, such as the ProLiant, are officially supported.

Engineering normally expects that WEBES will operate correctly on any industry standard, 32-bit Intel-based system. However, because HP does not qualify WEBES on third-party products, functionality on such systems is provided on an as-is basis only.

- Operating system—Windows 2000, Windows 2003 or XP
- Service Packs—HP supports the two most recent SPs for Windows 2000, Windows 2003 or XP
- Disk space—A total of 353 MB must be available at install time, as follows:
  - 64 MB in a local directory to store the kit itself
  - 64 MB in the %TEMP% directory (typically %SystemDrive%\Documents and Settings\{username}\Local Settings\Temp, where %SystemDrive% is C: by default). These files are removed after installation completes.
  - 125 MB on the drive where the Windows operating system is installed (%SystemDrive%, typically C: by default)
  - 100 MB on the drive where you will install WEBES (%SystemDrive%\Program Files\HP\svctools by default)

## Installing on Windows

### 2.1 Pre-Installation

A total of 289 MB are used after installation completes, assuming all components are installed.

- Local kit copy required—Copy the WEBES kit to a local drive. The installation results in an error when mapping a drive letter to another system where the kit resides, for example:

```
Internal Error 2755. 3,  
F:\path to\WEBESV431BL322KIT2_Jan-28-2004_Windows.MSI
```

- Virtual memory—400 MB of virtual memory is recommended.

During standard operation, SEA uses far less memory. For example, when the Director is idle, usage stays generally around 13 MB for systems with all the WEBES tools installed.

The Director only approaches the maximum value when a high volume of events arrive or an extremely large log file is processed. Even then, the memory usage may remain significantly below the maximum value. The virtual memory requirement is intended to set a threshold for the absolute maximum amount of memory that will ever be needed. If the threshold is exceeded, the Director terminates with out-of-memory error.

Virtual memory for a process is stored in RAM and the pagefile on your disk. The space allocated must be sufficient to run WEBES and all other applications that you want to run simultaneously.

If the virtual memory requirement given here is too large or too small for your environment, you are free to make adjustments. You may want to experiment with various settings to find the optimal value. Refer to the *SEA User Guide* for more information on adjusting the memory settings.

- TCP/IP services must be installed and running.
- Java Virtual Machine—On Windows XP, Microsoft no longer supplies a Java VM. You must download and install a Sun JRE instead: <http://java.sun.com/getjava>
- Windows Installer 2.0 or higher is required.

You can check the Windows Installer version by entering **msiexec** at the command prompt. (Ignore the message about incorrect command line parameters.) To upgrade, Windows Installer 2.0 can be downloaded free of charge from the following URL: <http://www.microsoft.com/downloads/release.asp?releaseid=32832>

Note that Windows Installer 2.0 is bundled with Windows XP and Windows 2000 SP3.

- Automated Notification—If desired, you can choose a method for sending automatic problem reports to your service provider:
  - SICL—DSNLink V2.2 and a fixed IP address are required for sending System Initiated Call Logging (SICL) automatic problem reports. You must install DSNLink before installing WEBES.

## Installing on Windows

### 2.1 Pre-Installation

- PRS—For Proactive Remote Service (PRS) automatic reports, you do not need DSNLink or WorldWire installed on the system that is running WEBES. You only need to identify the host name and port number of the customer service gateway (also called the QSAP) during WEBES installation.
- ISEE—For Instant Support Enterprise Edition (ISEE) automatic reports, you must install ISEE Client A.03.50 or later on the same machine as WEBES.
- You can upgrade to this version without first uninstalling a previous version yourself (any previous version back to and including version 4.3). This kit recognizes an existing installation, saves configuration and state data, uninstalls the existing kit, installs this version, and then restores the configuration and state data.

To install this version on a system that was running a version older than 4.3, first uninstall the older version using the instructions in the *WEBES Installation Guide* for that version.

### 2.1.2 SEA System Requirements

In addition to the common WEBES prerequisites, your system must meet the following requirements before you install the SEA component:

- Minimum 31 MB free disk space
- Web browser—Table 2–1 describes the browser prerequisites for SEA according to the following categories:
  - Supported—fully tested
  - As-is—not officially tested but may work reasonably well
  - Unsupported—known not to work

Table 2–1 Windows Browser Requirements

Category	Browser
Supported	Internet Explorer 6.0 Netscape 7.x Mozilla 1.3 or later
As-is	Internet Explorer 5.5 Mozilla earlier than 1.3
Unsupported	Internet Explorer earlier than 5.5 Netscape earlier than 7.0

Web browsers can use different Java runtime environments, but the SEA web interface requires certain versions of Java for each web browser.

- Internet Explorer—Either the Microsoft Java VM version 1.1.4, or a Sun JRE version 1.2 or higher.  
Internet Explorer on Windows 2000 includes its own Java VM 1.1.4, but no Java is included in Internet Explorer on Windows XP, and Microsoft no longer supplies a Java VM. You must download and install a Sun JRE instead.
- Netscape—Either the Netscape Java VM which is always included with Netscape, or a Sun JRE version 1.2 or higher.
- Mozilla—Sun JRE version 1.3.1 or higher.  
Mozilla does not include any Java VM. You must download and install a Sun JRE. You can check the version by selecting Tools | Web Development | Java Console. The Java version is given on the first line of the Java Console window.

Sun Java is available at:  
<http://java.sun.com/getjava>

Install any desired web browsers before installing the Sun JRE. The JRE installation then finds and updates installed web browsers so that they use the Sun JRE.

- Error log—After installation, SEA begins analyzing all events currently stored in the error log, which can result in high CPU usage over an extended period. To control this operation, you have two options:
  - Archive and clean the error log as described in Section 2.1.6 before installing. This reduces the size of the log and, in turn, the cost of the initial scan.
  - Choose to delay the initial scan when prompted during installation. Be aware that SEA automatic analysis does not run until after (and starting with) the initial scan, however.
- On Internet Explorer, make sure that HTTP 1.1 settings are enabled. Choose Tools | Internet Options | Advanced from the pull-down menus. Check both of the following under HTTP 1.1 Settings:
  - Use HTTP 1.1
  - Use HTTP 1.1 through proxy connection

### 2.1.3 CCAT System Requirements

In addition to the common WEBES prerequisites, your system must meet the following requirements before you install the CCAT component:

- Minimum 3 MB free disk space
- Virtual memory—To create a crash dump file, you need a sufficiently large pagefile on your system disk to allow for a dump of your system's RAM memory plus 12 MB, and you need to allow enough disk space to create a memory dump file if the system crashes.
- The appropriate HP CADC kit must be installed if you wish to run CCAT to perform local analysis. Use the appropriate CADC-NT kit for your Service Pak level.

## Installing on Windows

### 2.1 Pre-Installation

- The CADC installation requires a temporary space of up to 530 MB of hard disk space. This large size is due to the expansion of the symbols required to do crash dump analysis. The following breakdown shows how the disk space is used:
  - Up to 4 MB required on the system disk for program files
  - Up to 175 MB can be required for symbols. This can be on any disk you choose, but it is normally on the system disk.
  - Up to 350 MB of temporary storage. This is for the downloaded, compressed file and the expansion of this file. This can be on any disk you choose. This space is recoverable once the install is complete by deleting the install files and the compressed file.

#### 2.1.4 RCM Transition

RCM is no longer a WEBES component as of version 4.2. Be aware of the following installation considerations if you are using RCM at WEBES install time:

- RCM component of WEBES—You must uninstall all of the WEBES version that contained RCM before installing this version, and doing so removes the RCM tool.

You are free to install a standalone RCM kit at any time after removing the old version of WEBES. This version of WEBES does not contain RCM, but the latest RCM kits and documentation may be downloaded from <http://www.support.compaq.com/svctools/rcm>.

- Standalone RCM—Standalone versions of RCM are not affected by installing or upgrading to this version of WEBES.

#### 2.1.5 Permissions

In order to install, remove, or update WEBES your user ID must be one of the following:

- A member of the Administrators group on the machine
- A member of a group that is a member of the Administrators group on the machine. For example, if your user ID is a Domain Admin, and you have added Domain Admins to the Administrators group on the local machine, then you have the necessary permissions.

To add Domain Administrators to the local Administrator Group, use the procedure for your operating system.

**Windows 2000:** From a login account with administrator privileges, locate the user management function under My Computer | Manage | Computer Management (Local) | System Tools | Local Users and Groups | Groups. Double click the Administrators Group, and press the Add button. Highlight Domain Admins and press Add.

**Windows XP:** From a login account with administrator privileges, locate the user management function under Start | Control Panel | User Accounts. Choose the Advanced tab, and press the Advanced button. Choose Local Users and Groups | Groups. Double click the Administrators Group, and press the Add button. Type “Domain Admins” and press OK (see Figure 2–1).

Figure 2–1 Adding Domain Admins



## 2.1.6 Archiving and Cleaning the Error Log

(Required only when installing the SEA component)

Follow these steps to archive and clean the error log. If WEBES is installed and running when you clean the log, stop the Director process before proceeding (see the *SEA User Guide* for information on stopping the Director). Also, do not stop and restart any Windows system processes.

1. Open the event viewer.

Windows 2000—Start | Programs | Administrative Tools | Event Viewer

Windows XP—Start | Control Panel | Performance and Maintenance | Administrative Tools | Event Viewer

2. For events analyzed by SEA, go to the Application Log. SEA does not process events from any other Windows event log.

Windows 2000—Click on Application Log in the left pane of the event viewer window.

Windows XP—Click on Application Log in the left pane of the event viewer window.

3. Clear all events. Note that you are given the option to save the existing events to another file before clearing. (Saved logs can be analyzed at a later time.)

Windows 2000—Choose Action | Clear all Events.

Windows XP—Choose Action | Clear all Events.

4. Close the event viewer.

## Installing on Windows

### 2.1 Pre-Installation

If WEBES was installed when you cleaned the log and you stopped the Director, you can now restart it using the procedure described in the *SEA User Guide*.

#### 2.1.7 Installing on Terminal Servers

Terminal Server WEBES installation guidelines apply to these operating systems:

- Windows 2000 Server and Advanced Server, when Terminal Services are enabled
- Windows XP when Remote Desktop connections are enabled

**From Console**—Terminal Server system installations should be performed from the Terminal Server console by an administrator (either the Administrator account or any account in the Administrators group).

For the best results, make sure that no clients are logged on to the server during WEBES installation. You can send clients a message about the time and duration of the installation and then disable all connections before starting.

Otherwise, the process for installing is the same as any other Windows WEBES installation.

**From Client**—Install from a Terminal Services client (renamed to Remote Desktop in Windows XP) as follows:

1. Log on to the Terminal server as an administrator and close all applications.
2. Copy the WEBES kit to a local drive on the Terminal server.
3. Install the program on a local NTFS formatted drive as with any other Windows WEBES installation.
4. On the Terminal server, open and close the system PATH environment variable. Opening and closing sets the PATH so that commands such as `desta` or `wsea` can work without specifying the full `\svctools\common\bin` path to the command.

Open Start | Settings | Control Panel | System. Click the Advanced tab. In Environment Variables, open the PATH entry (under System Variables) for editing.

Do not make any changes; just click OK several times to get out of the System utility. The PATH is now set for any command prompt windows opened after performing this workaround.

#### 2.1.8 Installing on a Storage Management Appliance

For purposes of WEBES, the HP OpenView Storage Management Appliance (SMA) is considered a Windows 2000 system. However, the SMA is a “headless” server, meaning it is designed to be configured and allowed to run with minimal direct user interaction—without a physical monitor, keyboard, or mouse attached.

You can connect to the Windows 2000 desktop on the SMA using two methods:

- By directly connecting a monitor, keyboard, and mouse
- By running the Microsoft Terminal Services client (renamed to Remote Desktop in Windows XP)

Every SMA is preconfigured to accept Terminal Services client connections because the Terminal Services server is preinstalled. Users who do not already have a copy of the Terminal Services client can download it from the following URL:

<http://www.microsoft.com/windows2000/downloads/recommended/TSAC/tsmsi.asp?Lang>

See Section 2.1.7, [Installing on Terminal Servers](#), for more information.

Desktop connections also require the account username and password for the SMA. The factory-set defaults are username **administrator** and password **admin#####**, where ##### is the last six characters of the serial number in reverse order. The password is case sensitive, and you are advised to change it (if you have not already done so) for better system security.

## 2.2 Installing WEBES

(The procedures in this section apply when WEBES is already uninstalled or was never installed at all. If you are upgrading to this version of WEBES with 4.3 or higher already installed, see Section 2.4, [Upgrading WEBES](#). Upgrading lets you preserve your configuration and state data.)

After all [Pre-Installation](#) requirements are met, follow these steps to install WEBES.

1. If you have not already done so, log on using an account with administrator privileges.
2. Locate and run the WEBES kit executable file, which ends in the .MSI extension.
3. Follow the instructions on screen.

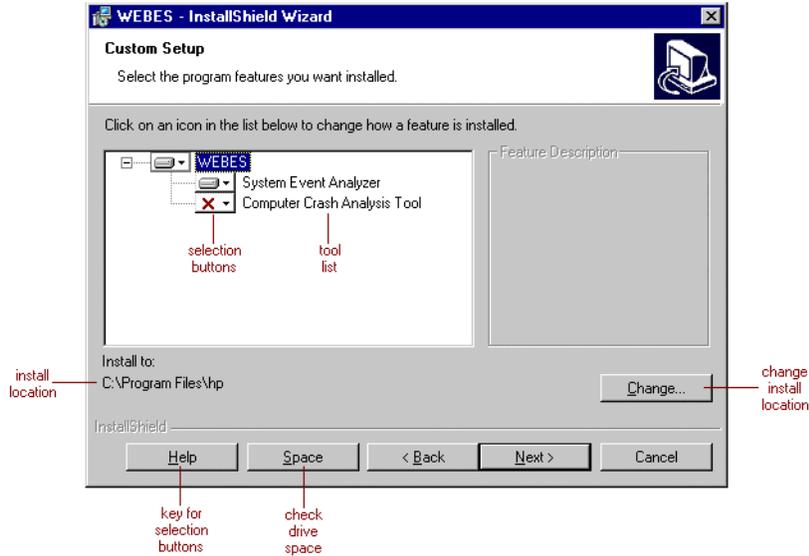
**Upgrading**—If WEBES 4.3 or higher is present, the kit informs you that the other version was detected and prompts you about upgrading. See Section 2.4 [Upgrading WEBES](#) for details.

**Tool Selection**—The install kit lets you select the WEBES tools that you want to install (see Figure 2-2).

# Installing on Windows

## 2.2 Installing WEBES

Figure 2–2 Sample WEBES Tool Selection



**Configuration Wizard**—The install kit launches a browser-based configuration wizard that asks for data needed by WEBES. The wizard asks some or all of the questions in Table 2–2, depending on what tools you selected.

Table 2–2 WEBES Information Required During Installation

Question	Example	Notes
User name	Chris Green	
User phone	123-456-7890	
User email address	chris.green@xyzcompany.com	
SMTP mail server	mailsys.xyzcompany.com	Enter the server that handles SMTP mail at your site.
SEA notification email	chris.green@xyzcompany.com	SEA messages will be sent to this address.
CCAT notification email	chris.green@xyzcompany.com	CCAT messages will be sent to this address.
Company name	XYZ Company	
Company address	123 Main Street Metropolis, VA 22222	
Primary Contact	Chris Green	
Primary Contact Phone	123-456-7890	
Secondary Contact	Pat Brown	
System serial number	A01234567890	

**Table 2–2 WEBES Information Required During Installation (continued)**

Question	Example	Notes
System name (or IP address)	mgdsys.abc.xyzcompany.com	You also must note whether the address is fixed or assigned by a DHCP server.
System type	EVA5000	
Special instructions	“Check with customer prior to dispatching services. Prior notification to security is necessary for service access to site.”	Add details that will be useful to your service provider.
Customer Service Gateway	(Yes / No)	Do you want WEBES to send problem report notifications to a PRS customer service gateway?
Service provider name	Hewlett-Packard	
Service obligation number	A01234567890	The default is usually the system serial number.
Service obligation start date	20-Feb-2002	The default is usually the current date.

**Delaying the Initial SEA Scan**—Immediately after installation, SEA normally scans all events currently stored in the error log. For a very full log, this initial scan can result in high CPU usage over an extended period. You can choose to delay the initial scan when prompted, but SEA automatic analysis does not run until after (and starting with) the initial scan. Note that events that happen during the delay are saved in the log for analysis at initial scan time.

## 2.3 Post-Installation

Be aware of the following post-installation procedures.

- [2.3.1 Adding a Tool](#)
- [2.3.2 Determining Which Tools are Installed](#)
- [2.3.3 Determining Which Versions are Installed](#)
- [2.3.4 Storing User Files](#)
- [2.3.5 Disabling EVA SNMP Trap Notifications](#)

### 2.3.1 Adding a Tool

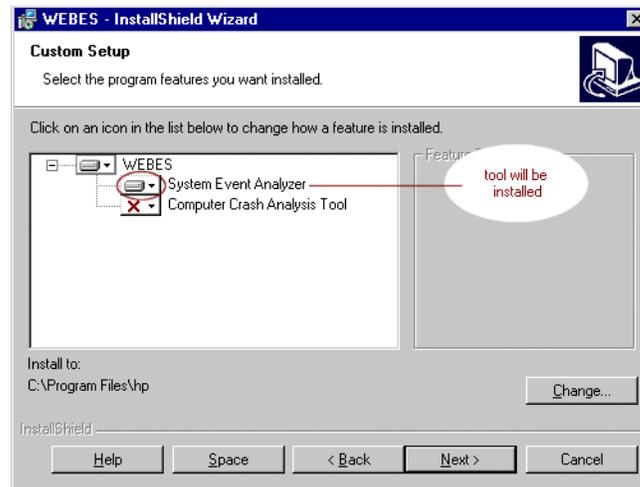
Follow these steps to add a WEBES tool after initial installation:

## Installing on Windows

### 2.3 Post-Installation

1. If you have not already done so, log on using an account with administrator privileges.
2. Locate and run the WEBES kit file, which ends in the .MSI extension.
3. When prompted, choose the Modify option.
4. Change the selection button next to the tools that you want to add as shown in Figure 2–3.

Figure 2–3 Adding a WEBES Tool



5. Follow the prompts to proceed with installation. See Table 2–2 if you need help with installation questions.

### 2.3.2 Determining Which Tools are Installed

On any system that you are unsure about, you can determine what parts of WEBES are installed using the following procedure:

1. Start the Windows utility for adding and removing programs:

2000: Start | Settings | Control Panel | Add/Remove Programs

XP: Start | Control Panel | Add or Remove Programs

2. When installed, WEBES creates two entries:

HP WEBES 4.3.4

WCCProxy

WCCProxy is included with and required by WEBES. Never uninstall WCCProxy when the HP WEBES entry is present.

3. To determine which WEBES tools are installed, highlight the HP WEBES entry.
4. Press the Change/Remove button to run the setup wizard.

5. When prompted, choose the Modify option.
6. Look at the Custom Setup window to see which tools are installed.
7. Click the Cancel button to close the wizard without making any changes.

### 2.3.3 Determining Which Versions are Installed

To determine what versions of WEBES and its component tools are installed, open and read the text files shown in Table 2–3.

Table 2–3 Determining WEBES and Tool Versions

Tool	File for Version Information
WEBES Overall Kit	{WEBES install directory}\common\webes\release.txt
WEBES Common Components (WCC)	{WEBES install directory}\common\desta\release.txt
WCCProxy	{WEBES install directory}\common\wccproxy\release.txt
SEA	{WEBES install directory}\common\ca\release.txt
CCAT	{WEBES install directory}\common\ccat\release.txt

The default {WEBES install directory} is C:\Program Files\hp\svctools. If this is not where WEBES was installed, look for the path and file **common\webes\release.txt** on your system. The svctools directory containing this path is the {WEBES install directory}.

The files list the component versions for the release. Generally, they match the overall WEBES version number. The files in Table 2–3 also may reveal a “build” number, but those are not necessarily intended to match across components.

### 2.3.4 Storing User Files

WEBES includes “userdata” subdirectories under the WEBES svctools directory tree as follows:

```
svctools\common\ca\userdata
svctools\common\ccat\userdata
svctools\common\desta\userdata
svctools\common\webes\userdata

svctools\specific\ca\userdata
svctools\specific\ccat\userdata
svctools\specific\desta\userdata
svctools\specific\webes\userdata
```

## Installing on Windows

### 2.4 Upgrading WEBES

When using WEBES, store your own files (such as binary event logs or CCAT crash dump files) under these subdirectories.

- Storing files under the userdata subdirectories makes them easily accessible in the WEBES user interfaces. For example, SEA automatically lists any binary event logs from the ca\userdata subdirectories under Other Logs.
- In WEBES 4.1 or later, files stored under the userdata subdirectories are preserved and restored during WEBES uninstallations and reinstallations. The files will be restored to right places the next time you install WEBES, even if you install it to a different location than before.

#### 2.3.5 Disabling EVA SNMP Trap Notifications

This section applies when installing WEBES on the Storage Management Appliance, when Proactive Remote Service (PRS) or Open Service Event Manager (OSEM) reporting is running.

SEA version 4.2 or higher can lead to duplicate PRS or OSEM problem reports from the Enterprise Virtual Array (EVA).

The traditional EVA reporting method uses SNMP traps to the PRS customer service gateway or OSEM host. Starting with WEBES 4.2, SEA detects the same events by reading the application event log on the Storage Management Appliance. Because SEA also notifies the PRS customer service gateway or OSEM host, problem report recipients see duplicate reports for each event: those originating from the SNMP traps, and those from the event log.

To prevent the duplicate reports, disable the traditional SNMP trap notifications as follows:

1. Unzip the disableCRSM\_EVARules.zip file distributed with WEBES to a directory of your choice on the PRS customer service gateway or OSEM host.
2. Run the disableRules.bat file.

The batch file copies a DisabledFilters.txt file to the root of the CRSM directory, which disables the SNMP trap notifications.

## 2.4 Upgrading WEBES

### Note

---

Before upgrading WEBES, reinitialize the system error log as described in Section 2.1.6, [Archiving and Cleaning the Error Log](#).

---

This section applies when upgrading to this version of WEBES with 4.3.2 or higher already installed on the system. The procedure does not apply with versions older than 4.3.2 already installed.

If WEBES is already uninstalled or was never installed at all, see Section 2.2, [Installing WEBES](#).

Upgrading lets you preserve your configuration and state data. Be aware that upgrading uninstalls the other version of WEBES and installs the newer version—the upgrade does not simply patch or replace certain files, as was the case with WEBES Service Paks.

Whenever 4.3.2 or higher is already installed, the WEBES kit informs you that the other version was detected and prompts you about upgrading.

If you answer Yes, the kit does the following:

1. Saves configuration and state data to *x:\Webes41Backup*, where *x* is the drive where Windows (not necessarily WEBES) was installed.
2. Uninstalls the existing installation.
3. Installs this version and the same components (SEA or CCAT) that were present before.
4. Recovers the saved data.
5. Deletes the *Webes41Backup* directory and all of its contents.

If you answer No, the kit exits. If desired, you can uninstall the existing WEBES copy yourself, but then not all data will be migrated upon installing the newer version as described in Section 2.2, [Installing WEBES](#).

## 2.5 Uninstalling WEBES

The WEBES setup lets you uninstall via the Windows applet for adding and removing programs.

### 2.5.1 Uninstalling Individual WEBES Tools

To uninstall an individual WEBES tool, follow these steps:

1. If you have not already done so, log on using an account with administrator privileges.
2. Completely close the tool if it is running.
3. In the Windows applet for adding and removing programs, highlight HP WEBES.

2000: Start | Settings | Control Panel | Add/Remove Programs  
XP: Start | Control Panel | Add or Remove Programs

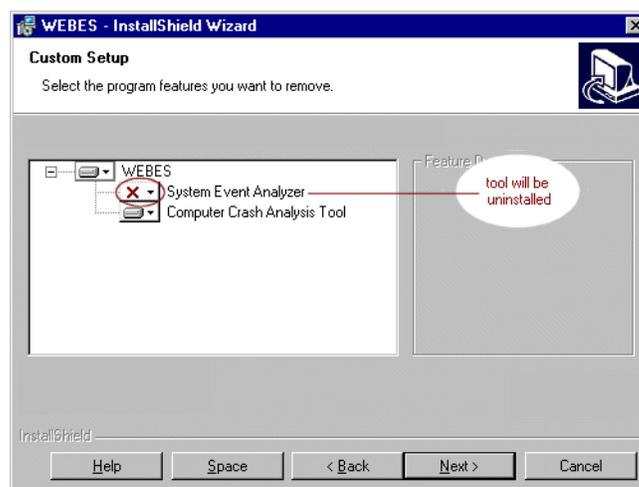
4. Press the Change/Remove button to run the setup wizard.
5. When prompted, choose the Modify option.

## Installing on Windows

### 2.5 Uninstalling WEBES

6. Change the selection button next to the tools that you want to remove as shown in Figure 2–3.

Figure 2–4 Removing a WEBES Tool



7. Follow the prompts to proceed with uninstallation.

### 2.5.2 Uninstalling All WEBES Tools

To uninstall all WEBES tools, follow these steps:

1. If you have not already done so, log on using an account with administrator privileges.
2. Completely close all tools that are running.
3. In the Windows applet for adding and removing programs, highlight HP WEBES.

2000: Start | Settings | Control Panel | Add/Remove Programs  
XP: Start | Control Panel | Add or Remove Programs

4. Press the Change/Remove button to run the setup wizard.
5. When prompted, choose the Remove option.
6. Follow the prompts to proceed with uninstallation.

### 2.5.3 Uninstalling on Terminal Servers

Terminal Server WEBES uninstallation guidelines apply to these operating systems:

- Windows 2000 Server and Advanced Server, when Terminal Services are enabled
- Windows XP when Remote Desktop connections are enabled

**From Console**—Terminal Server system uninstallations should be performed from the Terminal Server console by an administrator (either the Administrator account or any account in the Administrators group).

For the best results, make sure that no clients are logged on to the server during WEBES uninstallation. You can send clients a message about the time and duration of the uninstallation and then disable all connections before starting.

Otherwise, the process for uninstalling is the same as any other Windows WEBES uninstallation.

**From Client**—Uninstall from a Terminal Services client as follows:

1. Log on to the Terminal server as an administrator and close all applications.
2. Uninstall the program as with any other Windows WEBES uninstallation.

#### 2.5.4 Uninstalling on a Storage Management Appliance

For purposes of WEBES, the HP OpenView Storage Management Appliance (SMA) is considered a Windows 2000 system. However, the SMA is a “headless” server, meaning it is designed to be configured and allowed to run with minimal direct user interaction—without a physical monitor, keyboard, or mouse attached.

You can connect to the Windows 2000 desktop on the SMA using two methods:

- By directly connecting a monitor, keyboard, and mouse
- By running the Microsoft Terminal Services client (renamed to Remote Desktop in Windows XP)

Every SMA is preconfigured to accept Terminal Services client connections because the Terminal Services server is preinstalled. Users who do not already have a copy of the Terminal Services client can download it from the following URL:

<http://www.microsoft.com/windows2000/downloads/recommended/TSAC/tsmsi.asp?Lang>

See Section 2.5.3, [Uninstalling on Terminal Servers](#), for more information.

Desktop connections also require the account username and password for the SMA. The factory-set defaults are username **administrator** and password **admin#####**, where ##### is the last six characters of the serial number in reverse order. The password is case sensitive, and you are advised to change it (if you have not already done so) for better system security.



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## Installing on Tru64 UNIX

*This chapter describes how to install the WEBES tools on an HP Tru64 UNIX system. The information in this chapter is organized as follows:*

Pre-Installation .....	page 3-2
Installing WEBES .....	page 3-9
SEA Installation Notes .....	page 3-14
CCAT Installation Notes .....	page 3-15
Post-Installation .....	page 3-15
Upgrading WEBES .....	page 3-18
Uninstalling WEBES .....	page 3-19

## Installing on Tru64 UNIX

### 3.1 Pre-Installation

## 3.1 Pre-Installation

Follow these pre-installation guidelines. Depending on which WEBES components you wish to install, ensure that your system meets the requirements described in the appropriate sections:

- [3.1.1 WEBES Common System Requirements](#)
- [3.1.2 SEA System Requirements](#)
- [3.1.3 CCAT System Requirements](#)

Also, see the following additional pre-installation guidelines:

- [3.1.4 RCM Transition](#)
- [3.1.5 Permissions](#)
- [3.1.6 Archiving and Cleaning the Error Log](#)
- [3.1.7 Verifying the Serial Number](#)
- [3.1.8 Extracting the Installation Kit](#)

### 3.1.1 WEBES Common System Requirements

The system must meet the following basic requirements before you install WEBES. In clusters, minimum requirements apply to each node in the cluster:

- Processor architecture—HP AlphaServer
- Operating system—Tru64 UNIX version 4.0F, 4.0G, 5.1A or higher

Be aware that HP Sustaining Engineering maintains a schedule of support for the Tru64 UNIX operating system. HP does not commit to supporting WEBES when installed on an operating system version that has exceeded its end-of-support date. See the following URL: [http://www.hp.com/hps/os/os\\_pvs\\_amap.html](http://www.hp.com/hps/os/os_pvs_amap.html).

- Minimum 61 MB free disk space for installation of all components
- Virtual memory—800 MB of virtual memory is recommended.

During standard operation, SEA uses far less memory. For example, when the Director is idle, usage stays generally around 24MB for systems with all the WEBES tools installed.

The Director only approaches the maximum value when a high volume of events arrive or an extremely large log file is processed. Even then, the memory usage may remain significantly below the maximum value. The virtual memory requirement is intended to set a threshold for the absolute maximum amount of memory that will ever be needed. If the threshold is exceeded, the Director terminates with out-of-memory error.

Virtual memory for a process is stored in RAM and the swap partitions on your disk. The space allocated must be sufficient to run WEBES and all other applications that you want to run simultaneously.

If the virtual memory requirement given here is too large or too small for your environment, you are free to make adjustments. You may want to experiment with various settings to find the optimal value. Refer to the *SEA User Guide* for more information on adjusting the memory settings.

- TCP/IP services must be installed and running.
- Upgrade to V1.22 or higher of the Emulex (EMX) driver if you have an EMX LP6000, LP7000, or LP8000 adapter (KGPSA-xx) using the SLI2 programming interface. Use of an EMX driver prior to V1.22 may result in data not being processed correctly.
- System firmware—The prerequisite system firmware supports the logging of events according to the FRU Table Version 5 Specification, which is required for WEBES FRU configuration tree processing.
  - All DSxx and ES40 systems must have firmware V5.7-4 or higher.
  - All other systems (currently ES45, GSxx, and TS202c) ship with a firmware version that is already compatible with WEBES processing.

In general, users should take advantage of the latest improvements by obtaining the most recent firmware version available for their platform.

- Automated Notification—If desired, you can choose a method for sending automatic problem reports to your service provider:
  - SICL—DSNLink V2.3E or V3.0 and a fixed IP address are required for sending System Initiated Call Logging (SICL) automatic problem reports. You must install DSNLink before installing WEBES.
  - PRS—For Proactive Remote Service (PRS) automatic reports, you do not need DSNLink or WorldWire installed on the system that is running WEBES. You only need to identify the host name and port number of the customer service gateway (also called the QSAP) during WEBES installation.
  - ISEE—For Instant Support Enterprise Edition (ISEE) automatic reports, you must install ISEE Client A.03.50 or later on the same machine as WEBES.
- You can upgrade to this version without first uninstalling a previous version yourself (any previous version back to and including version 4.3). This kit recognizes an existing installation, saves configuration and state data, uninstalls the existing kit, installs this version, and then restores the configuration and state data.

To install this version on a system that was running a version older than 4.3, first uninstall the older version using the instructions in the *WEBES Installation Guide* for that version.

### 3.1.2 SEA System Requirements

In addition to the common WEBES prerequisites, your system must meet the following requirements before you install the SEA component. In clusters, minimum requirements apply to each node in the cluster:

## Installing on Tru64 UNIX

### 3.1 Pre-Installation

- If you want SEA to automatically analyze a system's native error log, you must install on a supported HP hardware platform or a machine that includes supported HP I/O devices. See the *WEBES Release Notes* for the list of supported products.
- Minimum 32 MB of space in the file system containing the directory to which you install WEBES (/usr/opt/hp/svctools).
- Web browser—Table 3–1 describes the browser prerequisites for SEA according to the following categories:
  - Supported—fully tested
  - As-is—not officially tested but may work reasonably well
  - Unsupported—known not to work

Table 3–1 Tru64 UNIX Browser Requirements

Category	Browser
Supported	Netscape 4.78 or 4.79, Mozilla 1.4 or later
As-is	Netscape earlier than 4.78 Mozilla earlier than 1.4
Unsupported	Netscape 6.x

Web browsers for Tru64 UNIX can be downloaded from the following web site:  
<http://h30097.www3.hp.com/internet/download.htm>  
Not all browsers on the site are supported, so check Table 3–1 first.

Web browsers can use different Java runtime environments, but the SEA web interface requires certain versions of Java for each web browser.

- Netscape—Either the Netscape Java VM which is always included with Netscape, or a Sun JRE version 1.2 or higher.
- Mozilla—Sun JRE version 1.3.1 or higher. Mozilla does not include any Java VM. You must download and install a Sun JRE. You can check the version by selecting Tools | Web Development | Java Console. The Java version is given on the first line of the Java Console window.

Sun Java is available at:  
<http://java.sun.com/getjava>

Install any desired web browsers before installing the Sun JRE. The JRE installation then finds and updates installed web browsers so that they use the Sun JRE.

- Error log—After installation, SEA begins analyzing all events currently stored in the error log, which can result in high CPU usage over an extended period. To control this operation, you have two options:

- Archive and clean the error log as described in Section 3.1.6 before installing. This reduces the size of the log and, in turn, the cost of the initial scan.
  - Choose to delay the initial scan when prompted during installation. Be aware that SEA automatic analysis does not run until after (and starting with) the initial scan, however.
- System serial number—On GS80, GS160, and GS320 systems, verify the serial number according to Section 3.1.7 before installing.

### 3.1.3 CCAT System Requirements

In addition to the common WEBES prerequisites, your system must meet the following requirements before you install the CCAT component. In clusters, minimum requirements apply to each node in the cluster:

- Minimum 3MB free disk space

### 3.1.4 RCM Transition

RCM is no longer a WEBES component as of version 4.2. Be aware of the following installation considerations if you are using RCM at WEBES install time:

- RCM component of WEBES—You must uninstall all of the WEBES version that contained RCM before installing this version, and doing so removes the RCM tool.

You are free to install a standalone RCM kit at any time after removing the old version of WEBES. This version of WEBES does not contain RCM, but the latest RCM kits and documentation may be downloaded from <http://www.support.compaq.com/svctools/rcm>.

- Standalone RCM—Standalone versions of RCM are not affected by installing or upgrading to this version of WEBES.

### 3.1.5 Permissions

To install, upgrade, or uninstall WEBES, you must be logged on as the root user. The /usr/opt/hp/svctools directory is owned by root, and has rwx (read, write, and execute) permissions for root (owner), and no permissions for any other user (group or world).

### 3.1.6 Archiving and Cleaning the Error Log

(Required only when installing the SEA component)

## Installing on Tru64 UNIX

### 3.1 Pre-Installation

Follow these steps to archive and clean the error log, depending on your version of Tru64 UNIX. If WEBES is installed and running when you decide to clean the log, stop the Director process before beginning this procedure (see the *SEA User Guide* for information on stopping the Director). Once you have archived and cleared the error log, restart the Director using the procedure in the *SEA User Guide*.

#### 4.0F

1. Stop the binlogd process:

```
# /sbin/init.d/binlog stop
```

2. If desired, move the original error log to any appropriate name, for example:

```
# mv /var/adm/binary.errlog /var/adm/binary.errlog.2002_06_11
```

Saved logs can be analyzed at a later time.

3. If you skipped step 2, remove the original error log:

```
# rm /var/adm/binary.errlog
```

4. Restart the system. During restart, the system creates a new binary.errlog file containing a new configuration event. The system also restarts the binlogd process.

#### 4.0G

1. Stop the binlogd process:

```
# /sbin/init.d/binlog stop
```

2. If desired, move the original error log to any appropriate name, for example:

```
# mv /var/adm/binary.errlog /var/adm/binary.errlog.2002_06_11
```

Saved logs can be analyzed at a later time.

3. If you skipped step 2, remove the original error log:

```
# rm /var/adm/binary.errlog
```

4. Restart the binlogd process:

```
# /sbin/init.d/binlog start
```

#### 5.1A or Higher

A new feature can send a signal to binlogd to save the current log and create a new one without stopping the process. Follow the steps in [Section 3.1.6.1 Verify the binary.errlog CDSL](#) and then [Section 3.1.6.2 Clear the Log with binlogd Running](#).

### 3.1.6.1 Verify the binary.errlog CDSL

In version 5.1A or higher, the binary error log `/var/adm/binary.errlog` should be a context-dependent symbolic link (CDSL) pointing to a file specific to each cluster node. This ensures that the `binlogd` process on each node stores that node's events to its own node-specific error log `/var/cluster/members/{memb}/adm/binary.errlog`.

If the CDSL is ever deleted, `binlogd` recreates it as a regular, cluster-common file, which does not work correctly. To check your file, issue the command:

```
# ls -l /var/adm/binary.errlog
```

Correct output looks similar to the following:

```
lrwxrwxrwx 1 root adm 43 Jun 11 12:54 /var/adm/binary.errlog ->
../cluster/members/{memb}/adm/binary.errlog
```

Incorrect output does not show the `->` link indicator:

```
-rw-r----- 1 root adm 560 Jun 11 12:59 /var/adm/binary.errlog
```

If necessary, correct the file by performing the following steps:

1. Stop the `binlogd` process on all cluster nodes by issuing the following command on each node:

```
# /sbin/init.d/binlog stop
```

2. Saved logs can be analyzed at a later time. If desired, move the original error log to any appropriate name, for example:

```
# cd /var/adm
# mv binary.errlog binary.errlog.2002_06_11
```

3. Issue similar move commands for any node-specific error logs you wish to save, for example:

```
# mv /var/cluster/members/{memb}/adm/binary.errlog
/var/cluster/members/{memb}/adm/binary.errlog.2002_06_11

# mv /var/cluster/members/{memb}/adm/binlog.saved/binary.errlog.saved
/var/cluster/members/{memb}/adm/binlog.saved/
binary.errlog.saved.2002_06_11
```

4. Remove existing error logs, ignoring any “No such file or directory” errors:

```
# rm /var/adm/binary.errlog
# rm /var/cluster/members/{memb}/adm/binary.errlog
# rm /var/cluster/members/{memb}/adm/binlog.saved/binary.errlog.saved
```

5. Create the CDSL:

```
# mkcdsl /var/adm/binary.errlog
```

## Installing on Tru64 UNIX

### 3.1 Pre-Installation

- Restart the binlogd process on all cluster nodes by issuing the following command on each node:

```
# /sbin/init.d/binlog start
```

#### 3.1.6.2 Clear the Log with binlogd Running

For version 5.1A or higher, follow these steps on each cluster node that you want to clear:

- Verify the `binary.errlog` CDSL (Section 3.1.6.1) as previously described.
- If desired, keep any previously saved copy from being overwritten by moving it to any appropriate name, for example:

```
# cd /var/cluster/members/member/adm/binlog.saved  
# mv binary.errlog.saved binary.errlog.2002_06_11
```

- Cause binlogd to copy and clear the original error log:

```
# kill -USR1 `cat /var/run/binlogd.pid`
```

The previous command does not kill the binlogd process. Instead, it sends a signal to binlogd that causes it to copy `/var/adm/binary.errlog` to `/var/cluster/members/member/adm/binlog.saved`. Then, the original `/var/adm/binary.errlog` file gets recreated with only a configuration event. Note that `/var/adm/binary.errlog` is a CDSL that points to `/var/cluster/members/{memb}/adm/binary.errlog`.

For further details, including how to automate this kind of error log management, see the section on “Managing the Binary Error Log File” in the binlogd man page.

### 3.1.7 Verifying the Serial Number

(Required only for some GS80, GS160, and GS320 systems with SEA component)

Certain GS80, GS160, and GS320 systems did not have their system serial number set correctly at the factory, and SEA rules only function when the serial number is set correctly. Affected serial numbers will begin with the letter “G.”

At the SRM console firmware prompt (the prompt when you first power the system on), check the serial number with the following command:

```
>>> show sys_serial_num
```

The serial number shown should match the actual serial number on the model/serial number tag located in the power cabinet. If necessary, change the serial number with the following command:

```
>>> set sys_serial_num
```

Enter the six-character serial number provided on the tag in the power cabinet.

### Multiple AlphaServers

This issue also can arise when multiple AlphaServers are ordered, because the factory may assign an identical serial number to each system. In this scenario, SEA rules do not work correctly because they require that each AlphaServer have a unique number.

If this is the case, uniquely identify each AlphaServer by appending `-1`, `-2`, `-3`, and so on, to the serial numbers when you use the `set sys_serial_num` command.

### Partitions

Note that multiple partitions on the same AlphaServer always have the same serial number because they reside on the same machine. There are no SEA conflicts in this case, so do not attempt to assign unique serial numbers to different partitions on the same machine.

## 3.1.8 Extracting the Installation Kit

To extract the WEBES installation kit, place the `kit.gz` file in a temporary directory and unzip it:

```
# gunzip WEBES{version}.tar.gz
```

Then, untar the file. If there is already a “kit” subdirectory when you perform this command, be sure there are no previous WEBES kit files in this subdirectory before performing the command.

```
# tar -xvf WEBES_{version}.tar
```

This command creates a `kit` directory (if it does not already exist), and extracts the WEBES installation files. Messages similar to the following appear:

```
blocksize = 256
x ./kit
x ./kit/instctrl
x ./kit/instctrl/WEBESBASE<version>.inv, 7693 bytes, 16 tape blocks
x ./kit/instctrl/WEBESBASE<version>.ctrl, 144 bytes, 1 tape blocks
x ./kit/instctrl/WEBESBASE<version>.scp, 54626 bytes, 107 tape blocks
x ./kit/instctrl/WEB.image, 26 bytes, 1 tape blocks
x ./kit/WEBESBASE<version>, 24215200 bytes, 47100 tape blocks
x ./kit/INSTCTRL, 71680 bytes, 140 tape blocks
x ./kit/WEB.image, 26 bytes, 1 tape blocks
```

## 3.2 Installing WEBES

(The procedures in this section apply when WEBES is already uninstalled or was never installed at all. If you are upgrading to this version of WEBES with 4.3 or higher already installed, see Section 3.6, [Upgrading WEBES](#). Upgrading lets you preserve your configuration and state data.)

## Installing on Tru64 UNIX

### 3.2 Installing WEBES

After all [Pre-Installation](#) requirements are met, proceed with the two-step process to install WEBES.

#### Note

---

If installing in a TruCluster environment, make sure all nodes are up and running before proceeding.

---

1. First, run the [Component Installation](#) as described in Section 3.2.1. This step installs the files needed for the common components and any selected tools.
2. Then, run the [Interactive Configuration Utility](#) as described in Section 3.2.2. Note that you can return to the utility at any future time, should you wish to modify your WEBES installation.

### 3.2.1 Component Installation

When your current directory is the one in which you extracted the kit, enter the following command to install the files for the WEBES common components (WCC) plus any tools you select.

```
# setld -l kit
```

Do not run setld -D to direct the WEBES installation to a non-default directory. The default directory is required for proper WEBES operation.

The kit states that you are installing the mandatory subsets, which are the same as the common components.

The following subsets are mandatory and will be installed automatically unless you choose to exit...

```
HP Web-Based Enterprise Services Suite V4.3.4
```

Then, you can select which tools to install by typing the option numbers separated by spaces (or by choosing the “ALL” option). You also can abort the installation at this point.

```
1) System Event Analyzer (SEA) V4.3.4
2) Computer Crash Analysis Tool (CCAT) V5.1.1
3) ALL mandatory and all optional subsets
4) MANDATORY subsets only
5) CANCEL selections and redisplay menus
6) EXIT without installing any subsets
```

Enter your choices or press RETURN to redisplay the menu.  
Choices (for example, 1 2): 3

During installation, the system displays informational messages, but you do not need to answer configuration questions until you run the [Interactive Configuration Utility](#) as described in Section 3.2.2.

### Cluster Installations

Running the `setld install` on a cluster results in one set of informational messages for each cluster member. In other words, installing on a cluster places the product on all of the cluster nodes. If WEBES is not desired on certain nodes (for example, nodes of system types not supported by WEBES) users can disable WEBES on those nodes. The Start at Boot Time option described in Table 3–5 disables WEBES on a per-node basis.

## 3.2.2 Interactive Configuration Utility

Enter the following to launch the interactive configuration utility:

```
# /usr/sbin/webes_install_update
```

If you need help with a specific field while running the interactive configuration utility, type `?` and press the Enter key.

### 3.2.2.1 Initial Configuration

You must define your system the first time that you run the interactive configuration utility. The values that you enter persist until you change them or choose to remove the profile when uninstalling WEBES.

**Customer Information**—Enter and/or confirm the customer information described in Table 3–2. In clusters, the same information gets applied to each member node.

Table 3–2 Customer Information Required for Initial Configuration

Question	Example	Notes
Contact name	Chris Green	
Company name	XYZ Company	
Company address	123 Main Street Metropolis, VA 22222 USA	You are allowed three lines when entering the company address.
Contact phone	123-456-7890	
Contact email address	chris.green@xyz.com	

**System Information**—Enter and/or confirm the system specific information described in Table 3–3. In clusters, the set of prompts gets automatically repeated so that you can enter the unique data for each node.

## Installing on Tru64 UNIX

### 3.2 Installing WEBES

Table 3–3 System Information Required for Initial Configuration

Question	Example	Notes
ACHS contact (email)	chris.green@xyz.com	Your SEA Automatic Call Handling System (ACHS) contact is the email address that ACHS should contact after logging a call when a system error is detected.
SMTP contact (email)	chris.green@xyz.com	Email address at which you will receive all other notifications
Customer SMTP server	mailsys.xyz.com	
System type	Type 1	
System model	Model A1	
System serial number	A01234567890	

**Automated Notification**—The installation includes a small menu for choosing the automated notification method to your service provider. (This is separate from any email-based notification that you may set up).

Enter one of the following for service provider notifications:

- (1) Customer Service Gateway (CSG) formerly QSAP
- (2) System-Initiated Call Logging (SICL) using DSNLink
- (3) NONE

- The CSG option applies to systems that participate in Proactive Remote Service (PRS).
- [SICL](#) applies to DSNLink users, and only appears when DSNLink is installed.
- If you do not need to send notifications, choose NONE.

If you have the ISEE Client installed, the menu does not appear. Instead, you see one of the following:

- With DSNLink already installed—You are asked if you want DSNLink notifications in addition to ISEE notifications.
- Without DSNLink—WEBES will use the ISEE Client for notifications, and there are no prompts to answer.

**Notification Profile**—By default, the installation can automatically create your automated notification profile based on customer and system entries from Tables 3–2 and 3–3. The profile gets stored in a text file that you can modify with an editor, if desired:

```
/usr/opt/hp/svctools/specific/desta/config/profile.txt
```

**Service Obligation**—Finally, enter and/or confirm service obligation information as described in Table 3–4. In clusters, service obligation entered during initial configuration gets applied to all nodes. After the initial session, you can change it on individual nodes using the configuration utility Service Obligation menu option.

Table 3–4 Service Obligation Information Required for Initial Configuration

Question	Example	Notes
Service provider name	Hewlett-Packard	
System serial number	A01234567890	
Service obligation number	A01234567890	The default is usually the system serial number.
Service obligation start date	20-Feb-2002	The default is usually the current date.

**Start at Boot Time**—You can specify the nodes where you want to start the WEBES Director by default at system boot time. Note that this option also is available from the main interactive menu.

### 3.2.2.2 Configuration Options

After initial configuration, and any time that you rerun the utility thereafter, you are presented with a menu similar to the following:

- 1) Remove System Event Analyzer
- 2) Remove Computer Crash Analysis Tool
- 3) Remove all of the Web-Based Enterprise Services suite
- 4) Start at Boot Time
- 5) Customer Information
- 6) System Information
- 7) Service Obligation
- 8) Start WEBES Director
- 9) Stop WEBES Director
- 10) Help
- 11) Quit

Enter the number for your choice (see Table 3–5). The menu reappears after completing the selected operation. You can continue making selections or quit.

Selections requiring that the WEBES Director process first be stopped (for example, for tool installation) automatically stop the Director. You can restart it manually upon completing your selection, or you are prompted to restart it when you quit the interactive utility.

## Installing on Tru64 UNIX

### 3.3 SEA Installation Notes

Table 3–5 Configuration Options

Selection	Description
Install System Event Analyzer (SEA)	Installs the SEA tool. If SEA was already installed, this option would allow you to uninstall it. See the <a href="#">SEA Installation Notes</a> for more information.
Install Computer Crash Analysis Tool (CCAT)	Installs the CCAT tool. If CCAT was already installed, this option would allow you to uninstall it. See the <a href="#">CCAT Installation Notes</a> for more information.
Remove all of WEBES	Uninstalls all of the WEBES common components and any tools that are present.
Start at Boot Time	Specifies whether to automatically start the WEBES Director process whenever the system starts (in clusters, selectable for each node)
Customer Information	Allows you to confirm or modify the customer data entered during <a href="#">Initial Configuration</a> . In clusters, the same customer information gets applied to all nodes.
System Information	Allows you to confirm or modify the system data entered during <a href="#">Initial Configuration</a> . In clusters, different system information can be applied to each node.
Service Obligation	Allows you to confirm or modify the service obligation data entered during <a href="#">Initial Configuration</a> . In clusters, different service obligation information can be applied to each node.
Start WEBES Director	Manually starts the WEBES Director process (in clusters, selectable for each node)
Stop WEBES Director	Manually stops the WEBES Director process (in clusters, selectable for each node)
Help	Displays textual help for the interactive configuration utility
Quit	Closes the interactive configuration utility. If the WEBES Director is not running, you are given the opportunity to start it.

## 3.3 SEA Installation Notes

**Delaying the Initial SEA Scan**—Immediately after installation, SEA normally scans all events currently stored in the error log. For a very full log, this initial scan can result in high CPU usage over an extended period. You can choose to delay the initial scan when prompted,

but SEA automatic analysis does not run until after (and starting with) the initial scan. Note that events that happen during the delay are saved in the log for analysis at initial scan time.

SEA also asks you to enter the email address where you want to receive copies of SEA notifications.

## 3.4 CCAT Installation Notes

CCAT also asks you to enter the email address where you want to receive copies of CCAT notifications.

## 3.5 Post-Installation

Be aware of the following post-installation procedures.

- [3.5.1 Adding a Node to a Cluster](#)
- [3.5.2 Path Update](#)
- [3.5.3 Determining Which Tools are Installed](#)
- [3.5.4 Determining Which Versions are Installed](#)
- [3.5.5 Storing User Files](#)
- [3.5.6 Timestamp Adjustments](#)

### 3.5.1 Adding a Node to a Cluster

To install WEBES for a newly added cluster member, run the interactive configuration utility:

```
# /usr/sbin/webes_install_update
```

You are prompted for node-specific information for the new member.

### 3.5.2 Path Update

After installing WEBES and its components, you also should execute the appropriate shell command to update path information so that you can enter WEBES commands without having to type the full path. For example, in the c shell, run the command:

```
# rehash
```

## Installing on Tru64 UNIX

### 3.5 Post-Installation

#### 3.5.3 Determining Which Tools are Installed

On any system that you are unsure about, you can determine what parts of WEBES are installed as follows.

**WEBES**—The WEBES base kit is installed if you see the word “installed” in the output of the following command. For example:

```
# setld -i|grep -i webesbase432
WEBESBASE432    installed    Hewlett-Packard Web-Based Enterprise Service
Suite V4.3.4
```

**SEA**—SEA is installed if you see the word “installed” in the output of the following command. For example:

```
# setld -i|grep -i webessea432
WEBESSEA432    installed    System Event Analyzer (SEA) V4.3.4
```

**CCAT**—CCAT is installed if you see the word “installed” in the output of the following command. For example:

```
# setld -i|grep -i webescat511
WEBESCCAT511    installed    Computer Crash Analysis Tool (CCAT) V5.1.1
```

**WCCProxy**—WCCProxy is installed if you see the word “installed” in the output of the following command. For example:

```
# setld -i|grep -i webesproxy121
WEBESPROXY121    installed    Hewlett-Packard Web-Based Enterprise
Service WCCPROXY V1.2.1
```

#### 3.5.4 Determining Which Versions are Installed

To determine what versions of WEBES and its component tools are installed, open and read the text files shown in Table 3–6.

Table 3–6 Determining WEBES and Tool Versions

Tool	File for Version Information
WEBES Overall Kit	/usr/opt/hp/svctools/common/webes/release.txt
WEBES Common Components (WCC)	/usr/opt/hp/svctools/common/desta/release.txt
WCCProxy	/usr/opt/hp/svctools/common/wccproxy/release.txt
SEA	/usr/opt/hp/svctools/common/ca/release.txt
CCAT	/usr/opt/hp/svctools/common/ccat/release.txt

The files list the component versions for the release. Generally, they match the overall WEBES version number. The files in Table 3–6 also may reveal a “build” number, but those are not necessarily intended to match across components.

### 3.5.5 Storing User Files

WEBES includes “userdata” subdirectories under the WEBES svctools directory tree as follows:

```
/usr/opt/hp/svctools/common/ca/userdata
/usr/opt/hp/svctools/common/ccat/userdata
/usr/opt/hp/svctools/common/desta/userdata
/usr/opt/hp/svctools/common/webes/userdata

/usr/opt/hp/svctools/specific/ca/userdata
/usr/opt/hp/svctools/specific/ccat/userdata
/usr/opt/hp/svctools/specific/desta/userdata
/usr/opt/hp/svctools/specific/webes/userdata
```

When using WEBES, store your own files (such as binary event logs or CCAT crash dump files) under these subdirectories.

- Storing files under the userdata subdirectories makes them easily accessible in the WEBES user interfaces. For example, SEA automatically lists any binary event logs from the ca/userdata subdirectories under Other Logs.
- In WEBES 4.1 or later, files stored under the userdata subdirectories are preserved and restored during WEBES uninstallations and reinstallations.

On clusters, place files that you want to be accessible by all nodes into the “common” paths, and files that are only for one node under the “specific” paths.

### 3.5.6 Timestamp Adjustments

In some cases, you may see a discrepancy in the timestamps among the event, report, and expiration times when using WEBES:

```
Event Time:      Wed 1 Oct 2003 10:11:21 GMT-04:00
Report Time:    Wed 1 Oct 2003 09:11:21 GMT-05:00
Expiration Time: Wed 1 Oct 2003 10:11:21 GMT-04:00
```

This occurs because the event and expiration times are based on the timestamp information in the event log, while the report time is based on the timezone environment variable on the local host.

To address such discrepancies, correctly set the timezone environment variable as shown in the following example. You may want to make this verification step part of your regular post-installation tasks.

```
# setenv TZ "America/New_York"
```

## Installing on Tru64 UNIX

### 3.6 Upgrading WEBES

If necessary, issue the following command to see a list of acceptable timezone environment variable values:

```
# ls /etc/zoneinfo
```

Issue the following command if you need to see what the current timezone setting is:

```
# ls -l /etc/zoneinfo/localtime
```

## 3.6 Upgrading WEBES

### Note

---

Before upgrading WEBES, reinitialize the system error log as described in Section 3.1.6, [Archiving and Cleaning the Error Log](#).

---

This section applies when upgrading to this version of WEBES with 4.3.2 or higher already installed on the system. The procedure does not apply with versions older than 4.3.2 already installed.

If WEBES is already uninstalled or was never installed at all, see Section 3.2, [Installing WEBES](#).

Upgrading lets you preserve your configuration and state data. Be aware that upgrading uninstalls the other version of WEBES and installs the newer version—the upgrade does not simply patch or replace certain files, as was the case with WEBES Service Paks.

To upgrade, make sure all cluster members are up, and run the `webes_update` shell script that appears in the “kit” subdirectory of the directory containing the WEBES .tar file (after you untar the file as described in Section 3.1.8, [Extracting the Installation Kit](#)).

### Caution

---

Do not run `webes_update` if any cluster members are down. Doing so may result in conditions that prevent WEBES from working, uninstalling, or reinstalling properly.

---

```
# webes_update

WEBES V4.3.2 is currently installed.
Do you wish to upgrade to WEBES V4.3.4?
(V4.3.2 will be uninstalled, migrating configuration data to V4.3.4.) y

The following subsets need Web-Based Enterprise Service Suite V4.3.2
(WEBESBASE432) to operate correctly:
```

*{list}*

```
Are you sure you wish to delete Web-Based Enterprise Service Suite V4.3.2  
(WEBESBASE432)? (y/n): y
```

Because the upgrade uninstalls the older version of WEBES, answer **Yes** when prompted about upgrading and about deleting the older software.

Be aware that the upgrade procedure is not mandatory. If desired, you can uninstall the existing WEBES copy yourself, but then not all data will be migrated upon installing the newer version with setld as described in Section 3.2, [Installing WEBES](#).

## 3.7 Uninstalling WEBES

The following sections describe how to remove WEBES tools from a Tru64 UNIX system.

### 3.7.1 Using the Interactive Utility

Using the interactive utility is the easiest way to remove individual WEBES components or the entire WEBES suite.

#### 3.7.1.1 Uninstalling Individual WEBES Tools

Run the interactive `/usr/sbin/webes_install_update` utility to remove individual WEBES tools, and follow any prompts that appear. In clusters, uninstallation removes the tool from all nodes in the cluster.

#### 3.7.1.2 Uninstalling All WEBES Tools

Run the interactive `/usr/sbin/webes_install_update` utility, choose the option to remove all of WEBES, and follow any prompts that appear. In clusters, uninstallation removes WEBES from all nodes in the cluster.

### 3.7.2 Using the setld Utility

Although the setld system utility can be used to remove WEBES or its components, you must be careful to remove components in the correct order. If you are unsure about using the setld utility, refer to the setld man page for more information.

When you are using the setld utility, be aware that the subsets for SEA and CCAT are dependent subsets of the WEBES mandatory subset. Therefore, the WEBES subset should not

## Installing on Tru64 UNIX

### 3.7 Uninstalling WEBES

be removed unless all of those tools are removed as well. Furthermore, WEBES depends on WCCProxy, so the WCCProxy subset only should be removed after WEBES and all of its subsets have been removed.

Be aware that the WCCProxy kit is used by both WEBES and the ISEE Client. Do not remove the WCCProxy kit if the ISEE Client is installed. All other WEBES components may be removed without affecting any other installed tool.

You may either remove all the components using a single `setld` command or issue individual `setld` commands in the correct order. If you want to issue individual commands for each subset, make sure that you only remove the WEBESBASE subset after the SEA and CCAT subsets have been removed. WEBES in turn depends on WCCProxy, so the WCCProxy subset should be removed after WEBES and all of its subsets have been removed. Do not remove the WCCProxy component if the ISEE Client is installed.

The following example shows a single command that simultaneously removes WEBES, its SEA and CCAT subsets, and WCCProxy:

```
# setld -d WEBESBASE432 WEBESSEA432 WEBESCCAT511 WEBESPROXY121
```

---

## Installing on HP-UX

*This chapter describes how to install the WEBES tools on an HP HP-UX system. The information in this chapter is organized as follows:*

Pre-Installation .....	page 4-2
Installing WEBES .....	page 4-4
SEA Installation Notes .....	page 4-9
CCAT Installation Notes .....	page 4-9
Post-Installation .....	page 4-9
Upgrading WEBES .....	page 4-10
Uninstalling WEBES .....	page 4-11

## 4.1 Pre-Installation

### Note

---

You can install and run WEBES on HP-UX, but currently it does not analyze a *native* error log for events occurring on that platform.

You can, however, copy an error log from another system (Windows, Tru64 UNIX, or OpenVMS) to an HP-UX system for manual analysis there.

---

Follow these pre-installation guidelines. Depending on which WEBES components you wish to install, ensure that your system meets the requirements described in the appropriate sections:

- [4.1.1 WEBES Common System Requirements](#)
- [4.1.2 SEA System Requirements](#)
- [4.1.3 CCAT System Requirements](#)

Also, see the following additional pre-installation guidelines:

- [4.1.4 Permissions](#)
- [4.1.5 Extracting the Installation Kit](#)

### 4.1.1 WEBES Common System Requirements

The system must meet the following basic requirements before you install WEBES:

- Processor architecture—HP 9000 series
- Operating system—HP-UX 11.0 or higher
- Quality Pack—On HP-UX 11.00, quality pack 1100 is required. The quality pack includes an upgrade for the ps command, which is used by the desta script.
- Minimum 126 MB free disk space for installation of core components
- Virtual memory—800MB of virtual memory is recommended.

During standard operation, SEA uses far less memory. For example, when the Director is idle, usage stays generally around 24MB for systems with all the WEBES tools installed.

The Director only approaches the maximum value when a high volume of events arrive or an extremely large log file is processed. Even then, the memory usage may remain significantly below the maximum value. The virtual memory requirement is intended to set a threshold for the absolute maximum amount of memory that will ever be needed. If the threshold is exceeded, the Director terminates with out-of-memory error.

Virtual memory for a process is stored in RAM and the swap partitions on your disk. The space allocated must be sufficient to run WEBES and all other applications that you want to run simultaneously.

If the virtual memory requirement given here is too large or too small for your environment, you are free to make adjustments. You may want to experiment with various settings to find the optimal value. Refer to the *SEA User Guide* for more information on adjusting the memory settings.

- TCP/IP services must be installed and running.

## 4.1.2 SEA System Requirements

In addition to the common WEBES prerequisites, your system must meet the following requirements before you install the SEA component:

- Minimum 32 MB additional free disk space
- Web browser—Table 4-1 describes the browser prerequisites for SEA according to the following categories:
  - Supported—fully tested
  - As-is—not officially tested but may work reasonably well
  - Unsupported—known not to work

Table 4-1 HP-UX Browser Requirements

Category	Browser
Supported	Netscape 4.78 or 4.79, Mozilla 1.4 or later
As-is	Netscape earlier than 4.78 Mozilla earlier than 1.4
Unsupported	Netscape 6.x

Web browsers can use different Java runtime environments, but the SEA web interface requires certain versions of Java for each web browser.

- Netscape—Either the Netscape Java VM which is always included with Netscape, or a Sun JRE version 1.2 or higher.
- Mozilla—Sun JRE version 1.3.1 or higher. Mozilla does not include any Java VM. You must download and install a Sun JRE. You can check the version by selecting Tools | Web Development | Java Console. The Java version is given on the first line of the Java Console window.

## Installing on HP-UX

### 4.2 Installing WEBES

Sun Java is available at:  
<http://java.sun.com/getjava>

Install any desired web browsers before installing the Sun JRE. The JRE installation then finds and updates installed web browsers so that they use the Sun JRE.

#### 4.1.3 CCAT System Requirements

In addition to the common WEBES prerequisites, your system must meet the following requirements before you install the CCAT component:

- Minimum 15 MB additional free disk space

#### 4.1.4 Permissions

To install, upgrade, or uninstall WEBES, you must be logged on as the root user. The `/opt/hp/svctools` directory is owned by root, and has `rwX` (read, write, and execute) permissions for root (owner), and no permissions for any other user (group or world).

#### 4.1.5 Extracting the Installation Kit

To extract the WEBES installation kit, place the kit `.gz` file in a temporary directory and unzip it:

```
# gunzip WEBES{version}.tar.gz
```

Then, untar the file:

```
# tar -xvf WEBES{version}.tar
```

This extracts the `WEBESWrapper.sh` file needed for installation.

## 4.2 Installing WEBES

After all [Pre-Installation](#) requirements are met, proceed with the two-step process to install WEBES.

1. First, run the [Component Installation](#) as described in Section [4.2.1](#). This step installs the files needed for the common components and any selected tools.
2. Then, run the [Interactive Configuration Utility](#) as described in Section [4.2.2](#). Note that you can return to the utility at any future time, should you wish to modify your WEBES installation.

## 4.2.1 Component Installation

Follow these steps to install the files for the WEBES common components (WCC) plus any tools you select:

1. Enter the following command to start the install wrapper, which checks for prerequisites, installs the WCCProxy, and launches an interactive interface (either terminal-based character/keyboard inputs or a GUI):

```
# ./WEBESWrapper.sh
```

WEBES will not install to a non-default directory. The default directory is required for proper WEBES operation.

This wrapper script will do the necessary prerequisite checks for WEBES kit installation. Upon successful installation of the WEBES kit, dependent subset installation and configuration can be done using the `webes_install_update` script.

2. Wait for the list of components to appear. This may take several moments.
3. Highlight each desired component. WEBESBASE is required.
4. Choose Actions | Install from the menus to start tool installation.

The system displays a note similar to the following:

```
The software "WEBESBASE434,r=V4.3.4,a=,v=HP" was successfully marked, but
it depends on the following software items which could not be found in the
source. However, these items may already be in the target. This will be
checked during the Analysis Phase:
WEBESPROXY123.WEBESPROXY123
The software "WEBESCCAT512,r=V5.1.2,a=,v=HP" was successfully marked, but
it depends on the following software items which could not be found in the
source. However, these items may already be in the target. This will be
checked during the Analysis Phase:
WEBESPROXY123.WEBESPROXY123
The software "WEBESSEA434,r=V4.3.4,a=,v=HP" was successfully marked, but
it depends on the following software items which could not be found in the
source. However, these items may already be in the target. This will be
checked during the Analysis Phase:
WEBESPROXY123.WEBESPROXY123
```

The note appears because the WEBES components also require the WCCProxy. You can safely okay the note, because the kit detects the presence of the WCCProxy during the Analysis Phase.

5. At the very end of the install, choose File | Exit from the menus to close the interface that lists the components.

During installation, the system may display other informational messages, but you do not need to answer configuration questions until you run the [Interactive Configuration Utility](#) as described in Section 4.2.2.

## Installing on HP-UX

### 4.2 Installing WEBES

#### 4.2.2 Interactive Configuration Utility

Enter the following to launch the interactive configuration utility:

```
# webes_install_update
```

If you need help with a specific field while running the interactive configuration utility, type ? and press the Enter key.

##### 4.2.2.1 Initial Configuration

You must define your system the first time that you run the interactive configuration utility. The values that you enter persist until you change them or choose to remove the profile when uninstalling WEBES.

**Customer Information**—Enter and/or confirm the customer information described in Table 4-2.

Table 4-2 Customer Information Required for Initial Configuration

Question	Example	Notes
Contact name	Chris Green	
Company name	XYZ Company	
Company address	123 Main Street Metropolis, VA 22222 USA	You are allowed three lines when entering the company address.
Contact phone	123-456-7890	
Contact email address	chris.green@xyz.com	

**System Information**—Enter and/or confirm the system specific information described in Table 4-3.

**Table 4–3 System Information Required for Initial Configuration**

Question	Example	Notes
SMTP contact (email)	chris.green@xyz.com	Email address at which you will receive all other notifications
Customer SMTP server	mailsys.xyz.com	
ACHS contact (email)	chris.green@xyz.com	Your SEA Automatic Call Handling System (ACHS) contact is the email address that ACHS should contact after logging a call when a system error is detected.
System type	Type 1	
System model	Model A1	
System serial number	A01234567890	

**Profile**—The system converts your information into a basic profile file at `/opt/hp/svctools/specific/desta/config/profile.txt`. The profile is attached to any outgoing system-initiated messages.

**Service Obligation**—Finally, enter and/or confirm service obligation information as described in Table 4–4.

**Table 4–4 Service Obligation Information Required for Initial Configuration**

Question	Example	Notes
Service provider name	HP	
System serial number	A01234567890	
Service obligation number	A01234567890	The default is usually the system serial number.
Service obligation start date	20-Feb-2002	The default is usually the current date.

### 4.2.2.2 Configuration Options

After initial configuration, and any time that you rerun the utility thereafter, you are presented with a menu similar to the following:

- 1) Remove System Event Analyzer

## Installing on HP-UX

### 4.2 Installing WEBES

- 2) Remove Computer Crash Analysis Tool
- 3) Remove all of the Web-Based Enterprise Services suite
- 4) Start at Boot Time
- 5) Customer Information
- 6) System Information
- 7) Service Obligation
- 8) Start WEBES Director
- 9) Stop WEBES Director
- 10) Help
- 11) Quit

Enter the number for your choice (see Table 4–5). The menu reappears after completing the selected operation. You can continue making selections or quit.

Selections requiring that the WEBES Director process first be stopped (for example, for tool installation) automatically stop the Director. You can restart it manually upon completing your selection, or you are prompted to restart it when you quit the interactive utility.

**Table 4–5 Configuration Options**

Selection	Description
Install System Event Analyzer (SEA)	Installs the SEA tool. If SEA was already installed, this option would allow you to uninstall it. See the <a href="#">SEA Installation Notes</a> for more information.
Install Computer Crash Analysis Tool (CCAT)	Installs the CCAT tool. If CCAT was already installed, this option would allow you to uninstall it. See the <a href="#">CCAT Installation Notes</a> for more information.
Remove all of WEBES	Uninstalls all of the WEBES common components and any tools that are present.
Start at Boot Time	Specifies whether to automatically start the WEBES Director process whenever the system starts
Customer Information	Allows you to confirm or modify the customer data entered during <a href="#">Initial Configuration</a> .
System Information	Allows you to confirm or modify the system data entered during <a href="#">Initial Configuration</a> .
Service Obligation	Allows you to confirm or modify the service obligation data entered during <a href="#">Initial Configuration</a> .
Start WEBES Director	Manually starts the WEBES Director process
Stop WEBES Director	Manually stops the WEBES Director process
Help	Displays textual help for the interactive configuration utility
Quit	Closes the interactive configuration utility. If the WEBES Director is not running, you are given the opportunity to start it.

## 4.3 SEA Installation Notes

There are no additional considerations when installing SEA. Any settings for error log scanning or automatic notifications would be meaningless, because there is no binary system error log on HP-UX for SEA to monitor.

## 4.4 CCAT Installation Notes

CCAT also asks you to enter the email address where you want to receive copies of CCAT notifications.

## 4.5 Post-Installation

Be aware of the following post-installation procedures.

- [4.5.1 Path Update](#)
- [4.5.2 Determining Which Tools are Installed](#)
- [4.5.3 Determining Which Versions are Installed](#)
- [4.5.4 Storing User Files](#)

### 4.5.1 Path Update

After installing WEBES and its components, you also should execute the appropriate shell command to update path information so that you can enter WEBES commands without having to type the full path. For example, in the `c` shell, run the command:

```
# rehash
```

### 4.5.2 Determining Which Tools are Installed

On any system that you are unsure about, you can determine what parts of WEBES are installed by running `webes_install_update` and checking the menu for tools that you can remove. (If you can remove a tool, it must be installed.)

### 4.5.3 Determining Which Versions are Installed

To determine what versions of WEBES and its component tools are installed, open and read the text files shown in Table 4-6.

## Installing on HP-UX

### 4.6 Upgrading WEBES

Table 4–6 Determining WEBES and Tool Versions

Tool	File for Version Information
WEBES Overall Kit	/opt/hp/svctools/common/webes/release.txt
WEBES Common Components (WCC)	/opt/hp/svctools/common/desta/release.txt
SEA	/opt/hp/svctools/common/ca/release.txt
CCAT	/opt/hp/svctools/common/ccat/release.txt

The files list the component versions for the release. Generally, they match the overall WEBES version number. The files in Table 4–6 also may reveal a “build” number, but those are not necessarily intended to match across components.

#### 4.5.4 Storing User Files

WEBES includes “userdata” subdirectories under the WEBES svctools directory tree as follows:

```
/opt/hp/svctools/common/ca/userdata
/opt/hp/svctools/common/ccat/userdata
/opt/hp/svctools/common/desta/userdata
/opt/hp/svctools/common/webes/userdata

/opt/hp/svctools/specific/ca/userdata
/opt/hp/svctools/specific/ccat/userdata
/opt/hp/svctools/specific/desta/userdata
/opt/hp/svctools/specific/webes/userdata
```

When using WEBES, store your own files (such as binary event logs or CCAT crash dump files) under these subdirectories.

- Storing files under the userdata subdirectories makes them easily accessible in the WEBES user interfaces. For example, SEA automatically lists any binary event logs from the ca/userdata subdirectories under Other Logs.
- In WEBES 4.1 or later, files stored under the userdata subdirectories are preserved and restored during WEBES uninstallations and reinstallations.

## 4.6 Upgrading WEBES

The previous version of WEBES must be removed with /usr/sbin/webes\_install\_update. The new version of WEBES is installed with WEBESWrapper.sh in the directory where the files in the kit are unzipped. The WEBES upgrade will be supported in future releases of WEBES.

## 4.7 Uninstalling WEBES

The following sections describe how to remove WEBES tools from a HP-UX system.

### 4.7.0.1 Uninstalling Individual WEBES Tools

Run the interactive `webes_install_update` utility to remove individual WEBES tools, and follow any prompts that appear.

### 4.7.0.2 Uninstalling All WEBES Tools

Run the interactive `webes_install_update` utility, choose the option to remove all of WEBES, and follow any prompts that appear.



---

## Installing on Linux

*This chapter describes how to install the WEBES tools on a Red Hat Linux system. The information in this chapter is organized as follows:*

Pre-Installation .....	page 5-2
Installing WEBES .....	page 5-5
SEA Installation Notes .....	page 5-8
CCAT Installation Notes .....	page 5-9
Post-Installation .....	page 5-9
Upgrading WEBES .....	page 5-11
Uninstalling WEBES .....	page 5-11

## 5.1 Pre-Installation

### Note

---

You can install and run WEBES on Linux, but currently it does not analyze a *native* error log for events occurring on that platform.

You can, however, copy an error log from another system (Windows, Tru64 UNIX, or OpenVMS) to a Linux system for manual analysis there.

---

Follow these pre-installation guidelines. Depending on which WEBES components you wish to install, ensure that your system meets the requirements described in the appropriate sections:

- [5.1.1 WEBES Common System Requirements](#)
- [5.1.2 SEA System Requirements](#)
- [5.1.3 CCAT System Requirements](#)

Also, see the following additional pre-installation guidelines:

- [5.1.4 Permissions](#)
- [5.1.5 Extracting the Installation Kit](#)

### 5.1.1 WEBES Common System Requirements

The system must meet the following basic requirements before you install WEBES. This version of WEBES for Linux does not support Linux clusters.

- Processor architecture—HP 32-bit Intel based systems

Non-HP Systems: WEBES is a proprietary service tool and is not a fully qualified off-the-shelf product such as Norton SystemWorks. As such, only platforms manufactured by HP, such as the ProLiant, are officially supported.

Engineering normally expects that WEBES will operate correctly on any industry standard, 32-bit Intel-based system. However, because HP does not qualify WEBES on third-party products, functionality on such systems is provided on an as-is basis only.

- Operating system—Red Hat Linux versions 7.3 and 8.0 only
- Minimum 61 MB free disk space for installation of all components
- Virtual memory—800 MB of virtual memory is recommended.

During standard operation, SEA uses far less memory. For example, when the Director is idle, usage stays generally around 24MB for systems with all the WEBES tools installed.

The Director only approaches the maximum value when a high volume of events arrive or an extremely large log file is processed. Even then, the memory usage may remain significantly below the maximum value. The virtual memory requirement is intended to set a threshold for the absolute maximum amount of memory that will ever be needed. If the threshold is exceeded, the Director terminates with out-of-memory error.

Virtual memory for a process is stored in RAM and the swap partitions on your disk. The space allocated must be sufficient to run WEBES and all other applications that you want to run simultaneously.

If the virtual memory requirement given here is too large or too small for your environment, you are free to make adjustments. You may want to experiment with various settings to find the optimal value. Refer to the *SEA User Guide* for more information on adjusting the memory settings.

- TCP/IP services must be installed and running.

## 5.1.2 SEA System Requirements

In addition to the common WEBES prerequisites, your system must meet the following requirements before you install the SEA component.

- Minimum 32 MB of space in the file system containing the directory to which you install WEBES (/usr/opt/hp/svctools).
- Web browser—Table 5–1 describes the browser prerequisites for SEA according to the following categories:
  - Supported—fully tested
  - As-is—not officially tested but may work reasonably well
  - Unsupported—known not to work

Table 5–1 Linux Browser Requirements

Category	Browser
Supported	Mozilla 1.4 or later Netscape 7.1 <sup>1</sup> with: <ul style="list-style-type: none"><li>• The plug-in for Java applications installed</li><li>• Security notifications disabled</li></ul> Netscape 4.8 or 4.9
As-is	Netscape earlier than 4.8 Mozilla earlier than 1.4
Unsupported	Netscape 6.x

<sup>1</sup> If you run Netscape 7.1 and have multiple browser windows open, Netscape overwrites its own windows with new pages when you follow links.

## Installing on Linux

### 5.1 Pre-Installation

Web browsers can use different Java runtime environments, but the SEA web interface requires certain versions of Java for each web browser.

- Netscape—Either the Netscape Java VM which is always included with Netscape, or a Sun JRE version 1.2 or higher.
- Mozilla—Sun JRE version 1.3.1 or higher.  
Mozilla does not include any Java VM. You must download and install a Sun JRE. You can check the version by selecting Tools | Web Development | Java Console. The Java version is given on the first line of the Java Console window.

Sun Java is available at:  
<http://java.sun.com/getjava>

Install any desired web browsers before installing the Sun JRE. The JRE installation then finds and updates installed web browsers so that they use the Sun JRE.

### 5.1.3 CCAT System Requirements

In addition to the common WEBES prerequisites, your system must meet the following requirements before you install the CCAT component.

- Minimum 3MB free disk space

### 5.1.4 Permissions

To install, upgrade, or uninstall WEBES, you must be logged on as the root user. The `/usr/opt/hp/svctools` directory is owned by root, and has rwx (read, write, and execute) permissions for root (owner), and no permissions for any other user (group or world).

### 5.1.5 Extracting the Installation Kit

To extract the WEBES installation kit, place the kit .gz file in a temporary directory and untar it:

```
# tar -xzf WEBES{version}.tar.gz
```

This command creates a kit directory (if it does not already exist), and extracts the `WEBESWrapper.sh` file needed for installation:

```
WEBESWrapper.sh WEBESBASE-4.3-2.i386.rpm WEBESPROXY-1.2-1.i386.rpm  
WEBESSEA-4.3-2.i386.rpm WEBESCCAT-5.1-1.i386.rpm
```

## 5.2 Installing WEBES

After all [Pre-Installation](#) requirements are met, proceed with the two-step process to install WEBES.

1. First, run the [Common Component Installation](#) as described in Section 5.2.1. This step installs the files needed for the common components.
2. Then, run the [Interactive Configuration Utility](#) as described in Section 5.2.2. The utility lets you define your customer and system information, and installs the individual WEBES tools that you want. Note that you can return to the utility at any future time, should you wish to modify your WEBES installation.

### 5.2.1 Common Component Installation

Change to the kit directory under the directory where you extracted the kit in Section 5.1.5:

```
# cd kit
```

Enter the following command to install the files for the WEBES common components (WCC) plus any tools you select:

```
# ./WEBESWrapper.sh
```

WEBES will not install to a non-default directory. The default directory is required for proper WEBES operation.

The wrapper checks for prerequisites and then installs the WEBES common components, including the base kit and WCCProxy:

This wrapper script will do the necessary prerequisite checks for WEBES kit installation. Upon successful installation of the WEBES kit, dependent subset installation and configuration can be done using the `webes_install_update` script.

During installation, the system displays informational messages, but you do not need to answer configuration questions until you run the [Interactive Configuration Utility](#) as described in Section 5.2.2.

### 5.2.2 Interactive Configuration Utility

Enter the following to launch the interactive configuration utility:

```
# /usr/sbin/webes_install_update
```

If you need help with a specific field while running the interactive configuration utility, type `?` and press the Enter key.

## Installing on Linux

### 5.2 Installing WEBES

#### 5.2.2.1 Initial Configuration

You must define your system the first time that you run the interactive configuration utility. The values that you enter persist until you change them or choose to remove the profile when uninstalling WEBES.

**Path**—Enter the path to where you extracted the kit in Section 5.1.5.

**Customer Information**—Enter and/or confirm the customer information described in Table 5-2.

Table 5-2 Customer Information Required for Initial Configuration

Question	Example	Notes
Contact name	Chris Green	
Company name	XYZ Company	
Company address	123 Main Street Metropolis, VA 22222 USA	You are allowed three lines when entering the company address.
Contact phone	123-456-7890	
Contact email address	chris.green@xyz.com	

**System Information**—Enter and/or confirm the system specific information described in Table 5-3.

Table 5-3 System Information Required for Initial Configuration

Question	Example	Notes
ACHS contact (email)	chris.green@xyz.com	Your SEA Automatic Call Handling System (ACHS) contact is the email address that ACHS should contact after logging a call when a system error is detected.
SMTP contact (email)	chris.green@xyz.com	Email address at which you will receive all other notifications
Customer SMTP server	mailsys.xyz.com	
System type	Type 1	
System model	Model A1	
System serial number	A01234567890	

**Notification Profile**—By default, the installation can automatically create your automated notification profile based on customer and system entries from Tables 5–2 and 5–3. The profile gets stored in a text file that you can modify with an editor, if desired:

```
/usr/opt/hp/svctools/specific/desta/config/profile.txt
```

**Service Obligation**—Finally, enter and/or confirm service obligation information as described in Table 5–4.

Table 5–4 Service Obligation Information Required for Initial Configuration

Question	Example	Notes
Service provider name	Hewlett-Packard	
System serial number	A01234567890	
Service obligation number	A01234567890	The default is usually the system serial number.
Service obligation start date	20-Feb-2002	The default is usually the current date.

### 5.2.2.2 Configuration Options

After initial configuration, and any time that you rerun the utility thereafter, you are presented with a menu similar to the following:

```
1) Install System Event Analyzer
2) Install Computer Crash Analysis Tool
3) Remove all of the Web-Based Enterprise Services suite
4) Start at Boot Time
5) Customer Information
6) System Information
7) Service Obligation
8) Start WEBES Director
9) Stop WEBES Director
10) Help
11) Quit
```

Enter the number for your choice (see Table 5–5). The menu reappears after completing the selected operation. You can continue making selections or quit.

Selections requiring that the WEBES Director process first be stopped (for example, for tool installation) automatically stop the Director. You can restart it manually upon completing your selection, or you are prompted to restart it when you quit the interactive utility.

## Installing on Linux

### 5.3 SEA Installation Notes

Table 5–5 Configuration Options

Selection	Description
Install System Event Analyzer (SEA)	Installs the SEA tool. If SEA was already installed, this option would allow you to uninstall it. See the <a href="#">SEA Installation Notes</a> for more information.
Install Computer Crash Analysis Tool (CCAT)	Installs the CCAT tool. If CCAT was already installed, this option would allow you to uninstall it. See the <a href="#">CCAT Installation Notes</a> for more information.
Remove all of WEBES	Uninstalls all of the WEBES common components and any tools that are present.
Start at Boot Time	Specifies whether to automatically start the WEBES Director process whenever the system starts
Customer Information	Allows you to confirm or modify the customer data entered during <a href="#">Initial Configuration</a>
System Information	Allows you to confirm or modify the system data entered during <a href="#">Initial Configuration</a>
Service Obligation	Allows you to confirm or modify the service obligation data entered during <a href="#">Initial Configuration</a>
Start WEBES Director	Manually starts the WEBES Director process
Stop WEBES Director	Manually stops the WEBES Director process
Help	Displays textual help for the interactive configuration utility
Quit	Closes the interactive configuration utility. If the WEBES Director is not running, you are given the opportunity to start it.

## 5.3 SEA Installation Notes

SEA asks you for the following additional information when you install it:

- The email address where you want to receive copies of SEA notifications
- Whether or not to delay the initial SEA scan
- Whether or not to start WEBES whenever the system boots

## 5.4 CCAT Installation Notes

CCAT also asks you to enter the email address where you want to receive copies of CCAT notifications.

## 5.5 Post-Installation

Be aware of the following post-installation procedures.

- [5.5.1 Path Update](#)
- [5.5.2 Determining Which Tools are Installed](#)
- [5.5.3 Determining Which Versions are Installed](#)
- [5.5.4 Storing User Files](#)

### 5.5.1 Path Update

After installing WEBES and its components, you may want to make the necessary modifications so that you can enter WEBES commands without having to type the full path. In other words, you can just enter **desta status** instead of **/usr/sbin/desta status**.

Use an editor to add `/usr/sbin` to the path in `/home/username/.bashrc` as shown in the following example:

```
export PATH="/usr/local/sbin:/usr/sbin:/sbin:${PATH}:${HOME}/bin"
```

Note that you can establish permission to run WEBES commands by using the `sudo` facility or by being the root user, so you may need to edit `.bashrc` for individual users or the root user depending on your situation.

### 5.5.2 Determining Which Tools are Installed

On any system that you are unsure about, you can determine what parts of WEBES are installed by entering the following command:

```
# rpm -qa | grep WEBES  
  
WEBESBASE-4.3-2  
WEBESPROXY-1.2-1  
WEBESSEA-4.3-2  
WEBESCCAT-5.1-1
```

In the previous example, the WEBES base kit, SEA, CCAT, and the WCCProxy all are installed. Note that the version numbers may vary.

## Installing on Linux

### 5.5 Post-Installation

#### 5.5.3 Determining Which Versions are Installed

To determine what versions of WEBES and its component tools are installed, open and read the text files shown in Table 5–6. Version numbers also appear in the output of the command shown in Section 5.5.2.

Table 5–6 Determining WEBES and Tool Versions

Tool	File for Version Information
WEBES Overall Kit	/usr/opt/hp/svctools/common/webes/release.txt
WEBES Common Components (WCC)	/usr/opt/hp/svctools/common/desta/release.txt
WCCProxy	/usr/opt/hp/svctools/common/wccproxy/release.txt
SEA	/usr/opt/hp/svctools/common/ca/release.txt
CCAT	/usr/opt/hp/svctools/common/ccat/release.txt

The files list the component versions for the release. Generally, they match the overall WEBES version number. The files in Table 5–6 also may reveal a “build” number, but those are not necessarily intended to match across components.

#### 5.5.4 Storing User Files

WEBES includes “userdata” subdirectories under the WEBES svctools directory tree as follows:

```
/usr/opt/hp/svctools/common/ca/userdata
/usr/opt/hp/svctools/common/ccat/userdata
/usr/opt/hp/svctools/common/desta/userdata
/usr/opt/hp/svctools/common/webes/userdata

/usr/opt/hp/svctools/specific/ca/userdata
/usr/opt/hp/svctools/specific/ccat/userdata
/usr/opt/hp/svctools/specific/desta/userdata
/usr/opt/hp/svctools/specific/webes/userdata
```

When using WEBES, store your own files (such as binary event logs or CCAT crash dump files) under these subdirectories.

- Storing files under the userdata subdirectories makes them easily accessible in the WEBES user interfaces. For example, SEA automatically lists any binary event logs from the ca/userdata subdirectories under Other Logs.
- Files stored under the userdata subdirectories are preserved and restored during WEBES uninstalls and reinstalls.

## 5.6 Upgrading WEBES

The previous version of WEBES must be removed with `/usr/sbin/webes_install_update`. The new version of WEBES is installed with `WEBESWrapper.sh` in the directory where the files in the kit are unzipped. The WEBES upgrade will be supported in future releases of WEBES.

## 5.7 Uninstalling WEBES

The following sections describe how to remove WEBES tools from a Linux system.

### 5.7.1 Using the Interactive Utility

Using the interactive utility is the easiest way to remove individual WEBES components or the entire WEBES suite.

#### 5.7.1.1 Uninstalling Individual WEBES Tools

Run the interactive `/usr/sbin/webes_install_update` utility to remove individual WEBES tools, and follow any prompts that appear.

#### 5.7.1.2 Uninstalling All WEBES Tools

Run the interactive `/usr/sbin/webes_install_update` utility, choose the option to remove all of WEBES, and follow any prompts that appear.

### 5.7.2 Using the rpm Utility

Although the `rpm` system utility can be used to remove WEBES or its components, you must be careful to remove components in the correct order. If you are unsure about using the `rpm` utility, refer to the `rpm` man page for more information.

#### Caution

---

Normally, the built-in dependencies prevent you from accidentally removing a needed kit. However, you can force a kit removal using the `-nodeps` switch, so these guidelines remain important.

---

When you are using the `rpm` utility, be aware of these dependencies:

## Installing on Linux

### 5.7 Uninstalling WEBES

- SEA and CCAT are dependent on the WEBES base kit, so the WEBES base kit must not be removed unless those tools are removed as well.
- The WEBES base kit is dependent on WCCProxy, so the WCCProxy must not be removed unless the WEBES base kit *and* all of its tools are removed as well.
- Also note that the ISEE Client is dependent on WCCProxy, so the WCCProxy also must not be removed if you have the ISEE Client installed.

Given these dependencies, you may issue individual rpm commands in the correct order to uninstall WEBES as shown in the following example. Note that version numbers may vary, so you might want to first issue the `rpm -qa | grep WEBES` command as described in Section 5.5.2.

```
# rpm -e WEBESCCAT-5.1-1
# rpm -e WEBESSEA-4.3-2
# rpm -e WEBESBASE-4.3-2
# rpm -e WEBESPROXY-1.2-1
```

(Do not remove WEBESPROXY if the ISEE Client is installed.)

---

## Installing on OpenVMS

*This chapter describes how to install the WEBES tools on an HP OpenVMS Alpha system. The information in this chapter is organized as follows:*

Pre-Installation .....	page 6-2
Installing WEBES .....	page 6-14
Post-Installation .....	page 6-17
Upgrading WEBES .....	page 6-27
Uninstalling WEBES .....	page 6-28

## Installing on OpenVMS

### 6.1 Pre-Installation

## 6.1 Pre-Installation

Follow these pre-installation guidelines. Depending on which WEBES components you wish to install, ensure that your system meets the requirements described in the appropriate sections:

- [6.1.1 WEBES Common System Requirements](#)
- [6.1.2 SEA System Requirements](#)
- [6.1.3 CCAT System Requirements](#)

Also, see the following additional pre-installation guidelines:

- [6.1.4 RCM Transition](#)
- [6.1.5 Privileges](#)
- [6.1.6 Archiving and Cleaning the Error Log](#)
- [6.1.7 Verifying the Serial Number](#)
- [6.1.8 Cluster Node Access to Install Directory](#)
- [6.1.9 Shared Non-System Disk Installations](#)
- [6.1.10 Extracting the Installation Kit](#)

### 6.1.1 WEBES Common System Requirements

The system must meet the following basic requirements before you install WEBES. In clusters, minimum requirements apply to each node in the cluster:

- Processor architecture—HP AlphaServer
- Operating system—OpenVMS 7.2-2 or higher

Note that HP Sustaining Engineering maintains a schedule of support for the OpenVMS operating system. HP does not commit to supporting WEBES when installed on an operating system version that has exceeded its end-of-support date. See the following URL: [http://www.hp.com/hps/os/os\\_pvs\\_amap.html](http://www.hp.com/hps/os/os_pvs_amap.html).

- Patches—Install all the required OpenVMS patches (rated as INSTALL\_1) for your version, plus any other patches that are required for your system (for example, XP1000 or DS20E). Some patches may have prerequisite patches, so be sure to check the patch README files before installing patches.

You also need the latest LIBRTL, PTHREADS, ACRTL, TCP/IP, TDF, and MANAGE patches (if any) that exist for your version of OpenVMS.

- LIBRTL—Solves stack, synchronization, and multithreading problems that WEBES could encounter
- PTHREADS—Solves DECthreads problems that WEBES could encounter

## Installing on OpenVMS

### 6.1 Pre-Installation

- ACRTL—Solves C Run-Time Library problems that the Java Runtime Environment within WEBES could encounter (the JRE calls C RTL functions)
- TCP/IP—Required by the Java Runtime Environment. As of this writing, no WEBES problems have been reported without the TCP/IP patches, but the latest patches are recommended because WEBES uses TCP/IP.
- Time Differential Factor (TDF)—Solves CPU usage issues related to Daylight Savings Time adjustments
- MANAGE—Solves SYSMAN privilege problems that can prevent WEBES from installing

The latest UPDATE patch (if one exists for your OpenVMS version) includes a coherent set of the latest OpenVMS patches as of a certain date. A good strategy is first to install the latest UPDATE patch, followed by any other required patches listed above that were released *after* the latest UPDATE patch.

- Minimum 64,000 blocks free disk space
- Virtual memory (PAGEFILE.SYS)—600MB of virtual memory is recommended.

During standard operation, SEA uses far less memory. For example, when the Director is idle, usage stays generally around 350MB for systems with all the WEBES tools installed. Idle usage often may be closer to 73MB, or 9000 8KB pages, even though 350MB of virtual memory is allocated. This discrepancy occurs because of how OpenVMS calculates and displays its memory usage.

The 600MB of virtual memory gets allocated when the Director starts, but as the Director subprocesses stop, memory gets released to the system and virtual memory usage decreases. As subprocesses are spawned during event processing, memory usage increases and then drops again when those subprocesses finish. The virtual memory requirement is intended to set a threshold for the absolute maximum amount of memory that will ever be needed. If the threshold is exceeded, the Director terminates with an out-of-memory error.

Virtual memory for a process is stored in RAM and the pagefile on your disk. The space allocated must be sufficient to run WEBES and all other applications that you want to run simultaneously.

Practically speaking, if there is very little physical memory to support the virtual memory setting, frequent paging occurs whenever WEBES starts or is running, thus reducing overall system performance. WEBES engineering recommends having about half (or more) as much physical RAM as the virtual memory setting. So, to support the 600MB virtual memory requirement and avoid excessive paging, you would want at least 256MB of physical RAM.

You also can work backwards to determine the highest virtual memory setting to attempt. For example, if the system only has 128MB of physical RAM, the virtual memory setting should be reduced to about 250MB. Note that the lower value might cause the combined director and analyzer subprocesses to run out of memory should a flood of error events arrive for analysis.

## Installing on OpenVMS

### 6.1 Pre-Installation

If the virtual memory recommendation given here is too large or too small for your environment, you are of course free to make adjustments. You may want to experiment with various settings to find an optimal value. See the *SEA User Guide* for more information on adjusting the memory settings.

- Connectivity—TCP/IP installed and running

Even if TCP/IP traffic to other machines has been disabled, the ability to resolve the local host name into an IP address must be enabled. Otherwise, the Director cannot handle WEBES message traffic correctly and fails to start.

WEBES officially supports only two TCP/IP products for OpenVMS:

- HP TCP/IP Services for OpenVMS
- Process Software MultiNet (not TCPware)

Other TCP/IP products may work as-is, so the WEBES installation kit always completes regardless of what, if any, TCP/IP product is installed.

- Account quotas—minimum pagefile quota is 300,000 pages.  
Minimum byte limit quota is 170,000 bytes.  
Minimum open file limit is 400 files.  
(You may require higher quotas in order to run additional applications.)

To change quotas, enter the following commands:

```
$ SET DEF SYS$SYSTEM
$ MCR AUTHORIZE
UAF> MODIFY u s e r n a m e /PGFLQUO=300000
UAF> MODIFY u s e r n a m e /BYTLM=170000
UAF> MODIFY u s e r n a m e /FILLM=400
UAF> EXIT
$ LOGOUT
```

On clusters with multiple system disks, there could be multiple SYSUAF files, on different system disks. VMS engineering does not support such a configuration. There should be only one SYSUAF file for the entire cluster, and it should be located on a disk to which all cluster members have access.

If using multiple system disks and multiple SYSUAF files are used, set the user quotas for WEBES identically for each SYSUAF. For example, say that you have a cluster where nodes A and B share a SYSUAF files on system disk 1, and nodes C and D share a different SYSUAF file on system disk 2. To install WEBES on another disk 3 that all four nodes share, set the user quotas on node A or B, but also on node DC or CD (because the user accounts, including quota settings, are stored on both system disks 1 and 2).

New quotas go into effect when you log in again, so you must log out and log in again before installing WEBES.

## Installing on OpenVMS

### 6.1 Pre-Installation

- LOCALHOST entry—In order for WEBES to operate correctly, the LOCALHOST entry must be defined in the OpenVMS TCP/IP HOSTS database. It is defined correctly by default, but it can be removed, which causes WEBES to fail.

Enter the following command:

```
$ TCPIP SHOW HOST /LOCAL
```

Look for LOCALHOST, which should have an IP address of 127.0.0.1. If LOCALHOST does not appear in the list, enter the following command:

```
$ TCPIP SET HOST LOCALHOST /ADDRESS=127.0.0.1 /ALIAS=LOCALHOST
```

Enter a ping command to verify that LOCALHOST was added:

```
$ TCPIP PING LOCALHOST
PING LOCALHOST (127.0.0.1): 56 data bytes
64 bytes from 127.0.0.1: icmp_seq=0 ttl=64 time=0 ms
64 bytes from 127.0.0.1: icmp_seq=1 ttl=64 time=0 ms
64 bytes from 127.0.0.1: icmp_seq=1 ttl=64 time=0 ms
...
```

After verifying that LOCALHOST responds to the ping command, you can use Ctrl-C or Ctrl-Y to stop pinging.

- Ensure that the MULTITHREAD SYSGEN parameter is no greater than 16 before installing WEBES. Use a text editor to enter or modify the following entry in `sys$specific:[sysexe]modparams.dat`:

```
MULTITHREAD=16
```

Then, run **autogen** specifying the beginning/ending phases for autogen, and use feedback information. Note that the MULTITHREAD sysgen parameter is not dynamic. You must reboot the system to finish changing the value.

```
$ @sys$update:autogen GETDATA REBOOT FEEDBACK
```

- System firmware—The prerequisite system firmware supports the logging of events according to the FRU Table Version 5 Specification, which is required for WEBES FRU configuration tree processing.
  - All DSxx and ES40 systems must have firmware V5.7–4 or higher.
  - All other products supported by System Event Analyzer (see the *WEBES Release Notes*) ship with a firmware version that is already compatible with WEBES/SEA processing.

In general, users should take advantage of the latest improvements by obtaining the most recent firmware version available for their platform.

- Automated Notification—If desired, you can choose a method for sending automatic problem reports to your service provider:

## Installing on OpenVMS

### 6.1 Pre-Installation

- SICL—DSNLink V2.3E or V3.0 and a fixed IP address are required for sending System Initiated Call Logging (SICL) automatic problem reports. You must install DSNLink before installing WEBES.
  - PRS—For Proactive Remote Service (PRS) automatic reports, you do not need DSNLink or WorldWire installed on the system that is running WEBES. You only need to identify the host name and port number of the customer service gateway (also called the QSAP) during WEBES installation.
  - ISEE—For Instant Support Enterprise Edition (ISEE) automatic reports, you must install ISEE Client A.03.50 or later on the same machine as WEBES.
- You can upgrade to this version without first uninstalling a previous version yourself (any previous version back to and including version 4.3). This kit recognizes an existing installation, saves configuration and state data, uninstalls the existing kit, installs this version, and then restores the configuration and state data.

To install this version on a system that was running a version older than 4.3, first uninstall the older version using the instructions in the *WEBES Installation Guide* for that version.

### 6.1.2 SEA System Requirements

In addition to the common WEBES prerequisites, your system must meet the following requirements before you install the SEA component. In clusters, minimum requirements apply to each node in the cluster:

- If you want SEA to automatically analyze a system's native error log, you must install on a supported HP hardware platform or a machine that includes supported HP I/O devices. See the *WEBES Release Notes* for the list of supported products.
- Minimum 36,000 blocks free
- Web browser—Table 6–1 describes the browser prerequisites for SEA according to the following categories:
  - Supported—fully tested
  - As-is—not officially tested but may work reasonably well
  - Unsupported—known not to work

Table 6–1 OpenVMS Browser Requirements

Category	VMS
Supported	HP Secure Web Browser (SWB) Version 1.2–1 or later (based on Mozilla)
As-is	Mozilla, any HP version packaged separately from the SWB
Unsupported	Netscape, any version

## Installing on OpenVMS 6.1 Pre-Installation

HP now provides a fully supported web browser for OpenVMS, the Secure Web Browser (SWB) for OpenVMS Alpha, based on Mozilla. The SWB is available for download at: <http://h71000.www7.hp.com/openvms/products/ips/cswb/cswb.html>  
Be sure to read the install documentation and release notes before using SWB for the SEA web interface.

Mozilla kits for OpenVMS can be downloaded at: [http://h71000.www7.hp.com/openvms/products/ips/register\\_mozilla.html](http://h71000.www7.hp.com/openvms/products/ips/register_mozilla.html)  
Be sure to read the install documentation and release notes before using Mozilla for the SEA web interface. Also note that these Mozilla kits are later than the baseline for the SWB and are offered on an as-is basis only. The SWB is the preferred and fully supported browser for OpenVMS.

All web browsers for OpenVMS require a Java runtime environment to use the SEA web interface or to access any web site that uses Java. You have two options:

- (Preferred) Use the JRE embedded in WEBES.
- Install and use the Software Development Kit (SDK) v1.3.1–6 or later for OpenVMS, downloadable from the following web site:  
<http://h18012.www1.hp.com/java/alpha/>

Special notes apply depending on which option you choose for accessing the SEA web interface.

### **WEBES JRE:**

1. Initialize Java in your terminal session by executing the script:

```
$ @SVCTOOLS_HOME:[COMMON.JRE.LIB]JAVA$131_JRE_SETUP.COM
```

2. Launch the Web browser.

### **SDK Installed on the OpenVMS System:**

1. Initialize Java as described in the SDK Release Notes.  
For example, in SDK v1.4.0, use either of the following commands (command syntax differs for different SDK versions):

```
$ @SYS$COMMON:[JAVA$140.COM]JAVA$140_SETUP FAST ! Use the Fast VM
```

```
$ @SYS$COMMON:[JAVA$140.COM]JAVA$140_SETUP ! Use the Classic VM
```

2. Launch the web browser. Java functionality within the web browser should be identical for either initialization command above, but performance and memory usage may differ.

- Error log—After installation, SEA begins analyzing all events currently stored in the error log, which can result in high CPU usage over an extended period. To control this operation, you have two options:

## Installing on OpenVMS

### 6.1 Pre-Installation

- Archive and clean the error log as described in Section 6.1.6 before installing. This reduces the size of the log and, in turn, the cost of the initial scan.
- Choose to delay the initial scan when prompted during installation. Be aware that SEA automatic analysis does not run until after (and starting with) the initial scan, however.
- System serial number—On GS80, GS160, and GS320 systems, verify the serial number according to Section 6.1.7 before installing.

See the SEA documentation for additional background on hardware, firmware, and operating system interoperability.

### 6.1.3 CCAT System Requirements

In addition to the common WEBES prerequisites, your system must meet the following requirements before you install the CCAT component. In clusters, minimum requirements apply to each node in the cluster:

- To run the CCAT GUI, DECwindows must be installed and configured and Motif or X-Window system terminals are required.
- Minimum 8,000 blocks free

### 6.1.4 RCM Transition

RCM is no longer a WEBES component as of version 4.2. Be aware of the following installation considerations if you are using RCM at WEBES install time:

- RCM component of WEBES—You must uninstall all of the WEBES version that contained RCM before installing this version, and doing so removes the RCM tool.

You are free to install a standalone RCM kit at any time after removing the old version of WEBES. This version of WEBES does not contain RCM, but the latest RCM kits and documentation may be downloaded from <http://www.support.compaq.com/svctools/rcm>.

- Standalone RCM—Standalone versions of RCM are not affected by installing or upgrading to this version of WEBES.

## 6.1.5 Privileges

To install, upgrade, or uninstall WEBES, the user needs all of the following OpenVMS privileges:

ALTPRI	DIAGNOSE	SYSLCK
BUGCHK	IMPERSONATE	SYSPRV
BYPASS	NETMBX	TMPMBX
CMKRNL	OPER	

- When [Upgrading WEBES](#) as described in Section 6.4, the user who performs the upgrade must be the same user who originally installed the previous copy of WEBES.
- When [Uninstalling WEBES](#) as described in Section 6.5, the user who performs the uninstallation must be the same user who originally installed WEBES.

The SET PROCESS command sets privileges for *all* cluster nodes only when the cluster is served by a single system disk. However, on a cluster with multiple system disks, you might choose to install WEBES on nodes served by system disks other than the one serving the node from which you are installing. In that case, SET PROCESS does not set privileges on those other nodes (the nodes served by the other system disks), and WEBES does not install correctly on those other nodes.

To correctly install on clusters with multiple system disks, set up the required privileges as defaults (the privileges you get when logging in) on all nodes where you wish to install WEBES, instead of using the SET PROCESS command.

See Section 6.1.9, [Shared Non-System Disk Installations](#), for additional precautions related to one versus multiple system disks.

### Running WEBES

To execute any WEBES commands (DESTA, WSEA, or WCCAT commands), the user needs all of the following OpenVMS privileges. Note that these are a subset of the privileges required to install, upgrade, or uninstall WEBES:

ALTPRI	DIAGNOSE	SYSPRV
BUGCHK	IMPERSONATE	TMPMBX
CMKRNL	NETMBX	

## 6.1.6 Archiving and Cleaning the Error Log

(Required only when installing the SEA component)

Follow these guidelines for cleaning the error log. If WEBES is installed and running when you clean the log, you do not need to stop and restart the Director process. Also, do not stop and restart the ERRFMT system event logging process.

## Installing on OpenVMS

### 6.1 Pre-Installation

The default error log, typically SYSSYSROOT:[SYSERR]ERRLOG.SYS, increases in size and remains on the system disk until you explicitly rename or delete it. When you do either, the system creates a new, clean error log file after about 15 minutes.

#### Caution

---

After renaming or deleting the existing log, do not install WEBES until the new default log is present.

---

Note that if you rename the log, the saved log can be analyzed at a later time.

#### Scheduled Maintenance

Aside from starting with a clean log before installing SEA, you may want to perform regular maintenance on the error log. One method is to rename ERRLOG.SYS on a daily basis. For example, you might rename ERRLOG.SYS to ERRLOG.OLD every morning at 9:00. To free space on the system disk, you then can back up the renamed version to a different volume and delete the file from the system disk.

### 6.1.7 Verifying the Serial Number

(Required only for some GS80, GS160, and GS320 systems with SEA component)

Certain GS80, GS160, and GS320 systems did not have their system serial number set correctly at the factory, and SEA rules only function when the serial number is set correctly. Affected serial numbers will begin with the letter “G.”

At the SRM console firmware prompt (the prompt when you first power the system on), check the serial number with the following command:

```
>>> show sys_serial_num
```

The serial number shown should match the actual serial number on the model/serial number tag located in the power cabinet. If necessary, change the serial number with the following command:

```
>>> set sys_serial_num
```

Enter the six-character serial number provided on the tag in the power cabinet.

#### Multiple AlphaServers

This issue also can arise when multiple AlphaServers are ordered, because the factory may assign an identical serial number to each system. In this scenario, SEA rules do not work correctly because they require that each AlphaServer have a unique number.

If this is the case, uniquely identify each AlphaServer by appending -1, -2, -3, and so on, to the serial numbers when you use the set sys\_serial\_num command.

### Partitions

Note that multiple partitions on the same AlphaServer always have the same serial number because they reside on the same machine. There are no SEA conflicts in this case, so do not attempt to assign unique serial numbers to different partitions on the same machine.

## 6.1.8 Cluster Node Access to Install Directory

The kit only can install itself on cluster nodes that have access to the target directory where you choose to install WEBES. Another way to explain this is that the nodes must mount the disk containing the target directory. This means that an installation might not always place WEBES on all cluster nodes, since all nodes might not be able to “see” the place where you are installing WEBES.

Following are three scenarios that illustrate this issue:

- **CLUSTER:** All nodes share the same system disk.  
**INSTALL NODE:** Any node  
**INSTALL TARGET:** The default location SYS\$COMMON:[HP...]  
**RESULT:** WEBES installs itself for all nodes.
- **CLUSTER:** All but two nodes share system disk A. The other two nodes share system disk B.  
**INSTALL NODE:** A node that uses system disk A  
**INSTALL TARGET:** The default location SYS\$COMMON:[HP...]  
**RESULT:** The other two nodes will not have WEBES.

In the previous case, you can install WEBES one more time for the remaining two nodes by running the install from either node and again choosing the default location of SYS\$COMMON:[HP...]. Consider this a completely separate WEBES installation from the first install on the majority of the nodes.

- **CLUSTER:** All but two nodes share system disk A. The other two nodes share system disk B. All nodes also mount a non-system disk C.  
**INSTALL NODE:** Any node  
**INSTALL TARGET:** A directory on disk C, specified by you during the installation  
**RESULT:** WEBES installs itself for all nodes.

Note that in all cases the kit also lets you choose only a subset of the nodes that *can* see the install location.

## Installing on OpenVMS

### 6.1 Pre-Installation

#### 6.1.9 Shared Non-System Disk Installations

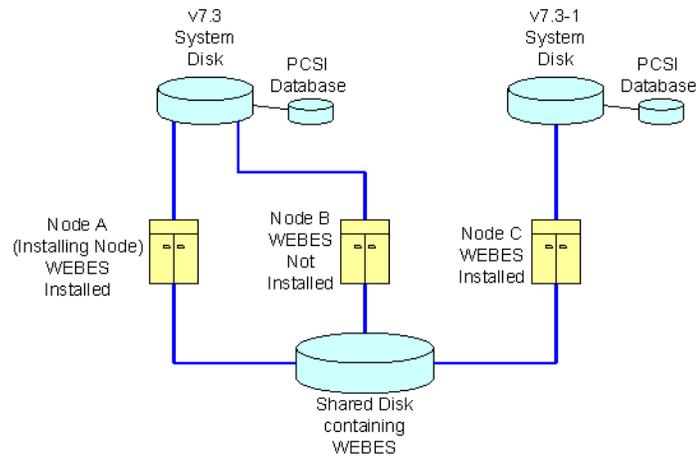
An OpenVMS cluster can contain nodes that are served by a single common system disk, or nodes that are served by multiple system disks. Any given node is served by only one system disk, but a system disk can serve one or more nodes. Each system disk contains its own PCSI database (product registry).

As explained in Section 6.1.8, WEBES can be installed on a system disk or shared non-system disk. However, a shared non-system disk might be accessible by multiple nodes that are served by different system disks as shown in Figure 6-1. This means that WEBES is not limited to being installed only on nodes served by one given system disk. A PCSI database, however, is limited to one system disk.

This scenario can generate discrepancies in the `PRODUCT SHOW PRODUCT WEBES` command. The command always shows WEBES as installed when run from a node served by the same system disk as the node from which WEBES was originally installed (the installing node). This is because the WEBES installer registers WEBES only into the PCSI database for the system disk serving the installing node, and not into any other PCSI databases. Two types of misleading information can result as shown in Figure 6-1.

- If a node is served by the same system disk as the installing node, but the user did not add WEBES to that node, the command shows that WEBES is installed when it is not.
- Conversely, if a node is served by a different system disk from the installing node, and the user added WEBES to that node, the command does not show that WEBES is installed when it is.

Figure 6–1 Shared Non-System Disk Installation



Scenario:

- User installs WEBES from node A.
- WEBES registers itself in the v7.3 System Disk PCSI database.
- User chooses to place WEBES on shared disk that all nodes can access.
- User chooses to add WEBES to nodes A and C, but not B.

PRODUCT SHOW PRODUCT command:

- On node A, says WEBES is installed (and it is).
- On node B, says WEBES is installed (but it is not).
- On node C, says WEBES is not installed (but it is).

## 6.1.10 Extracting the Installation Kit

To extract the WEBES installation kit, place the .EXE executable file in a directory, where:

- There are no other kits in the directory, especially other versions of WEBES kits.
- There are no old WEBES or WCC files in the directory that were left over from previous operations. (The most reliable course may simply be to use an empty directory.)

Then, enter the following command:

```
$ run WEBES_{version}.EXE
```

This command extracts the WEBES installation files. Messages similar to the following appear:

```
UnZipSFX 5.32 of 3 November 1997, by Info-ZIP (Zip-Bugs@lists.wku.edu)
```

```
*****
```

```
WEBES Kit
```

```
WEBES <version> for OpenVMS Alpha. 20-Mar-2002
```

```
*****
```

```
inflating: dec-axpvms-webes-<version>.pcsi
inflating: dec-axpvms-sea-<version>.pcsi
inflating: dec-axpvms-ccat-<version>.pcsi
inflating: webes_install.com
```

## 6.2 Installing WEBES

(The procedures in this section apply when WEBES is already uninstalled or was never installed at all. If you are upgrading to this version of WEBES with 4.3 or higher already installed, see Section 6.4, [Upgrading WEBES](#). Upgrading lets you preserve your configuration and state data.)

After all [Pre-Installation](#) instructions are met, run the following command and follow the prompts. The command executes the DCL script `WEBES_INSTALL.COM` in the current directory. Section 6.1.10 provides information about extracting the script.

Do not run the `PRODUCT INSTALL WEBES` command used in some older WEBES releases. This command aborts and prompts you to run the `WEBES_INSTALL` script instead. As of version 4.1, the installation uses the `WEBES_INSTALL` DCL script.

```
$ @svctools_home:[common.bin]webes_install
```

- **OpenVMS Patch Removal Feature**—During WEBES installation, you may see messages similar to the following:

```
The following product has been selected:
  DEC AXPVMS WEBES V4.3-2                Platform (product suite)

Information has been saved to allow you to uninstall the following
patches:

RECOVERY DATA SET 001 created 25-JUL-2003 00:06:16.52
-----
  PATCH                                APPLIED TO
-----
  DEC AXPVMS VMS731_LAN V6.0           DEC AXPVMS VMS V7.3-1
-----

* If you continue, recovery data for the patches listed above will be
  deleted.
* The deletion of recovery data does not affect the installation status
  of
  patches applied to products that are not participating in this
  operation.
* However, continuing with this operation prevents you from uninstalling
  * these patches at a future time by use of the PRODUCT UNDO PATCH command.

Do you want to continue? [NO] YES
```

The messages appear because of a new feature that allows OpenVMS patches to be removed. You only see these messages if you have installed the new OpenVMS PCSI patch that adds the feature, and you have installed OpenVMS patches that use the feature.

Prior to the addition of this feature, OpenVMS patches could not be removed. Nevertheless, note that installing WEBES will prevent you from using the new feature to remove any OpenVMS patches listed. Otherwise, you can safely ignore the messages and continue with WEBES installation.

- **Install Menu**—The main install menu lets you choose some or all of the WEBES tools for installation.

## Installing on OpenVMS 6.2 Installing WEBES

```

WEBES INSTALL - MAIN MENU
=====

Mandatory Component: WEBES

Optional Components:
  1. System Event Analyzer ( SEA )
  2. Computer Crash Analysis Tool ( CCAT )
  3. All of the Mandatory and Optional Components
  4. Exit
=====

```

- **Install Directory**—The default install directory is SYSSCOMMON, but the install routine prompts you so that you can change it if desired.
- **Clusters**—In clusters, the installation asks whether you also want to install WEBES on each of the other nodes in the cluster. Make sure that nodes in the cluster can access the install directory.
- **Customer and System Information**—Table 6–2 presents the customer and system information that you are asked during installation.

**Table 6–2 WEBES Information Required During Installation**

Question	Example	Notes
Customer name	Chris Green	
Customer phone	123-456-7890	
Company name	XYZ Company	
Customer email address	chris.green@xyz.com	
DSNLink notification email	chris.green@xyz.com	DSNLink reply mail will be sent to this address.
SMTP mail server	mailsys.xyz.com	The server that handles SMTP mail at your site
Company street address	123 Main Street	
Company city	Metropolis	
Company state and zip	VA 22222	
Primary Contact	Chris Green	
Secondary Contact	Pat Brown	
System name	MGDSYS	In clusters, asked only for the current node
System type	Type 1	In clusters, asked only for the current node
System serial number	A01234567890	In clusters, asked only for the current node
System IP address	12.34.56.78	In clusters, asked only for the current node

## Installing on OpenVMS

### 6.2 Installing WEBES

In addition to the customer and system data, WEBES requires you to supply the service obligation information described in Table 6-3.

Table 6-3 Service Obligation Information Required for WEBES

Question	Example	Notes
Service provider name	Hewlett-Packard	
System serial number	A01234567890	In clusters, asked only for the current node
Service obligation number	A01234567890	The default is usually the system serial number.
Service obligation start date	20-Feb-2002	The default is usually the current date.

#### 6.2.1 Installing SEA

Follow the prompts that appear. SEA prompts for whether to include the WEBES Director in the system startup and shutdown procedures.

In addition, SEA asks what automated notification setup to use (see the explanation of automated notification in Section 6.1.1):

```
Service Provider Notification:  
  (1) System-Initiated Call logging (SICL) using DSNLink  
  (2) Customer Service Gateway (CSG) formerly QSAP  
  (3) None
```

Option 2 requires you to supply the PRS customer service gateway address and port number (see Table 6-4).

Table 6-4 PRS Customer Service Gateway Information Required for SEA

Question	Example	Notes
CSG address	mycsg.abc.xyzcompany.com	The CSG will be a Windows system such as a ProLiant or StorageWorks Management Appliance.
CSG port number	2069	8941—PRS 3.1B or earlier 2069—PRS 4.5 or later

If you have the ISEE Client installed, the previous menu does not appear. Instead, you see one of the following:

- With DSNLink already installed—You are asked if you want DSNLink notifications in addition to ISEE notifications.
- Without DSNLink—WEBES will use the ISEE Client for notifications, and there are no prompts to answer.

**Delaying the Initial SEA Scan**—Immediately after installation, SEA normally scans all events currently stored in the error log. For a very full log, this initial scan can result in high CPU usage over an extended period. You can choose to delay the initial scan when prompted, but SEA automatic analysis does not run until after (and starting with) the initial scan. Note that events that happen during the delay are saved in the log for analysis at initial scan time.

## 6.2.2 Installing CCAT

Follow the prompts that appear while installing CCAT.

## 6.2.3 Finishing the WEBES Installation

After installing any components, the WEBES installation completes and displays the following message:

```
To change or remove the installed tools anytime in the future, or to change
the configuration, issue the command:
@SVCTOOLS_HOME:[COMMON.BIN]WEBES_INSTALL
```

After the message appears, you are returned to the command prompt.

## 6.3 Post-Installation

Be aware of the following post-installation procedures.

- [6.3.1 Adding a Node to a Cluster](#)
- [6.3.2 Correcting Node Data in Clusters](#)
- [6.3.3 Configuration Options](#)
- [6.3.4 Determining Which Tools are Installed](#)
- [6.3.5 Determining Which Versions are Installed](#)
- [6.3.6 Storing User Files](#)
- [6.3.7 Timestamp Adjustments](#)
- [6.3.8 Alternate Boot Start and Stop Methods](#)

## Installing on OpenVMS

### 6.3 Post-Installation

#### 6.3.1 Adding a Node to a Cluster

This procedure applies whenever you add a new node to a cluster after WEBES was installed, or when a node was down at WEBES install time.

To add WEBES to the new cluster node, follow these steps:

1. Enter the following command:

```
$_@wccproxy_home:[common.wccproxy.bin]wccproxyclusterinstall<node name>
```

2. Enter the following command:

```
$_ @svctools_home:[common.bin]destacluster install <node name>
```

3. Enter commands that correspond to the desired components (in any order).

SEA:

```
$_ @svctools_home:[common.bin]cacluster install <node name>
```

CCAT:

```
$_ @svctools_home:[common.bin]ccatcluster install <node name>
```

WEBES engineering expects to simplify this procedure in a future release.

#### 6.3.2 Correcting Node Data in Clusters

In clusters, the install node's configuration data propagates to the other nodes in the cluster. To correct this issue, rerun the install command on the other nodes in the cluster:

```
$_ @svctools_home:[common.bin]webes_install
```

Use the WEBES update menu to enter customized values (such as option 6. System Information, and option 7. Service Obligation) that apply to the given node.

WEBES engineering expects to correct this issue in a future release.

##### Special Case for Separate System Disks

The previous recommendation works only if you install on a cluster where all nodes share the same system disk. If you install on a cluster-shared disk, but each node has a separate system disk, then WEBES\_INSTALL thinks WEBES is not installed and tries to start an installation. (It works correctly on the node from which you installed WEBES, but that node already has the desired configuration data.)

Instead of running WEBES\_INSTALL on each node, the workarounds for the WEBES\_INSTALL options are as follows:

- Options 1–2: SEA and CCAT menus

Run these only from the installing node. These options do not involve correcting node data.

- Option 3: Start at Boot Time

To see if WEBES processes are set to start on boot:

```
$ MCR SYSMAN STARTUP SHOW FILE
```

To turn off boot time startup, where *{hostname}* is the name of the machine:

```
$ MCR SYSMAN STARTUP REMOVE FILE CCAT$STARTUP.COM  
$ MCR SYSMAN STARTUP REMOVE FILE/PHASE=LPMAIN DESTA$STARTUP.COM  
$ MCR SYSMAN STARTUP ADD FILE/PHASE=LPMAIN DESTA_LOGICALS$STARTUP.COM
```

To turn on boot time startup, where *{hostname}* is the name of the machine:

```
$ MCR SYSMAN STARTUP ADD FILE CCAT$STARTUP.COM  
$ MCR SYSMAN STARTUP ADD FILE/PHASE=LPMAIN DESTA$STARTUP.COM  
$ MCR SYSMAN STARTUP REMOVE FILE/PHASE=LPMAIN DESTA_LOGICALS$STARTUP.COM
```

- Option 4: Customer Information (This probably does not change per node.)

In the following file, manually edit the fields that do not start with “System \_\_\_”:  
SVCTOOLS\_HOME:[SPECIFIC.DESTA.CONFIG]PROFILE.TXT

In the following file, manually edit customer information as needed:  
SVCTOOLS\_HOME:[SPECIFIC.DESTA.CONFIG]DESTA.REG

- Option 5: System Information

In the following file, manually edit the “System \_\_\_” fields:  
SVCTOOLS\_HOME:[SPECIFIC.DESTA.CONFIG]PROFILE.TXT

In the following file, manually edit the “common.SystemSerialNumber=” field:  
SVCTOOLS\_HOME:[SPECIFIC.DESTA.CONFIG]DESTA.REG

- Option 6: Service Obligation

Instead, run the following command and enter new values.

```
$ desta servob install
```

- Options 7–8: Start/Stop Director

Instead, run the commands:

```
$ desta start  
$ desta stop
```

- Option 9: Uninstall

## Installing on OpenVMS

### 6.3 Post-Installation

Run this option only from the installing node. This option does not involve correcting node data.

#### 6.3.3 Configuration Options

Any time after initial installation, you can rerun the install command:

```
$ @svctools_home:[common.bin]webes_install
```

When WEBES is already installed, the command launches the update menu:

```
WEBES UPDATE - MAIN MENU
=====

1. SEA Menu
2. CCAT Menu
3. Start At Boot Time
4. Customer Information
5. System Information
6. Service Obligation
7. Start DESTA Director
8. Stop DESTA Director
9. Uninstall Webes
   - Fully uninstalls Webes and all installed dependent components
     such as SEA and CCAT
10. Exit
=====
```

Selections requiring that the WEBES Director process first be stopped (for example, for tool installation) automatically stop the Director and then restart it during the interactive routine. Table 6-5 describes each option:

Table 6-5 Configuration Options

Selection	Description
SEA Menu	Installs or removes the SEA tool
CCAT Menu	Installs or removes the CCAT tool
Start at Boot Time	Specifies whether to automatically start the WEBES Director process whenever the system starts (in clusters, selectable for each node)
Customer Information	Allows you to confirm or modify the customer data entered during installation. In clusters, different customer information can be applied to each node.
System Information	Allows you to confirm or modify the system data entered during installation. In clusters, different system information can be applied to each node.

**Table 6–5 Configuration Options (continued)**

Selection	Description
Service Obligation	Allows you to confirm or modify the service obligation data entered during installation. In clusters, different service obligation information can be applied to each node.
Start DESTA Director	Manually starts the WEBES Director process (in clusters, selectable for each node)
Stop DESTA Director	Manually stops the WEBES Director process (in clusters, selectable for each node)
Uninstall WEBES	Removes all WEBES components and tools
Exit	Returns to the operating system prompt

Note that there are workarounds for WEBES\_INSTALL in clusters where you install on a cluster-shared disk, but each node has a separate system disk. See the [Special Case for Separate System Disks](#) in Section 6.3.2 instead of running WEBES\_INSTALL.

### 6.3.4 Determining Which Tools are Installed

On any system that you are unsure about, you can determine what parts of WEBES are installed as follows.

**WEBES**—The WEBES base kit is installed if issuing the following command generates output similar to the following:

```
$ product show product webes
-----
PRODUCT                                KIT TYPE    STATE
-----
DEC AXPVMS WEBES V4.3-2                 Platform    Installed
-----
```

**SEA**—SEA is installed if issuing the following command generates output similar to the following:

```
$ product show product sea
-----
PRODUCT                                KIT TYPE    STATE
-----
DEC AXPVMS SEA V4.3-2                   Full LP     Installed
-----
```

**CCAT**—CCAT is installed if issuing the following command generates output similar to the following:

```
$ product show product ccat
-----
```

## Installing on OpenVMS

### 6.3 Post-Installation

PRODUCT	KIT TYPE	STATE
DEC AXPVMS CCAT V5.1-1	Full LP	Installed

**WCCProxy**—WCCProxy is installed if issuing the following command generates output similar to the following:

```
$ product show product wccproxy
```

PRODUCT	KIT TYPE	STATE
DEC AXPVMS WCCPROXY V1.2-1	Full LP	Installed

In general, you do not need to keep track of any build number that follows the base version number. Subsequent dot releases may affect the build number.

#### Special Case for Separate System Disks

The previous steps work only if you install on a cluster where all nodes share the same system disk. If you install on a cluster-shared disk, but each node has a separate system disk, you only see the correct PRODUCT SHOW output on the node where WEBES was originally installed. All the other nodes do not show WEBES nor any of its component tools as installed.

You can see what original node WEBES was installed from by looking at the following line in `SVCTOOLS_HOME:[SPECIFIC.DESTA.CONFIG]PROFILE.TXT` on any node (unless someone already edited the file as described in the workarounds in Section 6.3.2):

```
System name is NODENAME
```

If someone already edited the PROFILE.TXT file for each node, use the following method to see where WEBES was installed from:

```
$ MCR SYSMAN
SYSMAN> set env /cluster
SYSMAN> do product show product webes
```

This runs the PRODUCT ... command on each node and displays its output. One of the nodes will show WEBES as installed, which is the original node.

### 6.3.5 Determining Which Versions are Installed

To determine what versions of WEBES and its component tools are installed, open and read the text files shown in Table 6-6.

**Table 6–6 Determining WEBES and Tool Versions**

<b>Tool</b>	<b>File for Version Information</b>
WEBES Overall Kit	SVCTOOLS_HOME:[COMMON.WEBES]RELEASE.TXT
WEBES Common Components (WCC)	SVCTOOLS_HOME:[COMMON.DESTA]RELEASE.TXT
WCCProxy	SVCTOOLS_HOME:[COMMON.DESTA]RELEASE.TXT
SEA	SVCTOOLS_HOME:[COMMON.SEA]RELEASE.TXT
CCAT	SVCTOOLS_HOME:[COMMON.CCAT]RELEASE.TXT

The WEBES readme file lists the component versions for the release. Generally, they match the overall WEBES version number. The files in Table 6–6 also may reveal a “build” number, but they are not intended to match across components.

### 6.3.6 Storing User Files

WEBES includes “userdata” subdirectories under the WEBES svctools directory tree as follows:

```
SVCTOOLS_HOME: [COMMON.CA.USERDATA]
SVCTOOLS_HOME: [COMMON.CCAT.USERDATA]
SVCTOOLS_HOME: [COMMON.DESTA.USERDATA]
SVCTOOLS_HOME: [COMMON.WEBES.USERDATA]

SVCTOOLS_HOME: [SPECIFIC.CA.USERDATA]
SVCTOOLS_HOME: [SPECIFIC.CCAT.USERDATA]
SVCTOOLS_HOME: [SPECIFIC.DESTA.USERDATA]
SVCTOOLS_HOME: [SPECIFIC.WEBES.USERDATA]
```

When using WEBES, store your own files (such as binary event logs or CCAT crash dump files) under these subdirectories.

- Storing files under the userdata subdirectories makes them easily accessible in the WEBES user interfaces. For example, SEA automatically lists any binary event logs from the CA.USERDATA subdirectories under Other Logs.
- In WEBES 4.1 or later, files stored under the userdata subdirectories are preserved and restored during WEBES uninstalls and reinstalls.

On clusters, place files that you want to be accessible by all nodes into the “common” paths, and files that are only for one node under the “specific” paths.

## Installing on OpenVMS

### 6.3 Post-Installation

#### 6.3.7 Timestamp Adjustments

In some cases, you may see a discrepancy in the timestamps among the event, report, and expiration times when using WEBES:

```
Event Time:      Wed 1 Oct 2003 10:39:00 GMT-05:00
Report Time:     Wed 1 Oct 2003 11:39:00 GMT-04:00
Expiration Time: Wed 1 Oct 2003 10:39:00 GMT-05:00
```

This can occur when, for example, OpenVMS is writing times into the logfile in standard time, while the Java time zone information utilities are correctly adjusting for daylight savings based on the date.

To address such discrepancies, look at time settings by checking logicals as shown in the following example:

```
$ show logical *time*

(LNM$SYSTEM_TABLE)

"SYS$DST_DELTA_TIME" = "ffffcaccfbc390af"
"SYS$LOCALTIME" = "SYS$SYSROOT:[SYS$ZONEINFO.SYSTEM.US]MOUNTAIN."
"SYS$TIMEZONE_DAYLIGHT_SAVING" = "1"
"SYS$TIMEZONE_DIFFERENTIAL" = "-21600"
"SYS$TIMEZONE_NAME" = "MDT"
"SYS$TIMEZONE_RULE" = "MST7MDT6,M4.1.0/02,M10.4.0/02"
```

Adjust any settings that are incorrect for your location. You may want to make this verification step part of your regular post-installation tasks.

#### 6.3.8 Alternate Boot Start and Stop Methods

Normally, installing WEBES sets up VMS system logicals required for proper WEBES operation, and optionally sets up the WCCProxy and DESTA Director processes to start shortly after booting, and to shut down as part of the site-specific shutdown process. The WEBES installer uses the VMS facility “MCR SYSMAN STARTUP” for this setup.

The kit asks the following question during installation:

```
DESTA$STARTUP and DESTA$SHUTDOWN will be added to system startup and
shutdown procedures, by default. Answering NO will add
DESTA LOGICALS$STARTUP for defining of ONLY LOGICALS, but will not start
the DESTA Director during reboot.
Do you want to add? [YES]
```

If you answer YES, WEBES puts the entries below into the MCR SYSMAN STARTUP table, to do the following:

- Define the logicals
- Start the WCCProxy 5 minutes after the WCCPROXY\$STARTUP is called
- Start the DESTA Director 5 minutes after the DESTA\$STARTUP is called

- (If you chose to install CCAT) Start CCAT shortly after the DESTA Director has started (to look for crash dumps to analyze)

Phase	Mode	File
LPMAIN	DIRECT	WCCPROXY\$STARTUP.COM
LPMAIN	DIRECT	DESTA\$STARTUP.COM
LPMAIN	DIRECT	CCAT\$STARTUP.COM

In addition, the following line is appended to the system SYSHUTDOWN.COM file:

```
$ IF F$SEARCH("SYS$STARTUP:DESTA$SHUTDOWN.COM") .NES. "" THEN
@SYS$STARTUP:DESTA$SHUTDOWN.COM
```

If you answer NO, WEBES puts the entries below into the MCR SYSMAN STARTUP table, to do the following:

- Define the logicals
- Start the WCCProxy 5 minutes after the WCCPROXY\$STARTUP is called (the ISEE Client product needs the WCCProxy part of WEBES to be running at all times, even if the DESTA Director is not running)

Phase	Mode	File
LPMAIN	DIRECT	DESTA_LOGICALS\$STARTUP.COM
LPMAIN	DIRECT	WCCPROXY\$STARTUP.COM

The DESTA Director and CCAT processes are not started. The system SYSHUTDOWN.COM file is left untouched.

### Controlling the Startup Sequence Yourself

If you wish to control the setup of WEBES in the startup sequence yourself, you can instead do the following:

**Option A**—If you want the DESTA Director to start at boot time:

1. Answer “YES” to the above “Do you want to add?” question during the WEBES install.
2. Remove the entries added by the WEBES install:

```
$ MCR SYSMAN STARTUP REMOVE FILE WCCPROXY$STARTUP.COM
$ MCR SYSMAN STARTUP REMOVE FILE DESTA$STARTUP.COM
$ MCR SYSMAN STARTUP REMOVE FILE CCAT$STARTUP.COM
```

(The last line applies only if CCAT was installed.)

3. Add these calls to your system startup, anytime after TCP/IP has been started, in any order:

```
$ @SYS$STARTUP:WCCPROXY$STARTUP
$ @SYS$STARTUP:DESTA$STARTUP.COM
$ @SYS$STARTUP:CCAT$STARTUP.COM
```

(The last line applies only if CCAT was installed.)

## Installing on OpenVMS

### 6.3 Post-Installation

4. Examine the DESTA line appended to the SYSHUTDOWN.COM, and move it if desired.

**Option B:** If you do not want the DESTA Director to start at boot time, but you want to be able to run WEBES processes manually, including the DCL commands DESTA, WSEA, and WCCPROXY (such as “desta start” to start the Director later manually):

1. Answer “NO” to the above “Do you want to add?” question during the WEBES install.
2. Remove the entries added by the WEBES install:

```
$ MCR SYSMAN STARTUP REMOVE FILE WCCPROXY$STARTUP.COM
$ MCR SYSMAN STARTUP REMOVE FILE DESTA_LOGICALS$STARTUP.COM
```

3. Add these calls to your system startup, anytime after TCP/IP has been started, in any order:

```
$ @SYS$STARTUP:WCCPROXY$STARTUP "LOGICALS ONLY"
$ @SYS$STARTUP:DESTA_LOGICALS$STARTUP.COM
```

Note the required quoted parameter to WCCPROXY\$STARTUP, which will prevent starting the WCCProxy process after setting up the WCCProxy system logicals.

If you have the ISEE Client installed, it requires the WCCProxy process to be running at all times. In that case, remove the “LOGICALS ONLY” parameter to allow the WCCProxy process to start:

```
$ @SYS$STARTUP:WCCPROXY$STARTUP
$ @SYS$STARTUP:DESTA_LOGICALS$STARTUP.COM
```

4. The DESTA Director must be stopped with a “desta stop” command before shutting down the VMS system, to ensure a clean closure of files, sockets, processes, and other resources.

Even if you do not start the Director at boot time, it is recommended that you add the line shown below to your site-specific system shutdown process (such as SYSHUTDOWN.COM) to ensure that any DESTA Director started manually is stopped correctly during system shutdown:

```
$ IF F$SEARCH("SYS$STARTUP:DESTA$SHUTDOWN.COM") .NES. "" THEN
@SYS$STARTUP:DESTA$SHUTDOWN.COM
```

Or simply:

```
$ @SYS$STARTUP:DESTA$SHUTDOWN.COM
```

(The simplified line will cause an error message if it remains after WEBES has been removed or uninstalled.)

**Option C:** If you do not want the DESTA Director to start at boot time, and you do not want to be able to run any WEBES processes without manually setting up WEBES first:

The process is the same as in Option B, skipping step 3 (1 and 2 are still required, and 4 is recommended). No WEBES DCL commands will operate correctly until a user with the

required WEBES runtime privileges (see Section 6.1.5) issues both of the commands listed in step 3.

#### Manually Remove SYSMAN Entry After Upgrading:

If you upgrade WEBES to a newer version after manually removing the entries from SYSMAN, the upgrade places the WCCPROXY entry in SYSMAN. (This will be corrected in a future WEBES release.) If you are already handling WEBES setup using one of the above options (A, B, or C), then you must manually remove the SYSMAN entry inserted by the upgrade, after the upgrade has completed:

```
$ MCR SYSMAN STARTUP REMOVE FILE WCCPROXY$STARTUP.COM
```

## 6.4 Upgrading WEBES

### Note

---

Before upgrading WEBES, reinitialize the system error log as described in Section 6.1.6, [Archiving and Cleaning the Error Log](#).

---

This section applies when upgrading to this version of WEBES with 4.3.2 or higher already installed on the system. The procedure does not apply with versions older than 4.3.2 already installed.

If WEBES is already uninstalled or was never installed at all, see Section 6.2, [Installing WEBES](#).

Upgrading lets you preserve your configuration and state data. Be aware that upgrading uninstalls the other version of WEBES and installs the newer version—the upgrade does not simply patch or replace certain files, as was the case with WEBES Service Paks.

In clusters, follow these guidelines:

- Upgrade by running the WEBES installer  
# @WEBES\_INSTALL (from the directory where the 4.3.4 kit is present) only on the same cluster node from which you originally installed WEBES.
- The node WEBES was installed from is the only one where the system logical WEBES\$ROOT is defined. You can determine which node as follows:

```
$ MCR SYSMAN  
SYSMAN> SET ENV /CLUSTER  
SYSMAN> DO SHOW LOGICAL WEBES$ROOT  
SYSMAN> EXIT
```

Whenever 4.3.2 or higher is already installed, the WEBES installer

## Installing on OpenVMS

### 6.5 Uninstalling WEBES

#@WEBES\_INSTALL (from the directory where the 4.3.4 kit is present) informs you that the other version was detected and prompts you about upgrading:

```
WEBES V4.3.2 is currently installed.  
Do you wish to upgrade to WEBES V4.3.4?[YES]:
```

If you answer **Yes**, the kit saves configuration and state data, uninstalls the other version, installs this version, and then restores the configuration and state data.

If you answer **No**, the kit exits. If desired, you can uninstall the existing WEBES copy yourself, but then not all data will be migrated upon installing the newer version as described in Section 6.2, [Installing WEBES](#).

## 6.5 Uninstalling WEBES

The following sections describe how to uninstall WEBES.

### 6.5.1 Removing a Tool

To uninstall an individual WEBES tool, rerun the install command:

```
$ @svctools_home:[common.bin]webes_install
```

Choose the menu number for the tool (1 or 2) and follow the prompts to remove it.

```
WEBES UPDATE - MAIN MENU  
=====
```

1. SEA Menu
2. CCAT Menu
3. Start At Boot Time
4. Customer Information
5. System Information
6. Service Obligation
7. Start DESTA Director
8. Stop DESTA Director
9. Uninstall Webes
  - Fully uninstalls Webes and all installed dependent components such as SEA and CCAT
10. Exit

```
=====
```

### 6.5.2 Removing all of WEBES

To uninstall all of WEBES, rerun the install command:

```
$ @svctools_home:[common.bin]webes_install
```

Choose the “Uninstall WEBES” option from the update menu and follow the prompts that appear.

WEBES UPDATE - MAIN MENU

=====

1. SEA Menu
2. CCAT Menu
3. Start At Boot Time
4. Customer Information
5. System Information
6. Service Obligation
7. Start DESTA Director
8. Stop DESTA Director
9. Uninstall Webes
  - Fully uninstalls Webes and all installed dependent components  
such as SEA and CCAT
10. Exit

=====

### **6.5.3 Clusters**

Log in to the node where you want to remove WEBES. Then, the uninstall routine asks whether you also want to uninstall from each of the other nodes in the cluster.

By controlling your answers to the prompts, you can remove WEBES from one node (the one where you logged on), multiple nodes (which always includes the one where you logged on), or the entire cluster.

Make sure the other nodes in the cluster can access the WEBES install directory on the node where you logged on.



---

# Glossary

## A

### access ID

An alphanumeric string that identifies a customer. Enterprise customers probably will have more than one ID. (They may be assigned one per site, for example.) Other systems may refer to this alphanumeric string as the service ID.

### ACHS

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

### Automatic Call Handling System

See [ACHS](#).

## C

### CADC

Crash Analysis Data Collector. On Windows systems, CADC is required before the system can collect operating system failure information and format it into a footprint that [CCAT](#) can then analyze. The Tru64 UNIX and OpenVMS operating systems come with built-in utilities that create such footprints.

### CCAT

Computer Crash Analysis Tool. CCAT is a remote operating system failure analysis tool and is a [WEBES](#) component.

### Computer Crash Analysis Tool

See [CCAT](#).

## Glossary

### D

#### Crash Analysis Data Collector

See *CADC*.

#### customer service gateway

The *PRS* system that connects customer managed systems with the outside world. Events from the managed systems are accumulated to a single customer service gateway platform on the customer premises for transmission to the service provider.

### D

#### DESTA

Distributed Enterprise Service Tools Architecture. DESTA is the engineering code name for the *WEBES* software suite architecture. Consider any references to DESTA to be roughly synonymous with WEBES itself.

#### Distributed Enterprise Service Tools Architecture

See *DESTA*.

#### DHCP

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

#### DSNLink

A service tool that allows two-way *SICL* communications between a customer system and a service provider system.

#### Dynamic Host Configuration Protocol

See *DHCP*.

### I

#### Instant Support Enterprise Edition

See *ISEE*.

#### ISEE

Instant Support Enterprise Edition. HP ISEE automates remote support over the Internet by using electronic notifications similar to those from *SICL* or *PRS*. ISEE service providers can use remote diagnostic scripts to analyze supported systems and devices.

## J

### Java Development Kit

See [JDK](#).

### Java Runtime Environment

See [JRE](#).

### Java Virtual Machine

See [JVM](#).

### JDK

Java Development Kit. The JDK is a set of development tools used for creating Java applications, such as [SEA](#).

### JRE

Java Runtime Environment. JRE is runtime code that enables Java applications to be distributed freely.

### JVM

Java Virtual Machine (or Java VM). The JVM is an abstract computing machine with an instruction set and various memory areas. The JVM understands the Java class file, which contains its instructions. The JVM is part of the JDK, and part of better versions of various browsers.

## M

### mandatory subsets

In Tru64 UNIX WEBES installations, mandatory subsets refers to the required portions of the WEBES suite such as the [WCC](#), rather than the tools such as [SEA](#) or [CCAT](#).

## P

### PCSI

POLYCENTER Software Installation. PCSI is a software installation and management tool for OpenVMS systems. PCSI can package, install, remove, and manage software products.

### POLYCENTER Software Installation

See [PCSI](#).

## Glossary

### Q

#### Proactive Remote Service

See [PRS](#).

#### PRS

Proactive Remote Service. PRS lets customer systems self-monitor and securely report problems and events to a service provider. In addition, service representatives can securely connect back to a remote customer system for non-disruptive repair and maintenance. PRS uses [WorldWire](#) and is the next evolution from the original [SICL](#) service offering.

### Q

#### QSAP

Qualified Service Access Point. QSAP is an older name for the [customer service gateway](#).

#### Qualified Service Access Point

See [QSAP](#).

### R

#### RCM

Revision and Configuration Management. In versions prior to 4.2, RCM was a [WEBES](#) component that collected configuration, revision, and patch data from supported systems.

#### Revision and Configuration Management

See [RCM](#).

### S

#### SEA

System Event Analyzer. SEA is a remote system event monitoring tool and is a [WEBES](#) component.

#### service ID

An alphanumeric string that identifies a customer. Enterprise customers probably will have more than one ID. (They may be assigned one per site, for example.) Other systems may refer to this alphanumeric string as the access ID.

## SICL

System Initiated Call Logging. SICL uses [DSNLink](#) to send 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. The follow-up service offering to SICL is [PRS](#).

## Simple Mail Transfer Protocol

See [SMTP](#).

## SMTP

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

## System Event Analyzer

See [SEA](#).

## System Initiated Call Logging

See [SICL](#).

## T

### TCP/IP

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

### Transmission Control Protocol/Internet Protocol

See [TCP/IP](#).

## U

### UniCensus

The Tru64 UNIX version of [RCM](#).

## Glossary

### W

## W

### WCC

WEBES Common Components. The WCC are required 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 ([SEA](#) and [CCAT](#)) and are almost always transparent to the user. See also [WCCProxy](#).

### WCCProxy

Like the [WCC](#), the WCCProxy is another required part of WEBES. After WEBES installation, the WCCProxy appears as a separately installed kit and represents WEBES functionality not developed in the Java environment. The WCCProxy contains functions that allow WEBES to interact properly with the operating system and with the ISEE Client.

### Web-Based Enterprise Services

See [WEBES](#).

### WEBES

Web-Based Enterprise Services. WEBES is an integrated set of web-enabled service tools that includes the System Event Analyzer ([SEA](#)) and Computer Crash Analysis Tool ([CCAT](#)), as well as the required components [WCC](#) and [WCCProxy](#). See also [DESTA](#).

### WEBES Common Components

See [WCC](#).

### WorldWire

A service tool that allows for secure two-way [PRS](#) communication between a customer system and a service provider system.