HP OpenView Operations

Installation Guide

Software Version: A.08.10

HP-UX

Manufacturing Part Number: B7491-90046

October 2004

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Contents

Contents

Contents

Contents

Printing History

The printing date and part number of the manual indicate the edition of the manual. The printing date will change when a new edition is printed. Minor changes may be made before a reprint without changing the printing date. The part number of the manual will change when extensive changes are made.

Manual updates may be issued between editions to correct errors or to document product changes. To ensure that you receive the latest edition of the manual, you should subscribe to the product-support service. See your HP sales representative for details.

First Edition:	OPC 2.0	October 1995
Second Edition:	OPC 2.1	January 1996
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Fifth Edition:	ITO 5.1	February 1999
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Ninth Edition:	VPO 7.1	May 2002
Tenth Edition:	OVO 8.0	June 2004
Eleventh Edition:	OVO 8.1	October 2004

Conventions

The following typographical conventions are used in this manual.

Table 1 Typographical Conventions

Font	Meaning	Example
Italic	Book or manual titles, and man page names	Refer to the *OVO Administrator's Reference* and the *opc(1M)* manpage for more information.
	Emphasis	You *must* follow these steps.
	Variable that you must supply when entering a command	At the prompt, enter **`rlogin`** ***`username`***.
	Parameters to a function	The *`oper_name`* parameter returns an integer response.
Bold	New terms	The **HTTPS agent** observes...
`Computer`	Text and other items on the computer screen	The following system message displays: `Are you sure you want to remove current group?`
	Command names	Use the `grep` command ...
	Function names	Use the `opc_connect()` function to connect ...
	File and directory names	`/opt/OV/bin/OpC/`
	Process names	Check to see if `opcmona` is running.
	Window/dialog-box names	In the `Add Logfile` window ...
	Menu name followed by a colon (`:`) means that you select the menu, then the item. When the item is followed by an arrow (`->`), a cascading menu follows.	Select `Actions: Filtering -> All Active Messages` from the menu bar.

Table 1 Typographical Conventions (Continued)

Font	Meaning	Example
`Computer Bold`	Text that you enter	At the prompt, enter **`ls -l`**
Keycap	Keyboard keys	Press **Return**.
`[Button]`	Buttons in the user interface	Click `[OK]`.

OVO Documentation Map

HP OpenView Operations (OVO) provides a set of manuals and online help that help you to use the product and to understand the concepts underlying the product. This section describes what information is available and where you can find it.

Electronic Versions of the Manuals

All the manuals are available as Adobe Portable Document Format (PDF) files in the documentation directory on the OVO product CD-ROM.

With the exception of the *OVO Software Release Notes*, all the manuals are also available in the following OVO web-server directory:

`http://<management_server>:3443/ITO_DOC/<lang>/manuals/*.pdf`

In this URL, <*management_server*> is the fully-qualified hostname of your management server, and <*lang*> stands for your system language, for example, `C` for the English environment and `japanese` for the Japanese environment.

Alternatively, you can download the manuals from the following website:

`http://ovweb.external.hp.com/lpe/doc_serv`

Watch this website regularly for the latest edition of the OVO Software Release Notes, which gets updated every 2-3 months with the latest news such as additionally supported OS versions, latest patches and so on.

OVO Manuals

This section provides an overview of the OVO manuals and their contents.

Table 2 OVO Manuals

Manual	Description	Media
OVO Installation Guide for the Management Server	Designed for administrators who install OVO software on the management server and perform the initial configuration. This manual describes: • Software and hardware requirements • Software installation and de-installation instructions • Configuration defaults	Hardcopy PDF
OVO Concepts Guide	Provides you with an understanding of OVO on two levels. As an operator, you learn about the basic structure of OVO. As an administrator, you gain an insight into the setup and configuration of OVO in your own environment.	Hardcopy PDF
OVO Administrator's Reference	Designed for administrators who install OVO on the managed nodes and are responsible for OVO administration and troubleshooting. Contains conceptual and general information about the OVO DCE/NCS-based managed nodes.	PDF only
OVO DCE Agent Concepts and Configuration Guide	Provides platform-specific information about each DCE/NCS-based managed-node platform.	PDF only
OVO HTTPS Agent Concepts and Configuration Guide	Provides platform-specific information about each HTTPS-based managed-node platform.	PDF only
OVO Reporting and Database Schema	Provides a detailed description of the OVO database tables, as well as examples for generating reports from the OVO database.	PDF only
OVO Entity Relationship Diagrams	Provides you with an overview of the relationships between the tables and the OVO database.	PDF only

Table 2 OVO Manuals (Continued)

Manual	Description	Media
OVO Java GUI Operator's Guide	Provides you with a detailed description of the OVO Java-based operator GUI and the Service Navigator. This manual contains detailed information about general OVO and Service Navigator concepts and tasks for OVO operators, as well as reference and troubleshooting information.	PDF only
Service Navigator Concepts and Configuration Guide	Provides information for administrators who are responsible for installing, configuring, maintaining, and troubleshooting the HP OpenView Service Navigator. This manual also contains a high-level overview of the concepts behind service management.	Hardcopy PDF
OVO Software Release Notes	Describes new features and helps you: • Compare features of the current software with features of previous versions. • Determine system and software compatibility. • Solve known problems.	PDF only
OVO Supplementary Guide to MPE/iX Templates	Describes the message source templates that are available for the MPE/iX managed nodes. This guide is not available for OVO on Solaris.	PDF only
Managing Your Network with HP OpenView Network Node Manager	Designed for administrators and operators. This manual describes the basic functionality of the HP OpenView Network Node Manager, which is an embedded part of OVO.	Hardcopy PDF
OVO Database Tuning	This ASCII file is located on the OVO management server at the following location: `/opt/OV/ReleaseNotes/opc_db.tuning`	ASCII

Additional OVO-related Products

This section provides an overview of the OVO-related manuals and their contents.

Table 3 Additional OVO-related Manuals

Manual	Description	Media
HP OpenView Operations for UNIX Developer's Toolkit If you purchase the HP OpenView Operations for UNIX Developer's Toolkit, you receive the full OVO documentation set, as well as the following manuals:		
OVO Application Integration Guide	Suggests several ways in which external applications can be integrated into OVO.	Hardcopy PDF
OVO Developer's Reference	Provides an overview of all the available application programming interfaces (APIs).	Hardcopy PDF
HP OpenView Event Correlation Designer for NNM and OVO If you purchase HP OpenView Event Correlation Designer for NNM and OVO, you receive the following additional documentation. Note that HP OpenView Event Correlation Composer is an integral part of NNM and OVO. OV Composer usage in the OVO context is described in the OS-SPI documentation.		
HP OpenView ECS Configuring Circuits for NNM and OVO	Explains how to use the ECS Designer product in the NNM and OVO environments.	Hardcopy PDF

OVO Online Information

The following information is available online.

Table 4 OVO Online Information

Online Information	Description
HP OpenView Operations Administrator's Guide to Online Information	Context-sensitive help system contains detailed help for each window of the OVO administrator Motif GUI, as well as step-by-step instructions for performing administrative tasks.
HP OpenView Operations Operator's Guide to Online Information	Context-sensitive help system contains detailed help for each window of the OVO operator Motif GUI, as well as step-by-step instructions for operator tasks.
HP OpenView Operations Java GUI Online Information	HTML-based help system for the OVO Java-based operator GUI and Service Navigator. This help system contains detailed information about general OVO and Service Navigator concepts and tasks for OVO operators, as well as reference and troubleshooting information.
HP OpenView Operations Man Pages	Manual pages available online for OVO. These manual pages are also available in HTML format. To access these pages, go to the following location (URL) with your web browser: `http://<management_server>:3443/ITO_MAN` In this URL, the variable <*management_server*> is the fully-qualified hostname of your management server. Note that the man pages for the OVO HTTPS-agent are installed on each managed node.

About OVO Online Help

This preface describes online documentation for the HP OpenView Operations (OVO) Motif and the Java operator graphical user interfaces (GUIs).

Online Help for the Motif GUI

Online information for the HP OpenView Operations (OVO) Motif graphical user interface (GUI) consists of two separate volumes, one for operators and one for administrators. In the operator's volume you will find the HP OpenView OVO Quick Start, describing the main operator windows.

Types of Online Help

The operator and administrator volumes include the following types of online help:

- **Task Information**

  Information you need to perform tasks, whether you are an operator or an administrator.

- **Icon Information**

  Popup menus and reference information about OVO icons. You access this information with a right-click of your mouse button.

- **Error Information**

  Information about errors displayed in the `OVO Error Information` window. You can access context-sensitive help when an error occurs. Or you can use the number provided in an error message to perform a keyword search within the help system.

- **Search Utility**

  Index search utility that takes you directly to topics by name.

- **Glossary**

  Glossary of OVO terminology.

- **Help Instructions**

Instructions about the online help system itself for new users.

- **Printing Facility**

  Printing facility, which enables you to print any or all topics in the help system. (An HP LaserJet printer or a compatible printer device is required to print graphics.)

To Access Online Help

You can access the help system in any of the following ways:

- **F1 Key**

  Press **F1** while the cursor is in any active text field or on any active button.

- **Help Button**

  Click `[Help]` at the bottom of any window.

- **Help Menu**

  Open the drop-down `Help` menu from the menu bar.

- **Right Mouse Click**

  Click a symbol, then right-click the mouse button to access the `Help` menu.

You can then select task lists, which are arranged by activity, or window and field lists. You can access any topic in the help volume from every help screen. Hyperlinks provide related information on other help topics.

You can also access context-sensitive help in the `Message Browser` and `Message Source Templates` window. After selecting `Help: On Context` from the menu, the cursor changes into a question mark, which you can then position over the area about which you want help. When you click the mouse button, the corresponding help page is displayed in its help window.

Online Help for the Java GUI and Service Navigator

The online help for the HP OpenView Operations (OVO) Java graphical user interface (GUI), including Service Navigator, helps operators to become familiar with and use the OVO product.

Types of Online Help

The online help for the OVO Java GUI includes the following information:

- **Tasks**

  Step-by-step instructions.

- **Concepts**

  Introduction to the key concepts and features.

- **References**

  Detailed information about the product.

- **Troubleshooting**

  Solutions to common problems you might encounter while using the product.

- **Index**

  Alphabetized list of topics to help you find the information you need, quickly and easily.

Viewing a Topic

To view any topic, open a folder in the left frame of the online documentation window, then click the topic title. Hyperlinks provide access to related help topics.

Accessing the Online Help

To access the help system, select `Help: Contents` from the menu bar of the Java GUI. A web browser opens and displays the help contents.

NOTE To access online help for the Java GUI, you must first configure OVO to use your preferred browser.

1 Installation Requirements for the Management Server

In This Chapter

This chapter describes how to select the correct management server for HP OpenView HP OpenView Operations (OVO).

Check your system parameters before running the OVO installation script. This chapter will help you to set the system parameters.

Choosing the Correct Installation and Upgrade Path

Before you start to install OVO, you need to choose the installation path in Table 1-1 on page 28 that best suits your requirements. For example, you *must* decide whether you are installing a new version of OVO or performing an upgrade from a previous version of OVO.

WARNING

The major version of your OVO agent software must *not* be higher than the version of your OVO management-server software. For example, an OVO version A.08.10 HTTPS agent *cannot* communicate with an OVO version A.07.1x management server. If you are operating in a flexible management environment with A.07.1x and OVO management servers, make sure that all the OVO agents remain on version A.07.1x until all the management servers have been upgraded to OVO version A.08.10.

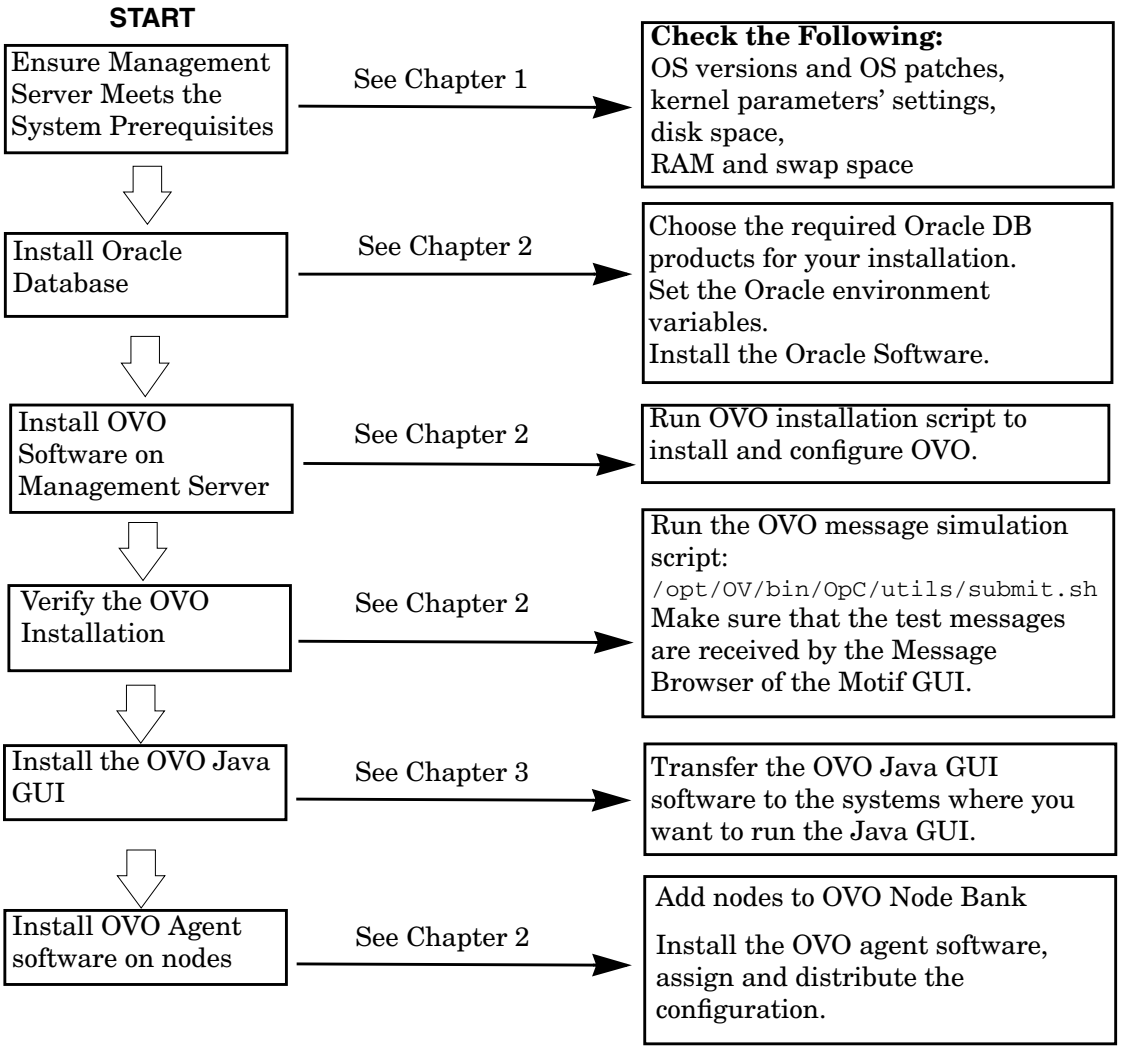
Table 1-1 Choosing the Correct Installation and Upgrade Path

To...	You Need to...	Refer To...
1. Install OVO A.08.10 for HP-UX on the management server.	1. Have management-server hardware that conforms to *at least* the minimum system requirements for the OVO management server. 2. Check the OVO installation CDs' layout presented in Table 2-1 on page 64. 3. Select an OVO language. See also Table 2-2 on page 76 for information about available OVO bundles.	This chapter . "Installing OVO on the Management Server" on page 53
2. Install additional OVO DCE/NCS-based agent software.	1. Have OVO version A.08.10 installed on the management server. 2. Install the DCE/NSC based agent software.	Chapter 2, "Installing OVO on the Management Server," on page 49 "Installing DCE/NCS Agent-Software Packages on the Management-Server System Manually" on page 77
3. Install the OVO Java GUI.	1. Have OVO version A.08.10 installed on the management server. 2. Install the OVO Java GUI software on the systems where the OVO Java GUI will be running.	Chapter 3, "Installing the Java Operator GUI," on page 89
4. Install OVO in an MC/ServiceGuard Cluster Environment.	1. Install the OVO filesets on the first MC/ServiceGuard Cluster node. 2. Install OVO on any additional MC/ServiceGuard Cluster nodes.	Appendix A, "Installing OVO in an MC/ServiceGuard Environment," on page 193
5. Install OVO in an Veritas Cluster Environment.	1. Install the OVO filesets on the first Veritas Cluster node. 2. Install OVO on any additional Veritas Cluster nodes.	Appendix B, "Installing OVO in a VERITAS Cluster Server Environment," on page 217

Table 1-1 Choosing the Correct Installation and Upgrade Path (Continued)

To...	You Need to...	Refer To...
6. Upgrade installation of OVO version A.07.xx to version A.08.10.	1. Have management-server hardware and software that conforms to *at least* the minimum system requirements for the OVO A.08.10 management server. 2. Upgrade to OVO version A.08.10.	Chapter 1, "Installation Requirements for the Management Server," on page 25 Chapter 7, "Upgrading OVO to Version A.08.10," on page 149
7. Install or update OVO agent software on the managed nodes.	1. Have OVO installed on the management server. 2. Add the nodes to the `OVO Node Bank`. 3. Install the OVO agent software, assign and distribute the configuration. Note that changing the OVO agent software from DCE/NCS to HTTPS, or vice versa, requires a deinstallation of the previous version of the OVO agent software.	*OVO Administrator's Reference Volume I and II* *OVO HTTPS Agent Concepts and Configuration Guide*

Figure 1-1 Summary of Standard OVO Installation Tasks



Verifying the Installation Requirements

The OVO management server for HP-UX is the controlling element of the entire OVO system, so you should carefully select the right system to host the management server. Before selecting a system, decide how many managed nodes are to be monitored, how many concurrent operators will use OVO, and approximately how many messages will be processed in the final OVO environment. Migrating the management server to a larger system at a later date requires considerable effort, particularly if your configuration is large and includes hundreds or thousands of managed nodes.

The hardware and software requirements are discussed in this chapter. It is recommended that you review them carefully before starting the installation.

Plan your OVO installation carefully. If you have never used OVO before, you may want to install and configure it in an isolated test environment before moving it into your production environment. This isolation enables you to gain experience with OVO and design a configuration that represents a reasonable test of your use of OVO.

The following sections in this chapter list all the system requirements in detail. Review the system requirements before running the OVO installation script. For more information on the OVO installation script, see Chapter 2, “Installing OVO on the Management Server,” on page 49”.

Hardware Requirements

The system you select as the management server *must* meet the following hardware requirements:

- ❏ HP 9000 servers (PA-RISC 2.0 architecture or higher), with at least one HP-supported X terminal or workstation.
- ❏ Color bitmapped monitor with a minimum resolution of 1280 x 1024. The monitor *does not* need to be physically connected to the management-server system. You can use the X-redirection mechanism and run the OVO Motif GUI remotely.

  For information about display redirection to a Windows system, see “Configuration Required to Redirect Displays to Windows” on page 39.
- ❏ Graphics board supporting at least 8-bit color planes.
- ❏ Mouse.
- ❏ Additional disk space.
- ❏ Additional RAM.
- ❏ Swap space (see Table 1-2 on page 36).
- ❏ CD-ROM drive (optional and can be mounted remotely).

NOTE It is strongly recommended that you use a multi-CPU system for the OVO management server, with the possibility to add additional CPUs, RAM and disk space to the system at a later time if needed.

NOTE The Oracle database can be installed on a dedicated system. For further information, refer to “Setting Up an Independent Database-Server System” on page 123.

Required Disk Space

Review the following questions before selecting a system to host the management server.

1. How much disk space is available on the system?

   The total required disk space for the OVO management server is approximately 5 GB. If you are upgrading from OVO version A.07.10, you will need 1 GB of additional disk space. For more details refer to the OVO installation requirements info file applicable to your version of the HP-UX operating system. Installation requirements info files are located in the `Required_OS_Patch_Lists` directory are on the OVO 8 (1) CD. For more information about the installation CDs, see "About the OVO A.08.10 Installation CDs" on page 64.

   HP-UX 11.0 `ovo.info.HP-UX.B.11.00.txt`

   HP-UX 11.11 `ovo.info.HP-UX.B.11.11.txt`

   Also review the disk requirements of any other applications, such as HP OpenView Performance Manager, that you want to install on the management server in the future.

   If you *do not* have enough disk space in the file tree, you can use one of the following methods:

   - ❏ Mount a dedicated volume for the directory.
   - ❏ Make the directory a symbolic link to a file system with enough disk space.

NOTE

Do *not* use NFS-mounted file systems. These systems can adversely affect the performance of OVO. For more information, see the section on agent-installation tips in the *OVO Administrator's Reference*.

For details about the OVO directory structure, see Chapter 5, "Directory Structure on the Management Server," on page 131.

2. How much disk space is required by the DCE/NSC agents?

   For all DCE/NCS-based agents, if you decide to install them, allow approximately 250 MB in `/var/opt/OV`.

3. How fast is the average disk I/O time?

   The disk I/O time affects the application startup time and the swapping activities. It is recommended that you distribute the database and the OVO binaries and runtime data over several disks. To maintain optimum performance, do not locate swap space on the same disks as the OVO binaries and the Oracle database. For details, refer to the document `db_tuning.txt`, which is located on the OVO management server at the following location:

   `/opt/OV/ReleaseNotes/opc_db.tuning`

Required RAM and Swap Space

The amount of available RAM and swap space determines whether applications can run, and also how fast they can run. The more RAM you make available, the better the application will perform. The application performance improves because increased RAM reduces the swapping and paging activities of the system. Review the following questions before selecting a system to serve as your management server:

1. How much memory (RAM) is installed on the system?

   The OVO management server requires at least 1GB RAM of dedicated RAM. In addition, you will need approximately 35 MB of RAM for every OVO operator Motif GUI session and 128 MB of RAM for every OVO Java GUI session, including Service Navigator.

   The actual RAM requirements depend heavily on your production environment and mode of use. The factors that affect the RAM requirements include: the number and frequency of OVO messages, the number of operators working in parallel, and the number of managed nodes.

2. Does the system provide enough swap space?

   In most cases, you need a total of 2048 MB of swap space on the management-server system.

NOTE Use device swap space rather than file-system swap space for improved system performance.

Individual requirements are listed in Table 1-2 on page 36.

Table 1-2 Minimum Swap Space Required for OVO Installation on the Management Server

Product	Required Swap Space
HP-UX Operating System	512 MB
Oracle database	1024 MB[a]
HP OpenView HP OpenView Operations	512 MB[b]
Approximate total	**2048 MB**

a. The value recommended by Oracle is equal to the system's Physical Memory (RAM) or 1 GB, whichever is greater.
b. This value depends on the number of GUIs running in parallel, and on the number of active and acknowledged messages. For each additional operating Motif GUI, about 35 MB of RAM/swap is required. For each additional operating Java GUI and Service Navigator, about 128 MB of RAM/swap is required.

To check your currently available swap space run the command:

```
/usr/sbin/swapinfo
```

To achieve the best performance and to avoid a disk-access bottleneck, *do not* locate the database and the swap space on the same physical disk.

3. How many OVO users will work at the same time?

   The number of users influences the number of parallel GUIs running on the management server. For each additional operating Motif GUI, about 35 MB of RAM/swap is required. For each additional operating Java GUI and Service Navigator, about 128 MB of RAM/swap is required. This value is sufficient for a browser containing approximately 3,000 messages, and a Service Navigator tree of about 1000 objects.

If required, adapt the kernel parameter `maxdsiz`. Details of this and other kernel parameters are written in installation requirements info files, which are supplied with the OVO product. For information about their location, see “About the OVO A.08.10 Installation CDs” on page 64.

4. How many background graphics are integrated into the Motif GUI and/or Service Navigator?

   Background graphics can also slow down the system by using excessive ammounts of RAM.

Reserve enough physical memory to accommodate all the virtual-memory needs of OVO. This extra memory will eliminate the need for process swapping, and will result in the best possible performance. The performance of OVO can decrease if swapping becomes necessary.

Performance Requirements

The speed with which OVO processes messages and the OVO GUI performance both depend on the available CPU time as well as the overall CPU power. Therefore, consider the demands of other installed applications on CPU time, disk access, and RAM/swap usage.

NOTE It is strongly recommended that you use a multi-CPU system for the management-server system, especially if you plan to run multiple Java GUIs.

Since the throughput of LAN packets can affect the management server’s performance, you *should not* use the management-server system for other purposes, such as NFS, NIS (YP), DNS, and so on. However, configuring the OVO management-server system as a secondary Domain Name Server (DNS) can help to increase the speed of name look-ups.

Intersystem Connection Requirements

The connection between the managed nodes and the OVO management server affects the time OVO needs to install OVO software, the time it takes to configure the software on the managed nodes, and the time needed to respond to problems. The connection between the display stations and the management server also affects the performance of your OVO GUI if X redirection is required.

Review the following questions before setting up the connection between the managed nodes and the OVO management server:

1. Is the system accessible all the time (at least while OVO operators are working)?

   The management server should be accessible at least while the managed nodes are operating.

   If it is *not*, the following inconveniences can occur:

   a. Automatic actions that *do not* run directly on the local managed node cannot be performed while the management server is down.

   b. When the management server is restarted, the managed nodes forward all locally buffered OVO messages to the management server. If hundreds or thousands of messages need to be processed, this will have a significant effect on the performance of OVO.

2. Is the system located centrally as regards to network connectivity and network speed?

   To minimize the OVO response time, fast network (LAN) should be available between the management-server system and its managed nodes. For example, the management server *should not* be connected by a serial line or X.25 with all the other systems networked in a LAN.

3. Are the display stations of the OVO operators and the management server connected by fast lines?

   Having slow lines between the management server and your display stations lowers the OVO Motif GUI performance because X redirection is required. In this case, better performance can be achieved by using the Java operator GUI.

Configuration Required to Redirect Displays to Windows

OVO Motif GUI display redirection to a non-HP-UX system is only supported with a HP-UX font server. See the man page *xfs(1)* for more information about setting up a font server on HP-UX.

OVO supports WRQ Reflection X for Windows and Hummingbird Exceed which enable you to redirect a OVO display to a Windows system. See Table 1-3 and Table 1-4 for details.

Table 1-3 Required Display-redirection Configuration

Requirements	Configuration
Hardware requirements on a Windows PC	Minimum requirements: • Pentium III or equivalent • 1 GHz • 512 MB main memory • 25 MB free disk space for a full Reflection X installation, and 50 MB for Hummingbird Exceed.
Software requirements on a Windows PC	• Windows 2000, Windows XP or Windows 2003 • Reflection X Version 8.00 or higher for Windows NT/2000/XP, Hummingbird Exceed Version 9.0
Screen resolution	1280 x 1024 or higher
Min. number of colors	256
Min. network bandwidth	128 kBps (256 kBps is recommended)

Table 1-4 X Settings Required for Reflection and Hummingbird Exceed

Requirements	Settings
Window	`X Terminal` Desktop option, for Reflection. `Screen definition: Window mode : single`, for Hummingbird Exceed.
XDMCP	`Direct` option for Reflection. Enter the system name you want to connect to. `Exceed XDMCP Query` for Hummingbird Exceed.
Font	75 dpi must be listed first in the fonts path.
Mouse	Middle mouse button: emulation enabled

Software Requirements

Before you install OVO, the following software *must* be installed on the management server correctly.

Operating System

HP-UX *must* be installed on an HP 9000 system. (See Table 1-5.)

Table 1-5 Supported OS Versions for the OVO Management Server

Operating System	Platform	Supported Operating System Versions
HP-UX	HP 9000 PA-RISC 2.0 Servers	11.0, 11.11

NOTE

OVO A.08.10 on HP-UX 11.x is a 32-bit application, built to run on PA-RISC 2.0 systems with cleaner code and higher performance. OVO runs on the 64-bit HP-UX 11.x operating system, but it *does not* support integrations with 64-bit applications on the API level. Oracle 9.2 is a 64-bit application and therefore *must* be installed on a system running a 64-bit HP-UX 11.x operating system. OVO connects to the Oracle database through the 32-bit SQL interface.

Kernel Parameters

Several of the kernel parameters have to be increased on the OVO management server, since the OS default values are too small. The OVO installation utility `ovoinstall` checks your current settings.

If you want to familiarize yourself upfront, you can run `ovoinstall`, or have a look at the OVO installation requirement info file applicable to your version of the HP-UX operating system. Installation requirements info files are located in the `Required_OS_Patch_Lists` directory on the OVO 8 (1) CD. For more information about the installation CDs, see “About the OVO A.08.10 Installation CDs” on page 64.

HP-UX 11.0 `ovo.info.HP-UX.B.11.00.txt`

HP-UX 11.11 `ovo.info.HP-UX.B.11.11.txt`

Supplementary Software for the Management Server

Table 1-6 on page 43 lists the supplementary software required by OVO. It also lists the network communication services, X Windows, and the Common Desktop Environment (CDE) online help. The analysis phase of `swinstall(1M)` checks if all dependent supplementary software is installed.

To list all installed filesets and check which software is already installed, enter the following command:

```
/usr/sbin/swlist -l fileset
```

NOTE The `swlist` command with the `-l` option set to fileset does *not* list the fileset's subrelease, even if it is installed.

Table 1-6 Required Software Packages for HP-UX 11.0 and 11.11

Prerequisite	Description	Available From [a]
Communication Services		
DCE-Core.DCE-CORE-RUN	HP DCE/9000 version 1.7 or higher	HP-UX Core OS
DCE-KT-Tools	*Required for HP-UX 11.0 only.* DCE/9000 Kernel Threads Support contains a runtime library for kernel threads required by OVO. DCE-KT-Tools is licensed with the HP-UX OS.	DCE-KT-Tools is available on the OVO product CD-ROMs and on the HP-UX Application Software CD-ROMs. To install the product from the HP-UX Application Software CD-ROM, start the swinstall GUI of SD-UX, change the software view to Start with Products, and choose DCE-KT-Tools to begin the installation.
DCE-CDS-Server DCE-SEC-Server	Optional for DCE security. A DCE cell requires a CDS server and a security server. All other DCE nodes in the cell require only DCE-core.	HP-UX Application Software CD-ROMs.
InternetSrvcs.INETSVCS-RUN	ARPA Services/9000 (remsh, rcp, rlogin, ftp)	HP-UX Core OS
NFS.NFS-CORE	SunRPC port mapper (Novell NetWare managed nodes only)	HP-UX Core OS
VT3K	VT3K for MPE/iX managed nodes only	VT3K is available from the HP-UX Application Software CD-ROMs.
X Windows and OSF/Motif		
X11.X11R6-SHLIBS	X Windows and OSF/Motif version 2.1 or greater	HP-UX Core OS
X11	hpterm, xterm	HP-UX Core OS

Table 1-6 Required Software Packages for HP-UX 11.0 and 11.11

Prerequisite	Description	Available From [a]
`CDE.CDE-DTTERM`	`dtterm`	HP-UX Core OS
`CDE.CDE-HELP-RUN` `CDE.CDE-RUN`	CDE help system	HP-UX Core OS
Native Language Support (NLS)		
`OS-Core.NLS-AUX`	NLS support	HP-UX Core OS
Patches		
HP-UX OS	For a list of required HP-UX operating system patches, see OVO installation requirements info files `ovo.info.HP-UX.B.11.00.txt` or `ovo.info.HP-UX.B.11.11.txt`, applicable to your HP-UX operating system version. See "Operating-System Patches" on page 45 for more information. *Install the OS patches **before** you install all required supplementary software on the management server, and proceed with the installation of the OVO software.*	The HP-UX OS patches are available from OVO product CDs or from the following web site: `http://www.hp.com` See "About the OVO A.08.10 Installation CDs" on page 64 to learn more about the OVO CD layout.

a. Several products listed in Table 1-6 are shipped on the OVO product CD-ROMs for your convenience. These versions are the most recent software versions at the time of manufacturing. Before installing these products from the CD-ROMs, consult your Hewlett-Packard representative for the most recent versions.

Operating-System Patches

The OVO installation utility `ovoinstall` checks the OS patches that are currently installed on the OVO management server. For information about the required HP-UX OS patches, refer to the OVO installation requirements info file applicable to your version of the HP-UX operating system. Installation requirements info files are located in the `Required_OS_Patch_Lists` directory on the OVO 8 (1) CD. For more information about the installation CDs, see "About the OVO A.08.10 Installation CDs" on page 64.

HP-UX 11.0 `ovo.info.HP-UX.B.11.00.txt`

HP-UX 11.11 `ovo.info.HP-UX.B.11.11.txt`

IMPORTANT Before you install any of the required OS patches, make sure you have read the `README` file supplied with the patch.

Also check the latest edition of the *OVO Software Release Notes* for last-minute documentation about the required patches. This document can be downloaded from the website:

`http://ovweb.external.hp.com/lpe/doc_serv/`

At the time of installation, these documented patches may be superseded. Use the latest patches from the `http://www.hp.com` website. Here you will find further information about the patches that you need.

IMPORTANT The OVO management server has been tested with the patch revisions listed in the installation requirements info files. Patches with higher revisions should also be suitable but *have not* been tested.

NOTE

Certain features and add-on components may require additional operating-system patches. To make `ovoinstall` aware of these mandatory patches, you *must* uncomment the corresponding lines (or add additional entries) to the `/etc/opt/OV/share/conf/OpC/mgmt_sv/ovo.info. <platform>.txt` file, where `<platform>` is either HP-UX 11.00 or HP-UX 11.11.

Oracle Database

For OVO on HP-UX 11.x, install one of the following:

- ❏ Oracle 9i Enterprise Edition with 9.2.0.2 Patch Set for Oracle Database Server (both for HP-UX).
- ❏ Oracle for OpenView 9.2.0.

For information about support of later versions of Oracle, refer to the latest edition of the OVO A.08.10 *Software Release Notes*.

If you have an existing Oracle database and want to verify which Oracle products are installed, use the Oracle Universal Installer to view the installed Oracle products:

1. Switch to user `oracle`:

   ```
   su - oracle
   ```

2. Run the Oracle Universal Installer:

   ```
   $ORACLE_HOME/bin/runInstaller
   ```

3. In the Oracle Universal Installer `Welcome` window, click `Installed Products...` to view the installed Oracle products.

Table 1-7 lists the required Oracle products.

Table 1-7 Required Oracle Products for OVO

HP-UX Version...	Oracle Version...	Required Products...
HP-UX 11.0 HP-UX 11.11	Oracle Enterprise Edition 9.2.0 (64-bit)[a]	• Oracle9i 9.2.0.1.0 • Oracle Net Services 9.2.0.1.0[b]
	Oracle for OpenView 9.2.0 (64-bit)[a]	• Oracle9i 9.2.0.2.0 • Oracle Net Services 9.2.0.2.0

a. OVO *does not* support 32-bit Oracle.
b. All subproducts are required: Oracle Net Listener 9.2.0.1.0, Oracle Connection Manager 9.2.0.1.0 and Oracle Names 9.2.0.1.0

NOTE To have the Oracle database version 9.2.0.2.0 installed, you *must* first install the Oracle database version 9.2.0.1.0, and then upgrade it by installing the 9.2.0.2 Patch Set for the Oracle Database Server for HP-UX.

Supported Agent Platforms

OVO A.08.10 supports the OVO A.07.xx DCE/NCS-based managed nodes in backward-compatibility mode. The next major release of OVO will no longer support the OVO A.07.xx DCE/NCS-based managed nodes.

IMPORTANT An HTTPS agent *must* be installed on the OVO management-server system. It is no longer possible to install DCE/NCS based managed node on the OVO management server.

For a list of platforms and operating systems OVO agents and the HP OpenView Performance Agent (OVPA) support on the managed nodes, refer to *OVO Software Release Notes*.

NOTE OVO agents and OVPA can be also installed on SAN (Storage Area Network) attached disks.

2 Installing OVO on the Management Server

In This Chapter

This chapter describes:

- How to install HP OpenView HP OpenView Operations (OVO) for the **first time** on the management server using OVO installation program.
- How to set up the Oracle database for use with OVO.
- How to install DCE/NCS-based agent software manually.
- How to reconfigure the OVO software.

NOTE The OVO HTTPS agent software is automatically installed during the installation of the OVO software on the OVO management server.

IMPORTANT *Do not* install OVO product bundles directly using HP Software Distributor (SD-UX), use `ovoinstall` for the administration of the OVO software on OVO management server.

Oracle for OpenView is available from Hewlett-Packard and provides an OpenView-specific “license-to-use” for the Oracle products listed in Table 1-11 on page 42.

NOTE It is *not* possible to run the Japanese, Korean, Simplified Chinese and English/Spanish language versions of OVO on the same management server because they require different and incompatible database character sets.

Before You Install OVO

Before installing OVO, make sure that your system meets the following prerequisites:

- ❏ HP-UX operating system with CDE *must* be installed.
- ❏ Kernel parameters on the management server *must* be adapted. See “Verifying the Installation Requirements” on page 31.
- ❏ HP-UX operating system patches *must* be installed. OS patches for HP-UX 11.00 and 11.11 are shipped with OVO product. For more details on OVO installation CDs layout, see Table 2-1 on page 64.
- ❏ Sufficient disk space *must* be available in the right partitions of the file system. For more information, see “Required Disk Space” on page 33.

When your system conforms with the prerequisites you can start with the OVO installation.

To Install OVO

To install OVO, ensure that your system meets all the prerequisites detailed in Chapter 1, then complete the following steps:

1. Install and check your database.

   See “Installing and Verifying an Oracle Database” on page 53 for details.

2. Install the OVO software on the management server.

   See “Installing the OVO Software on the Management-Server System” on page 64 for details.

3. Verify the OVO installation.

   See “Starting OVO and Verifying the Installation” on page 79 for details.

Installing and Verifying an Oracle Database

For operation with OVO, install and set up the Oracle database 9.2.0 with the 9.2.0.2 Patch Set for the Oracle Database Server for HP-UX.

NOTE OVO A.08.10 is certified to work with Oracle version 9.2.0, Patch Set 9.2.0.2 or newer.

For more detailed instructions than those provided in this section, or for non-standard installations, see the following documentation supplied with the Oracle database product:

Oracle9i Database Quick Installation Procedure Release 9.2.0 for HP

Oracle9i Database Installation Checklist Release 9.2.0 for HP

NOTE **Oracle 9i** are products of the Oracle Corporation and *cannot* be purchased directly from Hewlett-Packard.

Oracle for OpenView is available from Hewlett-Packard and provides an OpenView “license-to-use” for the Oracle products listed in Table 1-7 on page 47.

Required Oracle Products

For a complete list of required Oracle products, see Table 1-7 on page 47.

A standalone OVO system has the database and all the management-server processes, including the user-interface processes, running on the same system. However, if the database is installed on a different server from the OVO management server, you *must* additionally install the Oracle products on the management server as described in the section “Setting Up an Independent Database-Server System” on page 123. These enable remote access to the Oracle database.

Using an Existing Oracle Database

IMPORTANT

OVO can be installed and configured using the existing database, but it requires its own database instance. Although it is possible to configure OVO with an existing instance, this is *not* supported.

If you want to use an existing Oracle database, do the following:

1. Refer to the Oracle product documentation to make sure that the database is compatible with Oracle version 9.2.0.
2. Make sure the Oracle-environment variables are set as described in “Preparing an Oracle Database for Installation” on page 55.
3. Continue with “Installing the OVO Software on the Management-Server System” on page 64.

Before You Install an Oracle Database

Preparing an Oracle Database for Installation

Before installing an Oracle database on the management server, follow these steps:

1. Make sure that your system meets the hardware and software requirements listed in Chapter 1, “Installation Requirements for the Management Server,” on page 25.

NOTE The dynamically linked Oracle environments are *not* supported.

2. Run `SAM` as user `root`, and create the user `oracle` with the following attributes:
   a. Create a UNIX group named **`dba`**.

      The group ID should be greater than 100.

   b. Create a UNIX user named **`oracle`**.

      The user ID should be greater than 100.

   c. Make the user `oracle` a member of the group `dba`.

   d. As the home directory of the `oracle` user, use:

      `/home/oracle`

3. Set `umask` to allow users to access the Oracle binaries:

   `umask 022`

4. Create the directories required by the Oracle installation:

   a. Create the Oracle home directory ORACLE_HOME:

      mkdir -p /opt/oracle/product/9.2.0

      You can also choose a different directory for ORACLE_HOME but you *must* use it consistently in all subsequent steps.

   b. Create a base directory for the Oracle installation files:

      mkdir -p /opt/oracle/oraInventory

      You can also choose a different directory. If you do so, use the new directory consistently in all subsequent steps.

5. Change the ownership of the directories to oracle:dba by entering:

   chown -R oracle:dba /opt/oracle

6. Set the following Oracle-environment variables in the /home/oracle/.profile of user oracle:

   - **export ORACLE_BASE=/opt/oracle**

     This variable determines the location and the version of the Oracle installation. The subdirectory prefix /opt is just an example; replace it with the installation path you used for Oracle.

   - **export ORACLE_HOME=$ORACLE_BASE/product/9.2.0**

     This variable determines the location and the version of the Oracle installation. This is the recommended setting. You can choose a different setting, if needed.

   - **export ORACLE_TERM=hp**

     This variable specifies the terminal definition resource file for an hpterm terminal setting to be used with the Oracle installer and other Oracle tools.

     If you normally use dtterm, change the setting to ORACLE_TERM=ansi.

   - **export PATH=$PATH:$ORACLE_HOME/bin**

     This variable sets the directories through which the system searches to find and execute commands.

7. Install the Oracle database as described in the following section.

Installing an Oracle Database

IMPORTANT

Before you start with installation of Oracle database from CD, you *must* have Java Development Kit (JDK) installed on your system.

You need to install at least JDK 1.3.1 to install the Oracle database, though it is recommended to install JDK 1.4.2 or higher.

This section describes how to install the Oracle database 9.2.0 and the 9.2.0.2 Patch Set for Oracle Database Server for HP-UX for use with OVO. For more detailed information, or for non-standard installations, see the following documentation supplied with the Oracle database:

Oracle9i Database Quick Installation Procedure Release 9.2.0 for HP

Oracle9i Database Installation Checklist Release 9.2.0 for HP

The following procedure installs Oracle without creating the `openview` database. After installing the OVO software, `ovoinstall` creates the `openview` database and configures the OVO software, as described in "Installing the OVO Software on the Management-Server System" on page 64.

NOTE

Browse through this section before starting the installation. The order of the system prompts can differ slightly from the example described below. These slight variations *do not* indicate any problems with the installation.

Installing an Oracle Version 9.2.0.2 Database

The *Oracle9i Enterprise Edition Release 2 (9.2.0) for the HP-UX* product is available on four CD-ROMs. To install Oracle 9.2.0.2 from the CD-ROMs, follow these steps:

1. During the Oracle installation, you will need to perform some steps as user `root` and some as user `oracle`. Open two terminal windows and perform the following steps:

   a. Log in as user `root` in the first terminal window, and as user `oracle` in the second.

   b. Make sure that the Oracle-environment variable *`ORACLE_TERM`* is set correctly. If you use an `hpterm`, use **`hp`**. If you use a `dtterm`, use **`ansi`**. To check the setting, enter:

      ```
      echo $ORACLE_TERM
      ```

   c. Verify, and if necessary, set the *`ORACLE_HOME`* variable. For example:

      ```
      ORACLE_HOME=/opt/oracle/product/9.2.0

      export ORACLE_HOME
      ```

   d. Set your `DISPLAY` environment variable, enter:

      ```
      export DISPLAY=<nodename>:0.0
      ```

      Where *<nodename>* is the name of your system.

2. As user `root`, mount the CD-ROM:

   a. Start the Portable File System (PFS) mount request server as follows:

      `/usr/sbin/pfs_mountd &`

      For more information, see the man page *pfs_mountd(1M)*.

   b. Start the PFS daemon as follows:

      `/usr/sbin/pfsd &`

   c. Create a mount directory, for example:

      `mkdir /SD_CDROM`

   d. List all disk devices to locate the device file for your CD-ROM drive:

      `ioscan -funC disk`

      The additional command `diskinfo <raw_device_file>` describes the characteristics of a disk device.

   e. Use a system editor to add the following line to the `/etc/pfs_fstab` file. You may have to first create the file if it does *not* yet exist.

      Syntax:

      <device_file> <mount_point> <filesystem_type> <translation_method>

      For example:

      `/dev/dsk/c5t2d0 /SD_CDROM pfs-rrip xlat=unix 0 0`

   f. Insert the *Oracle9i* CD-ROM 1 of 4 into the drive and mount it as follows:

      `/usr/sbin/pfs_mount /SD_CDROM`

3. As user `oracle`, start the Oracle Universal Installer by entering:

   `/SD_CDROM/install/hpunix/runInstaller &`

   When the Oracle Universal Installer is started, the `Welcome` window is displayed.

   a. In the Oracle Universal Installer `Welcome` window, click `[Next]`.

The Inventory Location window is displayed.

In the Inventory Location window, make sure that the path /opt/oracle/oraInventory is given.

b. In the Inventory Location window, click [OK].

The UNIX Group Name window is displayed.

c. In the UNIX Group Name window, leave the field empty and click [Next].

You are prompted to run the utility orainstRoot.sh.

d. As user root, run the utility orainstRoot.sh by entering:

/tmp/orainstRoot.sh

When the utility has completed, return to the Oracle Universal Installer and click [Continue].

The File Locations window is displayed.

e. In the File Locations window, *do not* change the text in the Source field. This is the location of the installation files.

The two destination fields display the Oracle Home name and its full path. Path field displays the value of the ORACLE_HOME variable. Accept the proposed values.

NOTE

If the Name field is empty, enter the following:

ORACLE_HOME

In the File Locations window, click [Next].

The Available Products window is displayed.

f. In the Available Products window, click the [Product Languages] button. The Language Selection window is displayed.

g. In the Language Selection window, verify that English, as the language Oracle can run in, is selected. If you have *not* set LANG=C, you may have to select English manually.

h. In the Available Products window, select Oracle9i Database 9.2.0.1.0.

Click [Next]. The Installation Types window is displayed.

i. In the Installation Types window, select the Custom installation type. Click [Next].

   The Available Product Components window is displayed.

j. In the Available Product Components window, choose the required Oracle products from the list of available products. See "Required Oracle Products" on page 53.

   When the list is complete, click [Next]. The Component Locations window is displayed.

k. In the Component Locations window, the destination location for the Oracle Universal Installer is displayed. Accept the default value $ORACLE_BASE/oui and click [Next]. The Privileged Operating System Groups window is displayed.

l. In the Privileged Operating system Groups window, ensure that the default dba is set for the Database Administrator (OSDBA) Group and the Database Operator (OSOPER) Group.

   Click [Next]. The Create Database window is displayed.

m. In the Create Database window, you are asked whether you want to create a new database. Choose No and click [Next].

   The Choose JDK Home Directory window is displayed.

n. In Chose JDK Home Directory window, enter the location of JDK on your system, for example /opt/java1.3/jre.

o. The Summary window is displayed.

   In the Summary window, review the information to ensure that you have enough disk space. You *cannot* make any product or space allocation changes during the installation.

   In the Summary window, click [Install].

p. Eventually the `Disk Location` window is displayed, asking you to insert the Oracle9i disk 2, and later the Oracle9i disk 3 into your disk drive:

A. As `root`, unmount the CD-ROM:

`/usr/sbin/pfs_umount /SD_CDROM`

B. Change the CD-ROM.

C. As `root`, mount the CD-ROM again:

`/usr/sbin/pfs_mount /SD_CDROM`

D. In the `Disk Location` window, click `[OK]`.

q. The `Setup Privileges` window is displayed, prompting you to run the `root.sh` utility as described in the following steps.

4. As user `root`, run the `root.sh` utility as follows:

a. Change to *`ORACLE_HOME`* by entering:

`cd $ORACLE_HOME`

b. Start the `root.sh` utility by entering:

`./root.sh`

c. The following information is displayed:

```
The following environment variables are set as:

ORACLE_OWNER= oracle
ORACLE_HOME=  /opt/oracle/product/9.2.0

Enter the full pathname of the local bin directory
[/usr/local/bin]:
```

Enter: **`/usr/lbin`**

d. When the `root.sh` utility has finished, click `[OK]` in the `Setup Privileges` window.

5. The `Configuration Tools` window is displayed at the end of the installation and starts the Oracle Net Configuration Assistant.

Cancel this assistant with the `[Cancel]` button as soon as it is started. You can ignore any resulting error messages.

6. In the `Configuration Tools` window, click `[Next]`.

The `End of Installation` window is displayed.

7. Click `[Exit]` to exit the Oracle Universal Installer.
8. As user `root`, unmount the CD-ROM:

   `/usr/sbin/pfs_umount /SD_CDROM`
9. Install the 9.2.0.2 Patch Set for Oracle Database Server for HP-UX by performing the following steps:

NOTE OVO A.08.10 is certified to work with Oracle version 9.2.0, Patch Set 9.2.0.2 or newer.

   a. As `root`, mount the Oracle CD-ROM 1 again:

      `/usr/sbin/pfs_mount /SD_CDROM`

   b. Enter the following:

      `swinstall -s /oracle92020_1164run.sdtape \*`
10. If necessary, stop the `pfsd` and `pfs_mountd` processes. For each of the processes, enter in the window in which you started them:

    `fg <crtl-c>`

    For more information, see the man page *pfs_mountd(1M)*.

NOTE For increased security, Oracle recommends that **'password complexity'** is enabled.

Installing the OVO Software on the Management-Server System

This section describes:

- The OVO installation CDs.
- How to install the OVO software on the management server using the OVO installation program, `ovoinstall`.

About the OVO A.08.10 Installation CDs

OVO A.08.10 software is supplied as a set of 8 CDs. Table 2-1 lists the OVO A.08.10 installation CDs.

NOTE The OVO media kit contains several more CDs containing products such as OV Performance Manager and OVPA for standalone installations.

Table 2-1 OVO A.08.10 Installation CDs

Installation CDs	Content of CDs
OVO 8 (1) CD	Includes OVO installation program, OVO software depot, installation requirements info files (`ovo.info.HP-UX.B.11.00.txt` and `ovo.info.HP-UX.B.11.11.txt`), OVO documentation, and OV Core components depot.
OVO 8 (2) CD	Includes management-server depot, HTTPS clients depot, and RPC clients depot.
OVO 8 (3) CD	OVPA software depot.
OVO 8 (4) CD	HP-UX 11.00 OS patches.
OVO 8 (5) CD	HP-UX 11.11 OS patches.
NNM (1) CD	Network Node Manager software depot, including OVSNMP, and ECS runtime, and OV Composer.
NNM (2) CD	

Table 2-1 OVO A.08.10 Installation CDs (Continued)

Installation CDs	Content of CDs
SPI CDs	Includes HP OpenView smart plug-ins for OVO.

About the OVO Installation Program ovoinstall

The OVO installation program, `ovoinstall`, does the following:

- ❏ Collects all information required for the installation and configuration of the OVO software. For more details, see “Preparing for the Installation of the OVO Software Using ovoinstall” on page 66.
- ❏ Upgrades the shared OV components installed by NNM.
- ❏ Checks for installed HP-UX operating-system patches and lists patches that must still be installed.
- ❏ Checks kernel parameters and disk-space requirements.
- ❏ Starts the NNM installation.
- ❏ Installs OVO software on your management-server system.
- ❏ Installs HTTPS agent-software packages on the OVO management-server system.
- ❏ If requested, installs DCE/NCS-based agent-software packages on the OVO management-server system.

  You can also install DCE/NCS-based agent software at a later time, as described in the “Installing DCE/NCS Agent-Software Packages on the Management-Server System Manually” on page 77.
- ❏ Creates the `openview` database and configures the OVO software.
- ❏ Installs the local agent (if enabled) and deploys the agent configuration to the local agent.
- ❏ Starts the OVO processes.
- ❏ Installs OSSPI, if selected.

IMPORTANT

Do not install OVO product bundles directly using HP Software Distributor (SD-UX), use `ovoinstall` for the administration of the OVO software on OVO management server.

Also, it is *not* possible to install OVO from software depot server.

Preparing for the Installation of the OVO Software Using ovoinstall

To ensure that the OVO installation goes smoothly, make sure that all the prerequisites are met and consider the following points prior to running `ovoinstall`:

- ❏ Do you want the DCE/NCS agent software to be installed? If you do, how many nodes do you want to be managed by DCE/NCS, and how many by the HTTPS agent software?
- ❏ How many Motif GUI operators will be working simultaneously?
- ❏ How many Java GUI operators will be working simultaneously? How many of them will use the Service Navigator?
- ❏ Do you want NNM to be reinstalled, in case it already exists on your OVO management server?
- ❏ Do you want Developer's Toolkit to be installed?
- ❏ Do you want the installation of the local agent to be performed automatically?
- ❏ Do you want the OSSPI installation to be performed automatically?
- ❏ Do you want the database to start automatically every time you restart your system?
- ❏ Do you want the database to be overwritten if it already exists?

`ovoinstall` also prompts you for the following pieces of information:

- ❏ The `ORACLE_HOME` value
- ❏ The `ORACLE_BASE` value
- ❏ The destination for Oracle data files and index files
- ❏ The database language

- ❏ The passwords for the `opc_op` and `opc_report` database users
- ❏ The password for the existing database user `system`
- ❏ Oracle `DBA` user
- ❏ The `ORACLE_SID` value

NOTE For information about installing OVO in cluster environments, see Appendix A, “Installing OVO in an MC/ServiceGuard Environment,” on page 193 or Appendix B, “Installing OVO in a VERITAS Cluster Server Environment,” on page 217 .

Running ovoinstall

The time required to install the entire OVO software depends on your management-server hardware: generally, it *should not* take more than 90 minutes to complete.

Before running `ovoinstall`, verify whether you are using Network Information Services (NIS or NIS+) for user or group management. This information is available from the entries for `passwd` and group in the `/etc/nsswitch.conf` file.

If you are using NIS or NIS+, keep the following in mind before running the `ovoinstall` installation script:

- Make sure that, if the `opc_op` user already exists in the NIS or NIS+ environment, it belongs to the group `opcgrp`. If *not* created before, the user `opc_op` will be created by the `ovoinstall` script during the OVO installation.
- Make sure that the home directories of the `opc_op` and `oracle` users are accessible on the OVO management server, and that they are the same as on the NIS (or NIS+) server.

If you are *not* using NIS or NIS+ for user or group management, `ovoinstall` automatically sets up both groups and users.

NOTE Before starting the OVO software installation, stop any NCS-based applications running on your system.

You can install OVO software on the HP-UX management server in one of the following ways:

- **From a CD-ROM**

  If you are installing OVO from a CD-ROM, the installation will prompt you to insert subsequent CDs when needed.

- **Using CD Images**

  If you are installing OVO using CD images, you can copy the content from all the CDs to the disk, the NFS share or the DVD and continue with the installation.

Preparing for the OVO Software Installation from a CD-ROM

To prepare for the OVO software installation from a CD-ROM, follow the steps:

1. Insert the first OVO Server Installation CD (OVO 8 (1) CD) into the CD-ROM drive.
2. Create a directory to mount the CD-ROM:

   mkdir /<*mount_point*>

   For example: `mkdir /cdrom`
3. Mount the CD-ROM:

   mount -r -F cdfs /dev/<*cdrom_drive_name*> /<*mount_point*>

   For example, for a local CD-ROM, you can enter:

   mount -r -F cdfs /dev/dsk/c0t2d0 /cdrom

   You can also run `SAM` and mount the CD-ROM to a specific path in the `Disks and File Systems` window.

Preparing for the OVO Software Installation Using CD Images

To prepare for the OVO software installation using CD images, follow the steps:

1. Create a master directory to serve as a holder for the disk subdirectories. It can be, for example, `/tmp` directory.
2. Create the following directories as subdirectories of the master directory:
   - `OVOCD1`
   - `OVOCD2`
   - `OVOCD3`
   - `OVNNMCD1`
   - `OVNNMCD2`
   - `OVOSSPI`
3. Store the content of the OVO installation CDs in these directories. Use the following pattern:
   - ❏ `OVOCD1` for OVO 8 (1) CD content
   - ❏ `OVOCD2` for OVO 8 (2) CD content
   - ❏ `OVOCD3` for OVO 8 (3) CD content (*optional*)
   - ❏ `OVNNMCD1` for NNM (1) CD content (Required *only* if NNM is *not* yet installed.)
   - ❏ `OVNNMCD2` for NNM (2) CD content (Required *only* if NNM is *not* yet installed.)
   - ❏ `OVOSSPI` for Smart-Plug CD containing the Operating System SPIs (Required *only* if you want to install the OS-SPIs during the OVO installation procedure. You can also install the OS-SPI separately later on.)
4. Set the permissions for `OVNNMCD1` and `OVNNMCD2`. Enter the following:

```
find OVNNMCD1 -type d | xargs chmod a+rx
find OVNNMCD2 -type d | xargs chmod a+rx
```

Installing the OVO Software on the HP-UX Management Server

To install the OVO software on the HP-UX management server, complete the following steps:

1. Log in as user `root`.
2. Set the umask of user `root`:

   `umask 027`

3. Make sure that the environment variable `LANG` is set to `C`.

   To check the setting, enter:

   `echo $LANG`

NOTE

If you are using any `LANG` variable other than `C`, make sure that you set it to `C` before running `ovoinstall`. After `ovoinstall` has finished, you can set the `LANG` variable back to its original value. Refer to *OVO Administrator's Reference* for the list of supported languages and `LANG` settings.

4. Set your `DISPLAY` environment variable, enter:

   `export DISPLAY=<nodename>:0.0`

5. Start the OVO installation.

   - If you are installing OVO from a CD-ROM, enter the following:

     `/<mount_point>/ovoinstall -t`

     where *<mount_point>* is a location where the OVO installation CD is mounted.

   - If you are installing OVO using the CD images, enter the following:

     `/<master_directory>/OVOCD1/ovoinstall -t`

     For example, if you created `/tmp` directory as a master directory, you can start `ovoinstall` by entering the following:

     `/tmp/OVOCD1/ovoinstall -t`

   `ovoinstall` starts the installation procedure.

6. In the `ovoinstall` terminal window, `ovoinstall` prompts you to either accept the default settings or to customize the parameters grouped in the `OpenView Resource Calculation Section`.

NOTE

The parameters set in the `OpenView Resource Calculation Section` are used *only* for memory requirements and estimating kernel parameters.

See "Preparing for the Installation of the OVO Software Using ovoinstall" on page 66 for more information about these parameters.

The default value is displayed below each setting, for example `[5]`.

Press `[Enter]` if you want to accept the defaults, or enter the desired value.

7. `ovoinstall` checks the memory requirements and the kernel parameters, and displays a warning if their values *do not* match the required values.

   `ovoinstall` checks for the required HP-UX operating-system patches and lists any missing patches.

   You are prompted to either continue or cancel the installation.

8. `ovoinstall` prompts you to either accept the default settings or to customize the parameters grouped in the following sections:

   - `OpenView Software Configuration Section`

NOTE

At the end of the `OpenView Software Configuration Section`, `ovoinstall` asks you whether you want to install patches before the OVO configuration startup.

   - `OpenView Database Configuration Section`

   The default value is displayed below each setting, for example `[y]`.

   Press `[Enter]` if you want to accept the defaults, or enter the desired value.

NOTE

For more information on how to install NNM, refer to *HP OpenView Network Node Manager Quick Start Installation Guide*.

WARNING

***Do not* abort the installation with Ctrl-C or kill anytime after the Network Node Manager installation has started, as this can corrupt your system.**

Ctrl-C or kill can be used up to and including the file-system requirements check.

The settings and parameters from the configuration sections are discussed in more details in “Reconfiguring the OVO Software” on page 84.

When the settings are specified, the installation begins.

NOTE

If you are installing OVO directly from the CD-ROM, replace the installation CDs when prompted. Press `[Enter]` to mount the new CD when inserted.

After the installation of the selected packages is finished, `ovoinstall` informs you that the installation of the patches should be done at this point.

IMPORTANT

Wait till the process of installing the patches is finished, then press `[Enter]`.

`ovoinstall` will automatically start `opcconfig`, which configures the OVO management server.

NOTE

`ovoinstall` saves all the settings and parameters that you specified in the installation and configuration sections. When `opconfig` is started, it uses these specified values. You *cannot* change them at this stage, however, you can reconfigure your OVO software later, by running `opcconfig` manually. See “Reconfiguring the OVO Software” on page 84 for information on `opconfig` and configuration details.

NOTE

After deploying and installing OSSPI policies you *must* set the `Message Groups` and `Node Groups` in the responsibility matrix of user `opc_adm`. For further information, refer to the *OVO Administrator’s Reference*.

9. When the installation is completed, unmount the CD-ROM drive by entering:

   `umount /<mount_point>`

Viewing the Installation Logfiles

When `ovoinstall` has finished installing the OVO software, verify that the installation has been successful by checking the end of the `/var/opt/OV/log/OpC/mgmt_sv/ovoinstall.log` logfile. Either open the logfile using a text editor or enter:

```
more /var/opt/OV/log/OpC/mgmt_sv/ovoinstall.log
```

You can also check for any errors by viewing the analysis and installation logfiles during the installation. To view the installation logfiles, enter the following in the new terminal window:

```
tail -f /var/adm/sw/swagent.log
```

```
tail -f /var/opt/OV/tmp/pkgadd.log
```

OVO Software Bundles

Table 2-2 describes OVO Software bundles. See Appendix D, “OVO Software Bundles,” on page 247, for more information about OVO software bundles, products, and filesets.

Table 2-2 OVO Software Bundles

OVO Bundle	Version	Description
`OVOEnglish`	A.08.10	HP OpenView OVO, with Documentation (English)
`OVOLocalized`[a]	A.08.10	HP OpenView OVO, with Documentation (for non-English Languages)
`OVORemoteOVw`	A.08.10	Remote OVw Integration

a. *Must* be installed on top of the `OVOEnglish` bundle for the following non-English languages: Japanese, Spanish, Korean and Simplified Chinese.

NOTE To have OVO Developer’s Toolkit available, you *must* install `OVOPC-DEV` and `OVOPC-DEVDOC` products on top of OVO, if they are not already installed by `ovoinstall`.

After installing the OVO software on the management server, you can check whether the installation was successful. See “Starting OVO and Verifying the Installation” on page 79 for more information.

Installing DCE/NCS Agent-Software Packages on the Management-Server System Manually

You can also manually install DCE/NCS-based agent software on the management server after the OVO management-server software has been installed on the OVO management-server system. To perform the DCE/NCS-based software installation, follow these steps:

1. Log in as user `root` on the OVO management server.
2. In the terminal window, install the DCE/NCS agent-software depot using the following command:

   `swinstall -s <full path name>/HPOvOrpcClients.depot \*`

   Where *`<full path name>`* is the full path name to the `HPOvOrpcClients.depot`.
3. Change the current directory. Enter the following:

   `cd /var/opt/OV/share/databases/OpC/mgd_node/vendor`
4. Upload the agent information into the database using the following command:

```
for i in `find . -type d -name A.07.10`; \
do j=`echo ${i} | sed -e 's|^./||' -e 's|/A.07.10||'`; \
/opt/OV/bin/OpC/opcagtdbcfg -p ${j} -d -f; \
done
```

Installing HTTPS Agent-Software Packages on the Management-Server System Manually

You can also manually install HTTPS agent software on the management server after the OVO management-server software has been installed on the OVO management-server system. To perform the HTTPS agent-software installation, follow these steps:

1. Log in as user `root` on the OVO management server.
2. In the terminal window, install the HTTPS agent-software depot using the following command:

   `swinstall -s <full path name>/HPOvOhttpsClients.depot \*`

   Where *`<full path name>`* is the full path name to the `HPOvOhttpsClients.depot`.
3. Change the current directory. Enter the following:

   `cd /var/opt/OV/share/databases/OpC/mgd_node/vendor`
4. Upload the agent information into the database using the following command:

```
for i in `find . -type f -name <AgentPlatform>`; \
do j=`echo ${i} | sed -e 's|^./||' -e 's|\
/<AgentPlatform>||'`; /opt/OV/bin/OpC/opcagtdbcfg -p ${j}
-d -f; \
done
```

Starting OVO and Verifying the Installation

To verify the OVO installation, follow these steps:

1. Verify that all OVO server services are running by entering the following:

   /opt/OV/bin/OpC/opcsv

   An output similar to the following should be displayed:

```
OVO Management-Server status:
-----------------------------
Control Manager      opcctlm     (13013) is running
Action Manager       opcactm     (13025) is running
Message Manager      opcmsgm     (13026) is running
TT & Notify Mgr      opcttnsm    (13027) is running
Forward Manager      opcforwm    (13028) is running
Service Engine       opcsvcm     (13042) is running
Cert. Srv Adapter    opccsad     (13036) is running
BBC config adapter   opcbbcdist  (13037) is running
Display Manager      opcdispm    (13029) is running
Distrib. Manager     opcdistm    (13031) is running

Open Agent Management status:
-----------------------------
Request Sender       ovoareqsdr  (13010) is running
Request Handler      ovoareqhdlr (13014) is running
Message Receiver (HTTPS) opcmsgrb    (13015) is running
Message Receiver (DCE)  opcmsgrd     (13016) is running
```

```
OV Control Core components status:
--------------------------------------
OV Control                    ovcd       (11431) is running
OV Communication Broker       ovbbccb    (11961) is running
OV Certificate Server         ovcs       (12968) is running
```

If the OVO server services are *not* running, you can start them with the following command:

/opt/OV/bin/OpC/opcsv -start

IMPORTANT

You *must* have a local agent installed to perform steps 2 and 4.

2. Verify that all the OVO agent services are running on the management-server system by doing one of the following:

   - Enter the command:

     /opt/OV/bin/OpC/opcagt -status.

   - In the OVO administrator's GUI, double-click the `OVO Status` symbol in the `Application Bank`.

   An output similar to the following should be displayed:

```
OVO Managed Node status:
opcmsga     OVO Message Agent          AGENT,EA     (18525)  Running
opcacta     OVO Action Agent           AGENT,EA     (18526)  Running
opcmsgi     OVO Message Interceptor    AGENT,EA     (18527)  Running
opcle       OVO Logfile Encapsulator   AGENT,EA     (18528)  Running
opcmona     OVO Monitor Agent          AGENT,EA     (18529)  Running
opctrapi    OVO SNMP Trap Interceptor  AGENT,EA     (18530)  Running
```

NOTE

If the OVO agent services are *not* running, you can start them with the following command:

/opt/OV/bin/OpC/opcagt -start

3. Start the OVO GUI as one of the default users (for example, `opc_op`) and verify that it works correctly:

   Enter: **`opc`**

   User login: **`opc_op`**

   Password: **`OpC_op`**

NOTE

The OVO GUI can take several minutes to start up.

The startup is complete when the following windows open:

- `Root`
- `Managed Nodes [opc_op]`
- `Application Desktop [opc_op]`
- `Message Groups [opc_op]`
- `Message Browser [opc_op]`

4. Submit test messages as user `root` by entering:

   `/opt/OV/bin/OpC/utils/submit.sh`

   This program sends simulated messages to the `Message Browser`. The number of messages received depends on the configuration of your system. Under normal conditions, you will usually receive five or six messages.

5. To be able to test and use an application configured as Window (Input/Output) from the `OVO User's Assigned Applications` window, you will probably have to perform one of the following processes:

   ❑ As user `root`, set the UNIX password for the default operator `opc_op` for each managed node where you want to use Input/Output applications.

   To do this, enter:

   `passwd opc_op`

NOTE

By default, the user `opc_op` is *not* allowed to login to the system (`*` entry in the password field of `/etc/passwd`).

- Working as `opc_adm` in the OVO administrator's GUI, set the password for an Input/Output application.

  For example, set up the `Virtual Terminal` application for the operator `opc_op`:

  a. Select `Window: Application Bank` from the menu in any submap to open the `Application Bank`.

  b. Right-click the `Virtual Terminal` symbol.

     The system displays a popup menu for the object.

  c. Choose `Modify...` from the popup menu to open the `Modify Internal Application: Virtual Terminal` window.

  d. In the `Platform Family / User Name` listbox of the `Modify Internal Application: Virtual Terminal` window, double-click the entry for `UNIX/opc_op`. This opens the `Change User` window.

  e. In the `Password` field of the `Change User` window, enter the password for the operator `opc_op`.

- Make sure the file *`$HOME`*`/.rhosts` exists on the managed node (*`$HOME`* is the home directory of the executing user `opc_op` on the managed node). If it *does not* exist, create it.

  Now make an entry in `.rhosts` for the user `opc_op` on the managed node. For example:

  <management_server>.<domain> **`opc_op`**

  It is *not* recommended to keep the `.rhosts` entry in a production environment as it can represent a security risk.

- Make sure the file `/etc/hosts.equiv` exists on the managed node. If it *does not*, create it.

  Add the hostname of your management server to this file. For example:

  <management_server>.<domain>**`.com`**

  It is *not* recommended to keep the `/etc/hosts.equiv` entry in a production environment as it can represent a security risk.

After You Install OVO

After you have completed the installation of OVO, decide whether the following issues need addressing in your environment:

- During the initial configuration setup, Oracle creates the default users `sys`, `system`, `outln` and `dbsnmp` and gives them default passwords. Depending on the installed Oracle components and version, additional database users can be created.

  These Oracle users are *not* used by OVO.
  You can change the password of these Oracle users with the Oracle tool, SQL*Plus, as illustrated in the following example:

  ```
  su - oracle
  sqlplus /nolog
  connect / as sysdba
  alter user system identified by <new_password>
  exit
  exit
  ```

- You can choose the following backup options:

  - offline backup (`opcbackup`)
  - automatic backup (`ovbackup.ovpl`).

NOTE The backup option that you choose determines any further configuration that can be necessary.

For more information, see the respective man pages, *opc_backup(1M)* and *ovbackup.ovpl(1M)*, or the section on system maintenance in the *OVO Administrator's Reference*.

- Customize the Oracle database if, for example, you want to take advantage of Oracle features that enable you to use additional disks. For more information, see the section on database maintenance in the *OVO Administrator's Reference*.

  For information about database tuning, refer to the OVO Database Tuning ASCII file, located on the management server at the following location: `/opt/OV/ReleaseNotes/opc_db.tuning`.

Reconfiguring the OVO Software

If you want to reconfigure the OVO software, you *must* run the OVO configuration utility `opcconfig` as user `root` on the management server.

If you want to use a separate system as the database server, first configure the database server system as described in "Setting Up an Independent Database-Server System" on page 123.

To reconfigure the OVO software, follow these steps:

1. Make sure that the NLS language variable (`NLS_LANG`) is set correctly by entering:

   `export NLS_LANG=american_america.WE8ISO8859P15`

2. Make sure that the environment variable `LANG` is set to `C`.

   To check the setting, enter:

   `echo $LANG`

3. Export the following variables: *`ORACLE_BASE`* and *`ORACLE_HOME`*.

   See "Before You Install an Oracle Database" on page 55 for instructions.

NOTE

Make sure that you have set the same `ORACLE_SID` value as the one you specified before running `ovoinstall`.

4. To start `opcconfig`, enter:

   `/opt/OV/bin/OpC/install/opcconfig`

   Respond to the questions as they are displayed.

   The configuration utility asks whether you want to configure your database automatically.

   - Enter **`y`** (yes) to configure your database automatically. This is the recommended method. You are prompted to enter the Oracle system user password.
   - Choose **`n`** (no) if you have already configured your database on an independent database server.

NOTE

If you want to use an independent system as the database server, first configure the database-server system as described in "Setting Up an Independent Database-Server System" on page 123.

If you choose the answer **yes**, the installation continues with the following prompts:

a. You are asked to enter the password of the Oracle database user `system`.

   If you do *not* have a configured database, press **Enter** for OVO to create the database and the user `system`. If you want OVO to use an existing database, enter the password of the Oracle database user `system`.

b. You are asked to enter the password for the Oracle database user `opc_op`.

NOTE

The database user `opc_op` is independent of the OS user `opc_op`, and the OVO user `opc_op`.

Enter a password of your choice.

If you need to change this password at a later date, use the command `opcdbpwd`.

CAUTION

Do *not* change the password in the database directly. OVO stores the password in an encrypted file. If the password in the database is different from the password in the encrypted file, OVO *cannot* connect to the database.

c. You are asked to enter the password for the Oracle database user `opc_report`.

NOTE

The database user `opc_report` is required for read-only access to the database for report-writing tools.

Enter a password of your choice. This password is *not* used by OVO itself. You can change it directly in Oracle at a later time. When changing this password, you also need to change the password in your reporting solution.

d. You are asked whether you require automatic startup of the database at the system boot time.

   Accept the default: **`Yes`**

e. You are asked to choose a data directory for the system table space, the control files, the redo log files, and the OVO data table spaces.

f. You are asked to choose an index directory for the OVO index table spaces.

g. The database setup utility uses the answers you give to create and configure the database, which can take some time.

   The utility performs the following configuration steps:

   - Creates and configures the Oracle database.
   - Creates OVO table spaces and users.
   - Creates OVO tables.
   - Loads the initial OVO configuration into the database.
   - Configures Net9 and starts the Net9 listener.
   - Configures the agent on the management server.

The utility then does the following:

❏ Verifies the installed HP OpenView platform by starting the OpenView server processes.

❏ Checks and verifies the OVW fields for OVO.

❏ Asks you whether you want to read the logfile `/tmp/opc_tmp/opc.log`. This logfile indicates whether errors occurred while OV Windows was loaded. Enter **`y`** (yes) to view the logfile, or **`n`** (no) to continue.

❏ Displays the login screen for the OVO GUI.

5. Log in as the OVO administrator using the following default login and password:

   user: **opc_adm**

   password: **OpC_adm**

NOTE

The startup of the OVO GUI can take several minutes and is complete when the `OVO Node Bank` window opens.

3 Installing the Java Operator GUI

In This Chapter

This chapter describes how to install the HP OpenView Operations (OVO) Java operator graphical user interface (GUI), and how to configure a web server so that you can use your own customized icons and background graphics, as well as access the online documentation.

This section assumes that you have already installed the OVO software as described in the , and have a supported web server as described by the vendor of the server.

Supported Platforms

The OVO Java GUI should, in theory, run on all platforms that meet the requirements listed in "Installation Requirements" on page 93. However, the software was tested *only* on the OS platforms listed in Table 3-1, and is therefore supported *only* on these OS platforms.

On all OS platforms not listed in Table 3-1, customers run the OVO Java GUI at their own risk.

Table 3-1 Supported Platforms of the OVO Java GUI Client

Supported Platforms	Java Application	Java Applet[a]
HP-UX 11.0 and 11.11	yes	no
RedHat Linux 7.3	yes	yes
Solaris 8 and 9 for Sun SPARC Station	yes	no
Windows 2000 Windows XP Windows 2003	yes	yes

a. See "Supported Web Browsers" on page 98 for a list of supported web browsers.

CAUTION Running the OVO Java GUI on a UNIX platform is *not* recommended because it can lead to performance problems.

Supported Languages

See Table 3-2 for a list of languages into which the OVO Java operator GUI has been translated.

Table 3-2 Supported Languages of the OVO Java GUI Client

Supported Platforms	Language
HP-UX 11.0 and 11.11	English Spanish
Redhat Linux 7.3	English Spanish
Solaris 8 and 9 for Sun SPARC Station	English Spanish
Windows 2000 Windows XP Windows 2003	English Spanish

NOTE When starting the OVO Java operator GUI, select the correct locale. The locale influences the sorting, the text display (fonts), and the representation of date and time. It also selects the localized files for your installation.

For example, to start a Spanish Java GUI, select `Spain (Spanish)` in the login window.

Installation Requirements

This section describes the hardware and software requirements for installing the OVO Java Operator GUI. It also describes the recommended patches and web browsers supported by the product.

Hardware Requirements

- **UNIX**

  See Chapter 1, Installation Requirements for the Management Server, for more information.

- **Windows**

  The best performance is achieved with a Pentium-based personal computer (PC) with at least 500 Mhz, a minimum of 256 MB RAM, and an additional 30MB RAM per GUI session.

Software Requirements

Java Runtime Environment

In general, Java Runtime Environment, version 1.4.2 or higher *must* be installed on the system where the OVO Java GUI will be installed and running.

NOTE It is recommended that you use Java Runtime Environment version 1.4.2_03.

For the platforms listed in Table 3-3, the required versions of JRE are included in the OVO Java GUI installation directory on the management server:

```
/opt/OV/www/htdocs/ito_op/
```

Table 3-3 Bundled JRE Versions

Platform	JRE Version	File name
Windows 2000/XP/2003	JRE 1.4.2_03	`ITO_JAVA.exe`

NOTE OVO A.08.10 deliver JRE 1.4.2_03 only for Windows as a part of the install shield package.

If you want to use the Java GUI on any other operating system, including the OVO A.08.10 management server, you have to download JRE 1.4.2_03 by yourself. You will also have to set the `JAVA_DIR` environment variable before using the following script to start the Java GUI:

```
/opt/OV/bin/OpC/ito_op
```

Recommended Patches

❑ **TrueType Font Patches for your language**

See Table 3-4 on page 95 for a list of required patches. Choose the patches that are required for your language.

Table 3-4 Required Patches for the Java GUI in Asian Environments

Language	OS Version	Patch Number	Description
Japanese	HP-UX 11.0	PHSS_26972	Japanese TrueType Font Patch
		PHSS_25091	X Font Server SEP2001 Periodic Patch
	HP-UX 11.11	PHSS_26971	Japanese TrueType Font Patch
		PHSS_28470	X Font Server SEP2001 Periodic Patch
Korean	HP-UX 11.0	PHSS_26974	Korean TrueType Font Patch
		PHSS_25091	X Font Server SEP2001 Periodic Patch
	HP-UX 11.11	PHSS_26973	Korean TrueType Font Patch
		PHSS_28470	X Font Server SEP2001 Periodic Patch
Simplified Chinese	HP-UX 11.0	PHSS_26976	Simplified Chinese TrueType Font Patch
		PHSS_25091	X Font Server SEP2001 Periodic Patch
	HP-UX 11.11	PHSS_26975	Simplified Chinese TrueType Font Patch
		PHSS_28470	X Font Server SEP2001 Periodic Patch

❑ **Recommended OS patches for JRE**

HP recommends that you also install the latest HP-UX patches for JRE to take advantage of the latest JRE performance improvements. The patches can be downloaded for free from the following web site:

```
http://www.hp.com/products1/unix/java/infolibrary/\
patches.html
```

See Table on page 96 for a list of recommended patches.

Table 3-5 Recommended Patches for Java GUI Performance

OS Version	Patch Number	Description
HP-UX 11.00	PHCO_27375	Cumulative SAM/ObAM patch
	PHKL_24064	eventport (/dev/poll) pseudo driver
	PHKL_27207	mmap of a java JAR file on CDROM fails
	PHKL_28766	Required for large heap on SDK 1.3 and 1.4 Probe, IDDS, PM, VM, PA-8700, asyncio, T600, Hang
	PHKL_29080	dyn semaphores; big data space; msgmn; msgsnd
	PHNE_28567	ONC/NFS General Release/Performance Patch
	PHSS_26559[a]	ld(1) and linker tools cumulative patch
	PHSS_29168	Recommended for apps that use AWT. Xserver cumulative patch
	PHSS_26945	Required for apps that use GUIs. HP aC++ -AA runtime libraries (aCC A.03.33)
	PHSS_28675	CDE Runtime Periodic Patch
	PHSS_28917	Required for SDK 1.4 X/Motif 64bit Runtime
	PHSS_28469	X Font Server SEP2001 Periodic Patch. Common patch for Asian TrueType fonts

Table 3-5 Recommended Patches for Java GUI Performance (Continued)

OS Version	Patch Number	Description
HP-UX 11.11	PHCO_27958	mountall cumulative patch
	PHKL_25468	eventport (/dev/poll) pseudo driver
	PHKL_25993	thread nostop for NFS, rlimit max value fix
	PHKL_25994	thread NOSTOP, Psets Enablement
	PHKL_27316	priority inversion and thread hang
	PHKL_28122	signals,threads enhancement,Psets Enablement
	PHKL_28238	vxvm, emc, psets&vpar, slpq1, earlykrs,cdump
	PHKL_28428	mmap/fork io, vm-jfs ddlock,thrd prf,usr lim
	PHSS_28875	X/Motif runtime patch

a. It is *not* recommended to install the PHSS_28434 patch instead.

Display Redirection Software

A display redirection product is required for Windows systems if you want to display X Window applications (for example Motif applications that are started using operator-initiated actions).

Supported Web Browsers

If you want to run the OVO Java GUI as an applet from a web browser, or if you want to use the online documentation supplied with the Java GUI, you should have one of the following web browsers installed:

- ❏ Microsoft Windows:
  - Microsoft Internet Explorer 5.5 or 6
  - Netscape Navigator 4.7 or 6.1
- ❏ HP-UX and Sun Solaris:
  - Netscape Navigator 4.7 or 6.1

NOTE You *cannot* run the OVO Java GUI as an applet from a web browser on HP-UX or Sun Solaris.

Embedded Web Browser

The Java GUI comes with an embedded web browser that is based on Java technology.

Before calling URLs in the embedded web browser, make sure that you have configured its proxy settings correctly. This is done in the `Embedded Web Browser Settings` dialog box, which can be accessed from the `Web Browser` tab in the `Preferences` dialog box.

On Windows, the Java GUI automatically selects `Embedded web browser` as the preferred web browser. An additional configuration is *not* required.

Installing the OVO Java Operator GUI

You can either run the Java operator GUI directly on your management-server system, or use HTTP or FTP to transfer the Java GUI binaries from the management server to the system where the GUI will be running.

The OVO management-server installation automatically installs the OVO Java GUI binaries into the `/opt/OV/www/htdocs/ito_op/` directory on the management server.

Installation Requirements

Before installing the OVO Java operator GUI, make sure the following prerequisites are met:

- Management-server system meets all hardware and software requirements described in Chapter 1, “Installation Requirements for the Management Server.”
  Note that the kernel parameter `maxfiles` can need to be adjusted to ensure good performance.
- OVO version A.08.10 software for the management server is installed. See Chapter 2, “Installing OVO on the Management Server.”Chapter 2, “Installing OVO on the Management Server,” on page 53 for more details.

NOTE

The OVO Java GUI client version A.07.xx is also fully compatible with an A.08.10 management server. You can also run an A.07.xx Java GUI client with an A.08.10 management server, but you will *not* be able to take advantage of the new features introduced with A.08.10.

- JRE 1.4.2 or higher *must* be installed on the system where the OVO Java GUI will be installed and running. See also Table 3-3 on page 94.

The OVO installation automatically installs and configures an Apache Web server on the management server. See “Configuring the HTTP Server” on page 109 for configuration instructions for other web servers.

To Install OVO Java GUI through HTTP

To install OVO through HyperText Transfer Protocol (HTTP), follow these steps:

1. Make sure that all the prerequisites are met as described in “Installation Requirements” on page 93,
2. Make sure that an HTTP server is installed and running.

   See “Configuring the HTTP Server” on page 109 for information about configuring a web server other than the Apache Web server.
3. On the system where the Java GUI will be running, open the following URL in a web browser:

   `http://<management_server>:3443/ITO_OP`

   In this instance, <*`management_server`*> is the fully qualified hostname of your management server.
4. Follow the instructions given on the web page:
   - If you are running the Java GUI on a PC running Microsoft Windows, download and execute the file `ITO_JAVA.exe`.
   - If you are running the Java GUI on a UNIX-based system, download and untar the file `ito_op_install.tar`. Make sure that you have JRE for your platform installed. The recommended version of JRE is 1.4.2_03.

Installing OVO Java GUI via FTP

To install OVO via File Transfer Protocol (FTP), follow these steps:

1. Make sure that all the prerequisites are met as described in “Installation Requirements” on page 93.

   The OVO management server installation automatically installs the GUI client binaries in the following directory on the management server:

   `/opt/OV/www/htdocs/ito_op/`

2. Transfering the files via FTP:

   a. Start the MS-DOS command prompt or a terminal window on the system where the GUI will be installed.

   b. Open an FTP connection to the OVO management server by entering:

      `ftp <management_server>`

      In this instance, <*management_server*> is the hostname of your management server.

   c. Make sure that binary mode is used by entering:

      `bin`

   d. Change to the directory where the GUI software is located by entering:

      `cd /opt/OV/www/htdocs/ito_op`

      Retrieve the Java GUI executable.

      For a PC-based system, enter:

      `get ITO_JAVA.exe`

      For a UNIX-based system, enter:

      `get ito_op_install.tar`

      For UNIX-based systems, you *must* download platform-specific JREs from the their websites. The recommended version of JRE is 1.4.2_03.

      Close the FTP connection when the files are transferred successfully.

3. Extract the software from the files, enter:

   - PC-based system:

     `<drive_letter>:`**`ITO_JAVA.exe`**

     This starts the installation wizard that will guide you through the installation.

   - UNIX-based system:

     `tar xvf ito_op_install.tar`

Installing OVO Java GUI on HP-UX or Sun Solaris Systems Other than OVO Management Servers

On HP-UX or Sun Solaris systems other than OVO management servers, use the HP SD-UX utility `swinstall` to install the Java GUI client.

IMPORTANT The Software Distributor (SD-UX) utility is supplied with the HP-UX operating system. However, you have to install it prior to installing the Java GUI client on Sun Solaris systems.

To install OVO Java GUI on HP-UX or Sun Solaris systems with `swinstall`, follow these steps:

1. Ensure that all the prerequisites are met as described in "Installation Requirements" on page 93.
2. Enter the commands as stated below for the following languages:
   - *English*

     ```
     swinstall -s \
     /<mount_point>/OVOCD2/OV_DEPOT/HPOvOServer.depot\
     OVOPC-WWW.OVOPC-WWW-GUI OVOPC-WWW.OVOPC-WWW-ENG
     ```

   - *Spanish*

     ```
     swinstall -s \
     /<mount_point>/OVOCD2/OV_DEPOT/HPOvOServer.depot\
     OVOPC-WWW.OVOPC-WWW-GUI OVOPC-WWW.OVOPC-WWW-SPA
     ```

   - *Japanese*

     ```
     swinstall -s \
     /<mount_point>/OVOCD2/OV_DEPOT/HPOvOServer.depot\
     OVOPC-WWW.OVOPC-WWW-GUI OVOPC-WWW.OVOPC-WWW-JPN
     ```

   - *Korean*

     ```
     swinstall -s \
     /<mount_point>/OVOCD2/OV_DEPOT/HPOvOServer.depot\
     OVOPC-WWW.OVOPC-WWW-GUI OVOPC-WWW.OVOPC-WWW-KOR
     ```

- *Simplified Chinese*

```
swinstall -s \
/<mount_point>/OVOCD2/OV_DEPOT/HPOvOServer.depot\
OVOPC-WWW.OVOPC-WWW-GUI OVOPC-WWW.OVOPC-WWW-SCH
```

where *<mount_point>* is a location where the OVO installation CD is mounted.

Starting the OVO Java GUI

This section describes how to start the OVO Java GUI on a PC, on a UNIX-based system, and from a web browser.

NOTE If you want to access web pages that start Java2 applets in a workspace, the Java GUI itself *must* be running as an applet. See "Starting the Java GUI from a Web Browser" on page 106 for more information about starting the Java GUI as an applet.

IMPORTANT On first login as any of the default users, you *must* change your default password for security reasons. You can change your password again at a later time, but you will not be allowed to set the password back to the default. For details on how to change the password, refer to the *OVO Java GUI Operator's Guide*.

About the ito_op Startup Script

The `ito_op` startup script first reads the environment variables, then evaluates the command-line options, and finally the preferences listed in the `itooprc` file.

For more information about the `ito_op` script, see the man page *ito_op(1M)* (UNIX), the *ito_op.bat* script (Windows), and the *OVO Administrator's Reference*.

Starting the Java GUI on a PC

The install shield of the OVO Java GUI client software installs a desktop shortcut for the GUI.

To start the OVO Java operator GUI on a PC, follow these steps:

1. Do one of the following:
   - Use the installed desktop shortcut

- Enter the following:

  <*drive_letter*>:**<install_directory>\ito_op\ito_op.bat**

  The OVO Java GUI is now started and displays a login screen.

2. Enter the OVO username and password.

Starting the Java GUI on a UNIX-based System

To start the OVO Java operator GUI on a UNIX system, perform:

1. Enter the following:

   /opt/OV/www/htdocs/ito_op/ito_op &

   The OVO Java GUI is now started and displays a login screen.

2. Enter the OVO username and password.

Starting the Java GUI from a Web Browser

NOTE You do *not* need to install the GUI if you want to start the OVO Java GUI from a web browser. Simply download the Java applet provided with the GUI client software.

To start the OVO Java GUI from a web browser, follow these steps:

1. Ensure that all the prerequisites are met as described in “Installation Requirements” on page 93.
2. On the system where the Java GUI will be running, open the following URL in a web browser:

   http://<*management_server*>:3443/ITO_OP

   In this instance, <*management_server*> is the fully qualified hostname of your management server.
3. Follow the instructions given on this web page for downloading the Java applet.

Starting the Online Documentation

The HTML-based online documentation supplied with the Java GUI is automatically installed on the OVO management server. However, before you can access it from within OVO, you *must* configure the OVO Java GUI to open a web browser at the corresponding URL of the management server.

NOTE

It is recommended that you view the online documentation with Microsoft Internet Explorer (Windows) or Netscape Communicator (UNIX) rather than the embedded web browser.

You can change your web-browser preferences by selecting `Edit: Preferences...` from the menu bar, then clicking the `Web Browser` tab in the `Preferences` dialog box. For details, see the *OVO Java GUI Operator's Guide*.

To start the OVO online documentation, follow these steps:

1. In the OVO Java GUI, select `Help: Contents` from the menu bar.

   A window opens that lets you select a web browser to be used for running web-based applications.

2. Select the web browser you want to use and click `[OK]`.

   The web browser opens at the following URL:

   `http://<management_server>:3443/ITO_OP/help/\`
   `<lang>/ovo/html/index.htm`

   In this URL, *<lang>* is `en` for English or `es` for Spanish.

The online documentation for the Java GUI is displayed. Use the navigation tree on the left to find the topics that interest you, or use the index to search for a specific term.

NOTE

You can change the URL for the online documentation in the `Preferences` dialog of the OVO Java GUI. Select `Preferences` from the `Edit` menu to open this dialog.

Connecting Through a Firewall

If you want to access the OVO management server with the OVO Java GUI from outside a firewall, open port 2531. Port 2531 is the socket used by the Java GUI to connect to the management server.

Configuring the HTTP Server

Install your web server as described in the vendor's documentation and verify that the web server is running properly.

If you want to install and access the OVO Java GUI, you need to configure your HTTP server to do so. The configuration varies depending on the type of HTTP server that you have.

The following web servers are supported:

- NCSA/Apache (automatically installed and configured with the OVO installation)
- Netscape
- CERN/W3C

This section describes how to configure these web servers for use with the OVO Java GUI.

To Configure a Netscape Server

To configure Netscape for installing and accessing the OVO Java GUI, complete the following steps:

1. Select the Netscape server that you want to configure.
2. From the `Netscape Enterprise Configuration`, do the following:
   a. Click the `[Content mgmt]` button at the top of the window.
   b. Select `Additional Document Directories` from the left side of the window.
   c. For `URL prefix` enter:

      `ITO_OP/`

   d. For `Map To Directory` enter:

      `/opt/OV/www/htdocs/ito_op`

   e. Click `[OK]`.
   f. Click `[Save and Apply]`.

   Restart your web server and open the following URL:

   `http://`*`<server_hostname>`*`/ITO_OP/`

   Where *`<server_hostname>`* is the hostname of your web server, including the domain.
3. Make sure the `.exe` extension is defined in the following file:

   ```
   /opt/ns-fasttrack/httdp-<server_hostname>/config/\
   mime.types
   ```
4. Add the following line to the file:

   ```
   type=application/octet-stream exts=exe
   ```

To Configure a CERN/W3C Server

To configure a CERN/W3C web server for installing and accessing the OVO Java GUI, complete the following steps:

1. Add the following line to the file `httpd.conf`:

   `Pass /ITO_OP/* /opt/OV/www/htdocs/ito_op/*`

2. Restart the web server.

3. Open the following URL:

   `http://<server_hostname>/ITO_OP/`

4. Where *<server_hostname>* is the hostname of your web server, including the domain.

4 Startup/Shutdown Services and Manual Database Configuration

In This Chapter

This chapter describes how to set up the automatic startup and shutdown operations for the HP OpenView Operations (OVO) management-server services. It describes both the automatic and manual startup and shutdown methods for your installed database.

Starting and Stopping OVO Automatically

When you configure OVO, the startup of the OVO processes (`ovstart/ovstop`) is automatically integrated into the system boot sequence.

The OVO management-server services are started automatically by the `ovstart` command. This service is integrated so that it is executed during the system boot phase. Similarly, OVO management-server services are automatically shut down by the command `ovstop`.

The `ovstart` and `ovstop` scripts are located in the following directory:

`/opt/OV/bin`

The script `opcsv` is also available to start and stop the OVO services by calling `ovstart/ovstop`.

The `opcsv` script is located in the following directory:

`/opt/OV/bin/OpC`

The `opcsv` command functions as follows:

`opcsv -start` First calls **`ovstop opc`** and then **`ovstart opc`**.

`opcsv -stop` Calls **`ovstop opc`**.

`opcsv -status` Displays more detailed OVO-status information than **`ovstatus opc`**.

NOTE

The command `opcsv -stop` *does not* stop all the subagent processes. Subagent communication processes depend on the OVO OpenAgent (`ovoacomm`), which is *not* stopped by the `opcsv` command. If you want to stop both the OpenAgent and OVO server processes, use `ovstop opc ovoacomm ovctrl`. Conversely, if you want to start both the OpenAgent and OVO processes, use `ovstart opc ovoacomm`.

For more information about the `opcsv` command, see the man page *opcsv(1M)* and *ovstart(1M)*.

The OVO installation process automatically configures the DCE RPC daemon so that it is started in the system boot phase.

TIP

If you experience communication problems between the OVO server and the agents or if the server processes are not correctly informed about configuration changes, restart both the OpenAgent and the OVO server processes:

```
/opt/OV/bin/ovstop opc ovoacomm ovctrl
```

```
/opt/OV/bin/ovstart ovoacomm opc
```

Starting and Stopping an Oracle Database Automatically

You can use the OVO shell script `/sbin/init.d/ovoracle` to ensure a clean, automatic startup and shutdown of an Oracle database whenever you start or shut down the OVO management server. If you choose to start the OVO management-server processes automatically at system startup, the Oracle database *must* be running before OVO.

The script `ovoracle` is linked to:

- For the start

  `/sbin/rc3.d/S940ov300`

- For the shutdown

  `/sbin/rc1.d/K060ov900`

The option for the automatic startup and shutdown of the database is set in the file:

`/etc/rc.config.d/ovoracle`

You can enable automatic startup and shutdown of the database by editing the file:

`/etc/rc.config.d/ovoracle`

Change both the `OVORACLE` and `OVORALISTENER` variable to `1`, as shown in the following extract from the file:

```
# configure if oracle database should be started
# 0 - do not start
# 1 - start
# default is 0. This may be changed here manually
#
OVORACLE=1
OVORALISTENER=1
```

Starting and Stopping an Oracle Database Manually

If you choose *not* to incorporate the Oracle `startup/shutdown` commands in the system boot sequence, you will need to start and stop the database manually as described below. You *must* start the database before starting OVO and stop the database after stopping OVO.

Starting an Oracle Database Manually

To start an Oracle database manually, follow these steps:

1. Switch to user `oracle`:

   `su - oracle`

2. Set the *`ORACLE_HOME`* environment variable.

   The default is as follows:

   `export ORACLE_HOME=/opt/oracle/product/9.2.0`

3. Set the *`ORACLE_SID`* environment variable.

   The default is as follows:

   `export ORACLE_SID=openview`

4. Run the SQL*Plus tool to administrate the database:

   `<ORACLE_HOME>/bin/sqlplus /nolog`

5. Enter the following commands at the prompt to start the Oracle database:

   ```
   connect / as sysdba
   startup
   exit
   ```

6. Switch back to user `root`:

   `exit`

Stopping an Oracle Database Manually

To shut down an Oracle database manually, follow these steps:

1. Switch to user `oracle`:

   `su - oracle`

2. Set the *`ORACLE_HOME`* environment variable.

   The default is as follows:

   `export ORACLE_HOME=/opt/oracle/product/<version>`

   In this instance, the supported version of the database is 9.2.0.

3. Set the *`ORACLE_SID`* environment variable.

   The default is as follows:

   `export ORACLE_SID=openview`

4. Run the SQL*Plus tool:

   `<ORACLE_HOME>/bin/sqlplus /nolog`

5. Enter the following to stop the Oracle database:

   ```
   connect / as sysdba
   shutdown
   exit
   ```

6. Switch back to user `root`:

   `exit`

Native-Language Support in an Oracle Database

This section summarizes the Native-Language Support (NLS) rules followed by an installed Oracle database.

NOTE

The same character set *must* be used for both the Oracle database and the environment of the OVO user interface and server processes. This helps to avoid unnecessary conversions taking place in the Oracle database. After you install an Oracle database, you can no longer change the character set.

The character set of the database is determined by the `CHARACTER SET` option of the `CREATE DATABASE` command. When the `opcconfig` script creates the database, it determines the character set by evaluating the *LANG* and *NLS_LANG* environment variables. It uses the following character set for the English and Spanish language installations:

```
CHARACTER SET = "american_america.WE8ISO8859P15"
```

The NLS parameters are controlled by the Oracle-environment variable *NLS_LANG* which has the format:

<language>_<territory>.<character_set>

OVO uses the following *NLS_LANG* setting:

English/Spanish language: `american_america.WE8ISO8859P15`

By default, OVO uses the value of *NLS_LANG* set in the environment.

If *NLS_LANG* is *not* set in the environment, OVO uses the value specified in the file:

```
/etc/opt/OV/share/conf/ovdbconf
```

OVO checks the character set of the Oracle database, and stores this information as part of its configuration. Oracle provides a dynamic database table `v$nls_parameters` that contains the settings for the language and character-set parameters.

Environment Variables in an Oracle Database

When starting the OVO process with a database connection, the following steps are taken to determine the database variables:

- *ORACLE_HOME* variable is determined.

  If *ORACLE_HOME* is set in the environment, this value is used. If *not*, OVO uses the value from the configuration file `/etc/opt/OV/share/conf/ovdbconf`

- *ORACLE_SID* variable is determined.

  If *ORACLE_SID* is set in the environment, this value is used. If *not*, OVO uses the value from the configuration file `/etc/opt/OV/share/conf/ovdbconf`

- *NLS_LANG* variable is determined.

  If *NLS_LANG* is set in the environment, this value is used. If *not*, OVO uses the value from the configuration file `/etc/opt/OV/share/conf/ovdbconf`

- *ORA_NLS* variable is determined.

  This variable is needed for a Japanese-language installation of Oracle. If *ORA_NLS* is *not* set in the environment, OVO selects the corresponding setting.

- It is determined whether the parameter `DATABASE <database>` is set in the file `/opt/OV/bin/OpC/install/opcsvinfo`.

  This parameter is used to establish a Net9 connection. If set, the *ORACLE_SID* variable is ignored.

  For example, if the line `DATABASE ov_net` is entered in the file `opcsvinfo`, the string `opc_op/<password>@ov_net` is used to connect to the Net9 identifier `ov_net`.

- A connection to the database is established, as described in the section “Starting and Stopping an Oracle Database Automatically” on page 117“Installing an Oracle Database” on page 62.

  If `DATABASE` is *not* used, the connect string `opc_op/<passwd>` is used.

Alternative Database Locations

The following table shows several alternative database installations, describes the location of associated processes, and lists the entries required in the file `/opt/OV/bin/OpC/install/opcsvinfo`.

Table 4-1 Alternative Database Locations

Database Scenario	Entries in opcsvinfo	Location of Processes
Local Database using Net9 (default)	`DATABASE ov_net`	All processes (database, OVO management server, and the GUI) run on the management server. They connect to the database server using Net9.
Independent Database Server (See "Setting Up an Independent Database-Server System" on page 123.)	`DATABASE ov_remote`	On the database server: • Oracle processes On the OVO management server: • OVO server processes • GUI Processes

Setting Up an Independent Database-Server System

You should set up the Oracle database and the OVO management server on the *same* system. Using the same system reduces the complexity of your computing environment and enables you to use all the OVO administration tools. However, if the system resources on the OVO management-server system are *not* sufficient, you may set up an independent database-server system. You can use Oracle Net9 as the network link between the OVO system and the database-server system.

NOTE The OVO backup and recover programs only function when the database is on the local management server. For a consistent backup, the data files and the data in the database *must* be synchronized.

Before you start to setup an independent database-server system refer to Chapter 1, “Installation Requirements for the Management Server,” on page 25 for the *minimum* recommended hardware and software prerequisites.

IMPORTANT An Independent Database-Server System is supported *only* on a system running the same operating system and the same OS version as used by the system hosting the OVO management server. For example, installing the remote Oracle database on HP-UX version 11.00 is supported *only* if the OVO management server is also on the HP-UX version 11.00 system.

To set up an independent database-server system, follow these steps:

1. Install the following Oracle 9.2.0 products on the *database server*:
   - Oracle9i 9.2.0.1.0
   - Oracle Net Services 9.2.0.1.0
2. Install the following Oracle 9.2.0 products on the OVO *management server*:

- Oracle9i Client 9.2.0.1.0
- Oracle Net Services 9.2.0.1.0

NOTE

All subproducts are required: Oracle Net Listener 9.2.0.1.0, Oracle Connection Manager 9.2.0.1.0 and Oracle Names 9.2.0.1.0.

To install these products, select `Oracle9i Client 9.2.0.1.0` in the `Available Products` window and choose the `Custom` installation type.

IMPORTANT

Make sure that you install the 9.2.0.2 Patch Set for Oracle Database Server after the Oracle database installation. For more information on database and patch-set installation, see “Installing an Oracle Database” on page 57.

3. Install OVO on the OVO management-server system following the installation procedure described in chapter 2, Installing OVO on the Management Server. During the OVO installation, complete the following additional steps:
   - When `ovoinstall` asks you whether you want to configure the database automatically, enter `no`.
   - At the end of `OpenView Software Configuration Section`, `ovoinstall` asks you whether you want to install patches before the OVO configuration startup or to setup OVO with an Independent Database-Server System. When prompted again during the OVO installation, perform the following:
     — If you do not want to use an Independent Database-Server System, install patches and, when the installation of patches is completed, press `[Enter]` to continue.
     — If you want to use an Independent Database-Server System, keep this window open and configure the database-server system as described in the following procedure.

4. Share the `/opt/OV`, `/etc/opt/OV`, and `/var/opt/OV` directories on the OVO management server, and assign write access and access for the user `root`. Perform the following:

   - Edit the `/etc/exports` file and enter the following lines:

     ```
     /opt/OV -rw=<DB server>,root=<DB server>
     /var/opt/OV -rw=<DB server>,root=<DB server>
     /etc/opt/OV -rw=<DB server>,root=<DB server>
     ```

     Where *<DB server>* is the name of the database-server machine.

   - Execute the following command:

     ```
     exportfs -a
     ```

     or, if your `/etc/exports` file contains many directories, for performance reasons, execute the following:

     ```
     exportfs /opt/OV /var/opt/OV /etc/opt/OV
     ```

5. Login as `root` on the database server (the system on which you want to run the database).

6. On the database-server system, create the group `opcgrp` and the user `opc_op` with the same ID as on the OVO management server.

   You may use `SAM`, the HP-UX system administration tool.

7. Mount the `/opt/OV`, `/etc/opt/OV`, and `/var/opt/OV` directories from the management server with NFS to the database server.

   Make sure that the directory is exported on the management server with write access and access for `root`:

   ```
   umask 022
   mkdir /opt/OV /etc/opt/OV /var/opt/OV
   mount <mgmt_server>:/opt/OV /opt/OV
   mount <mgmt_server>:/etc/opt/OV /etc/opt/OV
   mount <mgmt_server>:/var/opt/OV /var/opt/OV
   ```

8. Copy the following scripts that control the automatic database startup from the OVO management server to the database server:

- /etc/rc.config.d/ovoracle
- /sbin/init.d/ovoracle

9. On the database server, link the files:

   - **ln -s /sbin/init.d/ovoracle /sbin/rc2.d/K060ov900**
   - **ln -s /sbin/init.d/ovoracle /sbin/rc3.d/S940ov300**

10. Add the values for *ORACLE_HOME*, *ORACLE_SID*, and *NLS_LANG* to /etc/rc.config.d/ovoracle:

    ```
    export ORACLE_HOME=/opt/oracle/product/9.2.0

    export ORACLE_SID=openview

    export NLS_LANG=american_america.WE8ISO8859P15
    ```

11. Export the Oracle variables as follows:

    ```
    export ORACLE_HOME=/opt/oracle/product/9.2.0

    export ORACLE_SID=openview

    export ORACLE_BASE=/opt/oracle

    export NLS_LANG=american_america.WE8ISO8859P15
    ```

12. Call opcdbsetup on the database server to create and configure the database:

    /opt/OV/bin/OpC/opcdbsetup

    See the man page *opcdbsetup(1M)* for more details.

    The program asks whether you want to configure the database. Accept the default values at the prompts . The command opcdbsetup automatically configures Net9 and starts the Net9 listener.

13. Copy the following Net9 files from the database server to the OVO management server:

    - $ORACLE_HOME/network/admin/sqlnet.ora
    - $ORACLE_HOME/network/admin/tnsnames.ora
    - $ORACLE_HOME/network/admin/tnsnav.ora

    These files are required on both systems.

NOTE

If you use a different value for *ORACLE_HOME* on the OVO management server, you will have to adapt these files on the management server because several log and trace files reference *ORACLE_HOME*.

14. Unmount the `/opt/OV`, `/etc/opt/OV`, and `/var/opt/OV` directories.
15. Exit the database server.
16. The command `opcdbsetup` creates symbolic links from the Oracle shared library to the OVO libraries.

    If you use a different *ORACLE_HOME* on the OVO management server and on the database server, you will need to change the links on the OVO management server. As user `root`, enter:

    ```
    ln -sf <ORACLE_HOME>/lib32/libclntsh.sl \
    /opt/OV/lib/libclntsh.sl

    ln -sf <ORACLE_HOME>/lib32/libclntsh.sl \
    /opt/OV/lib/libclntsh.sl.1.0

    ln -sf <ORACLE_HOME>/lib32/libclntsh.sl \
    /opt/OV/lib/libclntsh.sl.8.0

    ln -sf <ORACLE_HOME>/lib32/libclntsh.sl \
    /opt/OV/lib/libclntsh.sl.9.0

    ln -sf <ORACLE_HOME>/lib32/libclntsh.sl \
    /opt/OV/lib/libopcora.sl

    ln -sf <ORACLE_HOME>/lib32/libwtc9.sl \
    /opt/OV/lib/libwtc9.sl
    ```

17. Reset the name of the OVO management server in the database by changing the IP address using the `opcchgaddr` command.

    To do this, enter:

    ```
    /opt/OV/contrib/OpC/opcchgaddr -label <mgmt_sv_label> IP\
    <DB_server_IP_addr> <DB_server_name>\
    IP <OVO_mgmt_server_IP_addr> <OVO_mgmt_server_name>
    ```

Since `opcdbsetup` was run on the database-server system, the entry in the database for the OVO management server uses the hostname and IP address of the database-server system. This is incorrect: the entry needs to be changed to reflect the hostname and IP address of the OVO management server itself.

18. Wait for the database-server system configuration to complete, then press `[Enter]` in the ovoinstall window to continue with the OVO installation.
19. Use the OVO administrator GUI *after* OVO installation to:
    - ❏ Change the machine type of the OVO management server, if the machine type of the database server and the OVO management server are different.
    - ❏ Unassign the `mondbfile` template from the OVO management-server template group and, if an OVO agent is running on the database-server system, assign the `mondbfile` template there.

5 Directory Structure on the Management Server

In This Chapter

This chapter provides file trees showing the hierarchy of the HP OpenView Operations (OVO) directories on the management server.

OVO File Tree on the Management Server

The layout of the 11.x file system conforms to the standard structure of UNIX System V Release 4 (SVR4).

The major OVO directories contain the following:

`/opt/OV`	All OVO binaries
`/etc/opt/OV`	Configuration data
`/var/opt/OV`	Run-time data

NOTE The file tree can include additional subdirectories if OVO agent software or other HP OpenView software is installed. For more information on agent file trees, see the *OVO DCE Agent Concepts and Configuration Guide*.

Figure 5-1 File Tree on the Management Server (/opt/OV Branch)

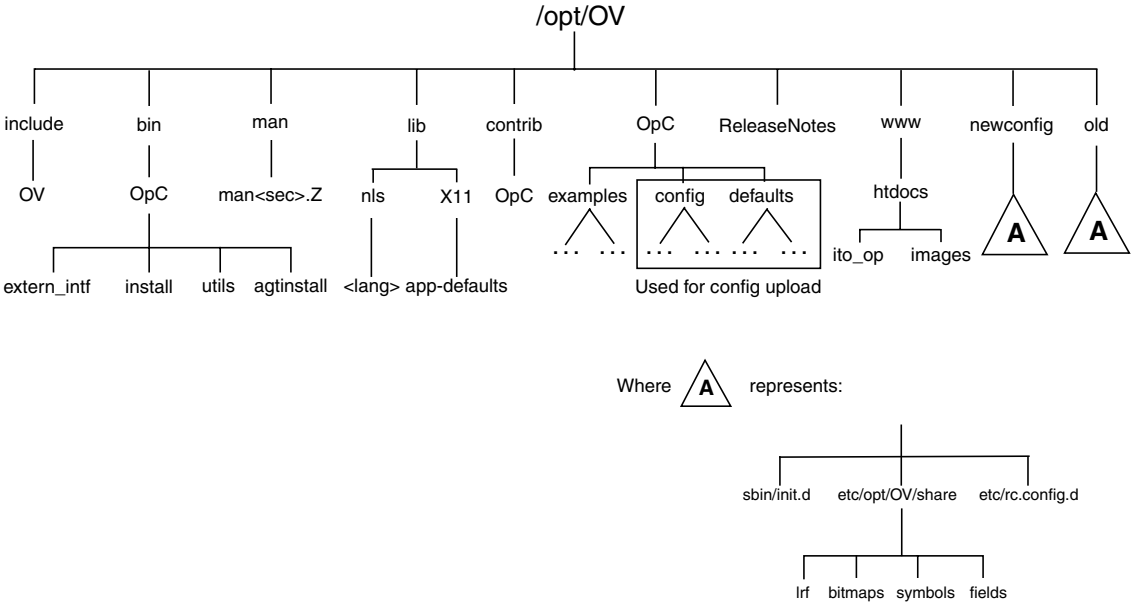


Figure 5-2 File Tree on the Management Server (/var/opt/OV Branch)

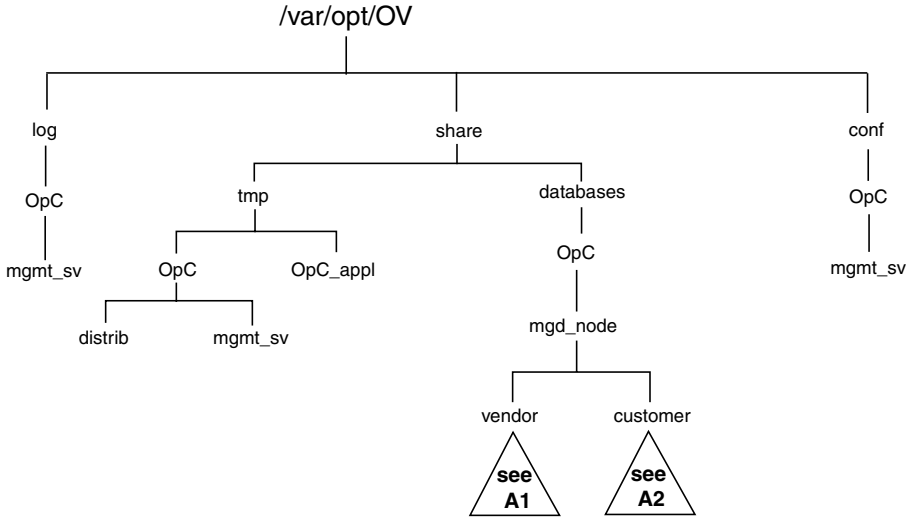
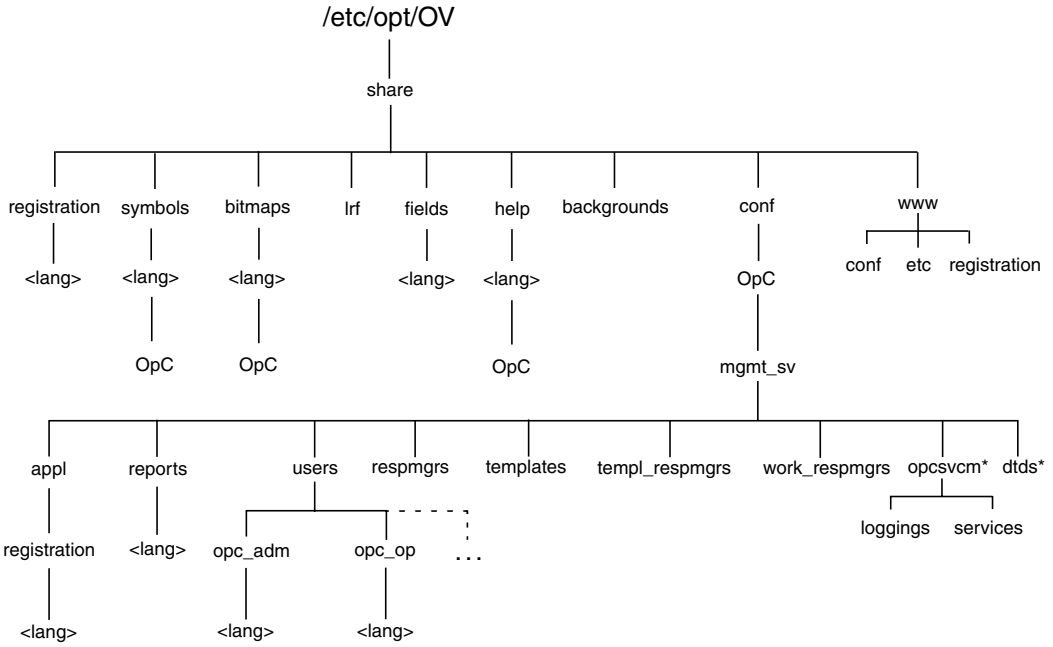
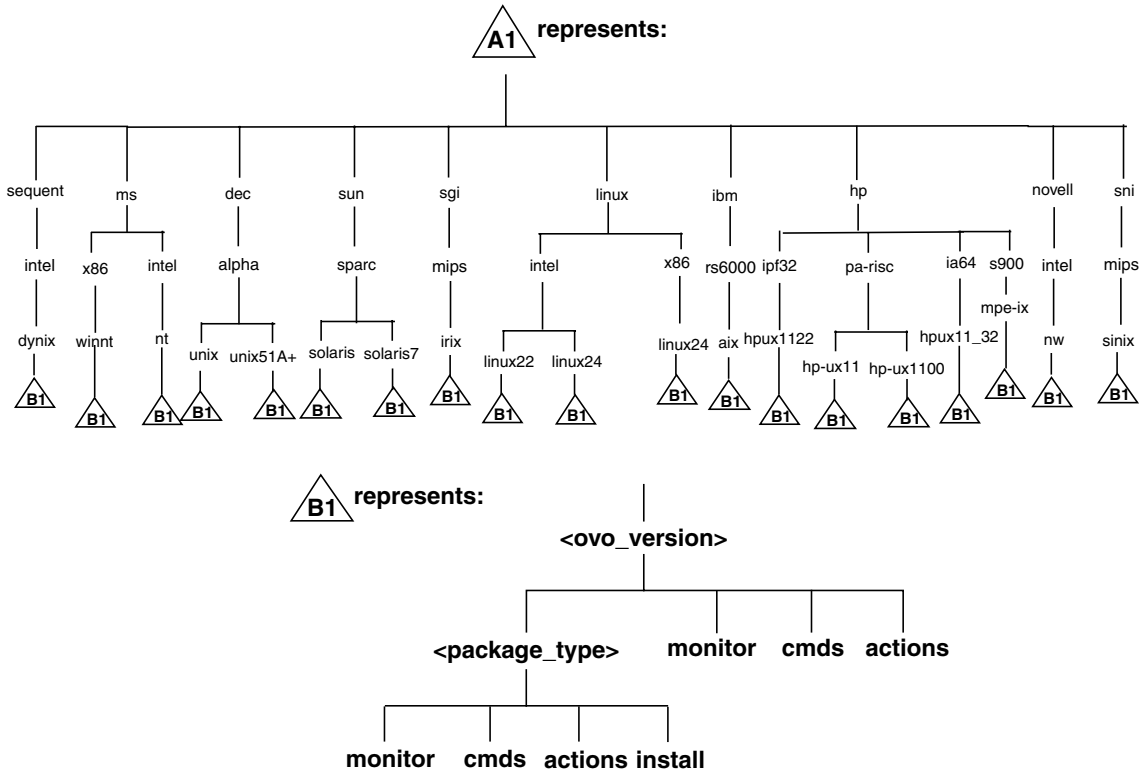


Figure 5-3 File Tree on the Management Server (/etc/opt/OV Branch)



* Only if HP OpenView Service Navigator is installed

Figure 5-4 Vendor-specific OVO Software Sub-tree on the Management Server



Where:

<*ovo_version*> Version of OVO that supports a particular agent platform (for example A.08.00).

OVO can manage several different OVO versions for each agent platform. For more information about OVO version management, see the *OVO DCE Agent Concepts and Configuration Guide*.

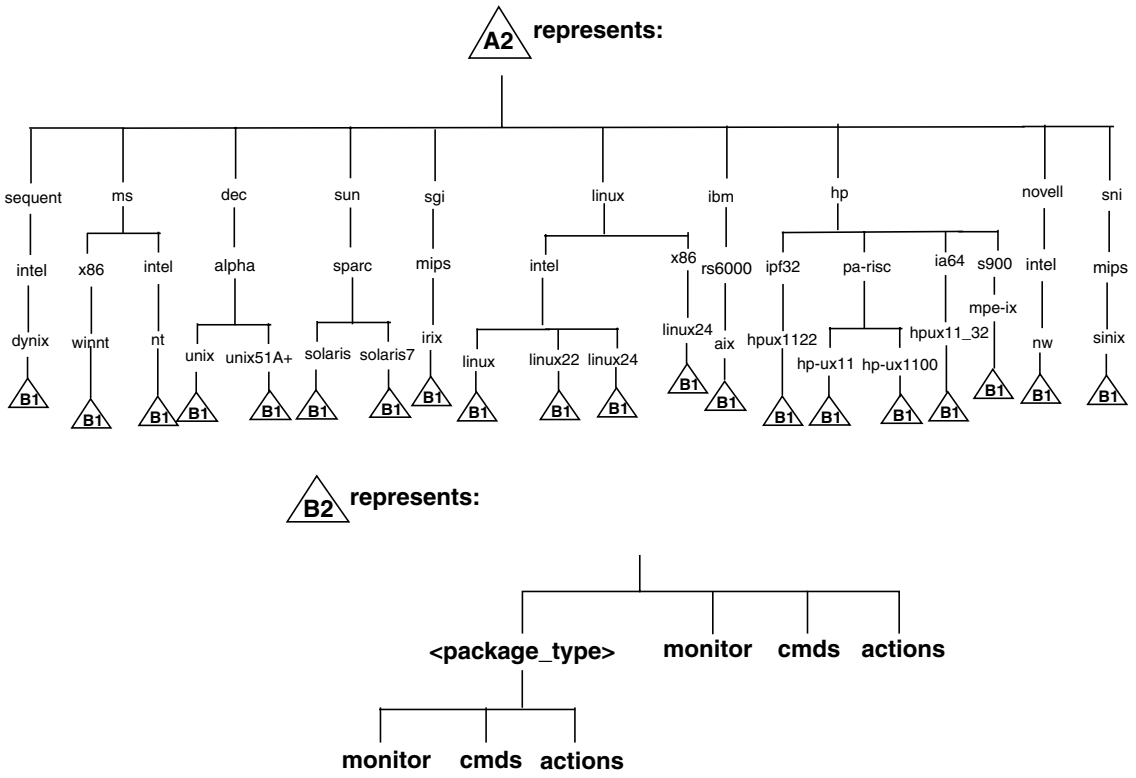
<*package_type*> Communication type used by the remote procedure calls (RPC) of a particular agent platform, for example:

- RPC_BBC
- RPC_NCS
- RPC_DCE_TCP
- RPC_DCE_UDP

NOTE When DCE-based managed nodes communicate with the management server over a fast network (LAN), choose DCE RPC (UDP) in preference to DCE RPC (TCP) as the communication protocol for the best performance.

The customer sub-tree is similar to the vendor sub-tree, without the OVO version. You can integrate your additional scripts, including individual scripts and binaries in the **monitor**, **cmds** and **actions** subdirectories. These files are automatically distributed to the managed node by OVO.

Figure 5-5 Customer-specific OVO Software Sub-tree on the Management Server



System Resources Adapted by OVO

OVO makes changes in the following system resource files:

- `/etc/passwd`

  Entry for the default OVO operator.

- `/etc/group`

  Entry for the default OVO operator.

- `/sbin/init.d/opcagt`.

  OVO agent startup/shutdown script.

- `/etc/rc.config.d/opcagt`

  OVO agent startup/shutdown configuration script.

- `/sbin/rc3.d`

  Link `S941opcagt` to `/sbin/init.d/opcagt` is created. This determines when `opcagt` is started during the restart sequence.

- `/sbin/rc2.d`

  Link `K059opcagt` to `/sbin/init.d/opcagt` is created. This determines when `opcagt` is stopped during the shutdown sequence.

- `/etc/services`

  Service `ito-e-gui` is added for the Java-based operator GUI.

- `/etc/inetd.conf`

  Starts the process `/opt/OV/bin/OpC/opcuiwww` when requested.

- `/var/adm/inetd.sec`

  Allows, by default, all systems to use the service `ito-e-gui`. If you specify a system name, only this system is allowed to use the OVO Java-based GUI.

6 Software Administration on the Management Server

In This Chapter

This chapter describes how to do the following:

- ❏ Deinstall OVO from the management server.
- ❏ Reinstall OVO on the management server.

To Deinstall the Entire OVO Installation

To deinstall the entire OVO installation, login as user root on the management server and follow these steps:

1. Stop all managed-node services by doing one of the following:
   - Enter:

     `/opt/OV/bin/OpC/opcragt -stop -all`
   - Use the GUI windows.
2. Deinstall the OVO software from all the managed nodes, including the management server, using the `Deinstall OVO Software and Configuration` window in the administrator's GUI:

   Select `Actions: Agents->Deinstall...`

CAUTION

Deinstall *all* the OVO agents belonging to the management-server environment *before* you deinstall the OVO management server. If you do not do so, the removal process will fail.

If the management server is, in turn, managed by another management server, you *must* also deinstall the managed-node software from the management server. After completely deinstalling the entire OVO installation, you can reinstall the managed-node software from the server using the `Force Update` option.

3. Check that all OVO GUIs are terminated by entering:

   `ps -eaf | grep opcui`

   If they are not terminated, terminate them by selecting `[Map: Exit]`, or by pressing **Ctrl** + **E** in any HP OpenView submap. Alternatively, use the `kill(1)` command.

NOTE

The `opcuiwww` process is not an OVO GUI process. It is an OVO management-server process. The process is stopped in the step 4.

4. Deinstall OVO by using the `ovoremove` script.

NOTE When deinstalling from cluster environments, manually remove the agent from non-active cluster nodes before starting the `ovoremove` utility.

To start OVO deinstallation, as a user `root` do the following:

a. Start the deinstallation script by entering

`/opt/OV/bin/OpC/ovoremove`

5. Check the following logfiles for problems occurring during deinstallation:

- `/var/adm/sw/swagent.log`
- `/var/opt/OV/ovoinstall.log` (during deinstallation)

NOTE After deinstallation, the `ovoinstall.log` file is located in the `/tmp` directory.

To deinstall the Oracle database, see the documentation supplied by the database vendor.

Deinstalling the OVO Java-based GUI

If you no longer need the OVO Java-based operator GUI, you can easily deinstall it.

To Deinstall the Java-based GUI from a PC Client

To deinstall the OVO Java-based operator GUI from a PC client, follow these steps:

1. Close all running GUIs on the client.
2. Select `Start: Settings -> Control Panel`. The Windows `Control Panel` opens.
3. In the Windows `Control Panel`, doubleclick the `Add/Remove Programs` icon. The `Add/Remove Programs Properties` dialog opens.
4. In the `Add/Remove Programs Properties` dialog, select `HP Operations for UNIX Java Console` and click `[Add/Remove...]`.

To Deinstall the Java-based GUI from an HP-UX Client

To deinstall the OVO Java-based operator GUI from a HP-UX client, follow these steps:

1. Close all running GUIs on the client.
2. Deinstall the OVO Java-based GUI interactively, using the `swremove` GUI. Enter the following:

   `/usr/sbin/swremove`

3. Select the product `OVOEnglish.OVOPC-WWW` and proceed with the deinstallation as described by the HP SD-UX documentation.
4. Check the following logfiles for problems occurring during the deinstallation:

   - `/var/adm/sw/swagent.log`
   - `/var/adm/sw/swremove.log`

To Deinstall the Java-based GUI from Other UNIX-based Systems

To deinstall the OVO Java-based operator GUI from other UNIX-based systems, follow these steps:

1. Close all running GUIs on the client.
2. Remove the directory `/opt/OV/www/htdocs/ito_op/` and its contents.

Reinstalling the OVO Software

To reinstall the OVO software, follow these steps:

1. Deinstall OVO.

   See “To Deinstall the Entire OVO Installation” on page 143 for details.

2. Install OVO.

   See Chapter 2, “Installing OVO on the Management Server,” on page 53 for details.

Reinitializing the OVO Database and Configuration

If required, you can reinitialize the OVO database and configuration on the management server after reinstalling the OVO software.

To reinitialize the database and configuration, follow these steps:

1. If required, deinstall the OVO software from all the managed nodes, as described in the *OVO Administrator’s Reference*.

CAUTION

After you have reinitialized the OVO database, all the node configuration will be lost. You *must* then reconfigure the nodes.

2. Remove all the HP OpenView maps of all the OVO users:

   a. Start an HP OpenView Windows session:

      `/opt/OV/bin/ovw`

   b. Select `[Map: Open]...` from the menu.

   c. On the `Available Maps` window, select the administrator’s and operator’s entries and click the `[Delete]` button.

3. As user `root`, export the Oracle variables as follows:

   `export ORACLE_HOME=/opt/oracle/product/<version>`

   `export ORACLE_BASE=/opt/oracle`

4. Clean up the `/etc/opt/OV/share/conf/OpC/mgmt_sv/users` directory.

   Delete all the subdirectories except `opc_adm`, `itop`, `opc_op`, and `netop`.

5. If the software has been deinstalled, reinstall it as described in "Reinstalling the OVO Software" on page 147.

6. Stop the OVO and OpenAgent server processes:

   ```
   /opt/OV/bin/ovstop opc ovoacomm ovctrl
   ```

7. Clean up the database, including the configuration for operators and nodes, and all active and history messages.

   Enter:

   ```
   su - root
   /opt/OV/bin/OpC/opcdbinit -c [-v]
   exit
   ```

   Where:

`-c`	cleans tables and loads default configuration
`-v`	verbose mode; used to show processing progress

8. Restart all the OVO management-server processes by entering:

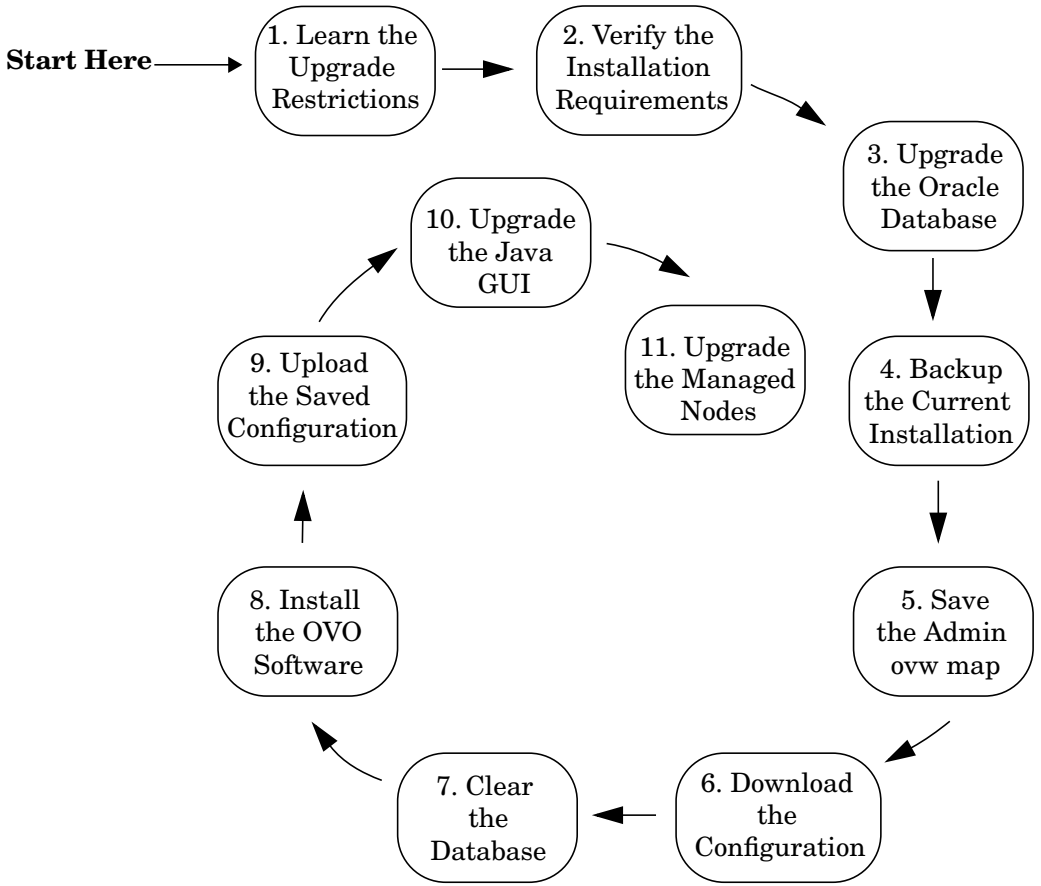
   ```
   /opt/OV/bin/ovstart opc
   ```

7 Upgrading OVO to Version A.08.10

Upgrade Overview

To upgrade from A.07.1x to A.08.10 with database customizations, follow the high-level steps described in Figure 7-1 on page 150. Each step is explained in detail in a separate section in this chapter.

Figure 7-1 Upgrade Steps



OVO Upgrade Restrictions

If you upgrade OVO on the same management-server system, all NNM data is migrated, *except for* the following:

- **ovw maps of the OVO administrator (opc_adm)**

  - Customizations to the OVO maps are lost.
  - Settings made with the NNM `View` menu are lost.
  - Background graphics of maps and submaps are lost.
  - Symbol types and additional symbols are lost. The following maps are affected: `root` map including all submaps, `OVO Node Bank` including all submaps, and `OVO Node Hierachy Bank`.
  - Manually created map layouts are lost.

  The `ovw` maps necessary for OVO are created when the GUI is started.

- **Data in the NNM data warehouse**

  Data in the NNM data warehouse is lost if it is stored in the Oracle database. See the NNM 7.0 *Migration Guide* for more information about migrating NNM data.

Verifying the Installation Requirements for the Management Server

Make sure that the management server meets at least the minimum system requirements as described in Chapter 1, “Installation Requirements for the Management Server,” and in installation requirements info files.

NOTE

The installation requirements info files are stored in the `Required_OS_Patch_Lists` directory on the OVO 8 (1) CD. For more information about the installation CDs’ layout, refer to Chapter 2, “Installing OVO on the Management Server.”

Pay particular attention to which versions of the operating system and Oracle database are required for the current *and* upgrade OVO software. As a general rule, you *must* perform upgrades in the following order:

1. Hardware
2. Operating system (including operating-system patches)
3. Database
4. OVO software

NNM places no restrictions on the number of nodes to be managed with the 60-day, Instant-On license and enables the NNM Advanced Edition. Ensure that you aquire the correct license for your requirements before the Instant-On licence expires. For more information, refer to Chapter 7, “Upgrading OVO to Version A.08.10.”.

NOTE

OVO documentation is now automatically installed into the following web-server directory:

`http://<management_server>:3443/ITO_DOC/<lang>/manuals/`

The directory `/opt/OV/doc/<lang>/OpC/` will still contain the A.07.10 manuals after the upgrade. If you no longer require these manuals, deinstall the SD bundle `ITOEngDoc` before you install the OVO A.08.10 software.

Upgrading the Oracle Database Version

The following table shows the operating system and Oracle database versions supported by OVO A.07.1x.

Table 7-1 Supported Oracle Versions

OVO Version	HP-UX Version	Oracle Version
A.07.1x	HP-UX 11.0 and 11.11	8.1.7 9.0.1 9.2.0.2
A.08.10	HP-UX 11.0 and 11.11	9.2.0.2

Table 7-2 Supported Oracle Versions

OVO Version	Solaris Version	Oracle Version
A.07.1x	Solaris 7, 8 and 9[a]	8.1.7 9.0.1 9.2.0.2[a]
A.08.10	Solaris 8 and 9	9.2.0.2

a. Supported after OVO A.07.10 release.

If you are currently running OVO A.07.1x with an Oracle version lower than 9.2.0.2, you *must* upgrade to Oracle 9.2.0.2 ***before*** upgrading the OVO software. For details on how to upgrade to Oracle 9.2.0.2 on OVO A.7.1x, refer to the Oracle product documentation.

Because Oracle 9.2.0.2 is supported by both OVO A.07.xx and OVO A.08.10, you can use the current OVO installation to verify that the database upgrade was successful. This verification makes the subsequent OVO upgrade easier.

Using an Existing Oracle Database

If you want to use an existing Oracle database, do the following:

1. Make sure that the database is compatible with Oracle version 9.2.0 by editing the configuration file of the target instance (`$ORACLE_HOME/dbs/init<instance>.ora`).

   Add the following line to the end of the configuration file:

   ```
   compatible = 9.2.0.0.0
   ```

2. Make sure the Oracle-environment variables are set as described in Chapter 2, “Installing OVO on the Management Server.”
3. Stop and start the Oracle database processes as described in the Oracle product documentation.

CAUTION If you fail to stop and start the Oracle database processes, the configuration of your Oracle database will *not* succeed.

Changed Setting of ORACLE_HOME

If you changed the setting of the *ORACLE_HOME* variable when upgrading the database, you will have to manually change the setting of *ORACLE_HOME* in the files that are created, modified, or used by OVO.

❑ **Configuration Files**

These files include:

- `/etc/oratab`
- `/etc/profile`
- `/etc/csh.login`
- `/etc/opt/OV/share/conf/ovdbconf`

  (Also change the entry for the database release in this file.)
- `/etc/opt/OV/share/conf/analysis/ovdwenvs.conf`

  (This file is used by NNM for their Data Warehouse implementation.)

❑ **Resource Files**

Also check the `.profile` and `.cshrc` files of the users who require access to the database (for example, `oracle`, `root`, and `opc_op`).

❏ **Linked Libraries**

Change the symbolic links `libopcora.sl`, `libclntsh.sl`, and `libclntsh.sl.1.0`. They point to the Oracle shared libraries. Change them to point to the Oracle shared libraries in the new *ORACLE_HOME*:

```
rm -f /opt/OV/lib/libopcora.sl

ln -s $ORACLE_HOME/lib32/libclntsh.sl \
/opt/OV/lib/libopcora.sl

rm -f /opt/OV/lib/libclntsh.sl

ln -s $ORACLE_HOME/lib32/libclntsh.sl \
/opt/OV/lib/libclntsh.sl

rm -f /opt/OV/lib/libclntsh.sl.1.0

ln -s $ORACLE_HOME/lib32/libclntsh.sl.9.0 \
/opt/OV/lib/libclntsh.sl.1.0

rm -f /opt/OV/lib/libclntsh.sl.8.0

ln -s $ORACLE_HOME/lib32/libclntsh.sl.9.0 \
/opt/OV/lib/libclntsh.sl.8.0

rm -f /opt/OV/lib/libclntsh.sl.9.0

ln -s $ORACLE_HOME/lib32/libclntsh.sl.9.0 \
/opt/OV/lib/libclntsh.sl.9.0

rm -f /opt/OV/lib/libwtc9.sl

ln -s $ORACLE_HOME/lib32/libwtc9.sl\
/opt/OV/lib/libwtc9.sl
```

For more detailed information on maintaining the OVO database, see the section on database maintenance in the *OVO Administrator's Reference*.

Backing Up the Current OVO A.07.1x Installation

To back up the current OVO installation, follow these steps:

1. Exit all OVO GUIs.
2. Stop other applications on the system, as needed.
3. Make a full backup of the current installation:

   a. Enter:

      /opt/OV/bin/OpC/opc_backup

   b. When prompted:

      ```
      Do you want to use the full or configuration backup?
      (f|c) ==>
      ```

      Enter **f** for a *full* backup, which includes the OVO binaries and the configuration data.

   c. When prompted:

      ```
      Do you want to back up another directory, too ?
      (y|n) ==>
      ```

      Enter **y** (yes) or **n** (no) as required.

   d. When prompted:

      ```
      Please enter the backup destination:
      ```

      Enter a filename for the backup data, for example `/tmp/opc_backup_full_ovo71` or enter a tape device.

   e. Store the backup data on backup media or a separate system.

   See the man page *opc_backup(1M)* for more information about this command.

Saving the Administrator's ovw Map

1. Verify that all running GUIs are terminated by entering:

   ps -eaf | grep opcui

2. If you have made any customizations to the ovw map of the user opc_adm, save the map for future reference because it will no longer be available after the upgrade:

   /opt/OV/bin/ovw -copyMap opc_adm opc_adm_orig

TIP

To view this map after the upgrade has completed, start ovw as follows:

/opt/OV/bin/ovw -map opc_adm_orig

See the man page *ovw(1)* for more information.

3. Remove the ovw map of user opc_adm:

   /opt/OV/bin/ovw -deleteMap opc_adm

Downloading the Current OVO A.07.1x Configuration

To download the current OVO configuration, follow these steps:

1. Rename the default templates or applications that you have changed.

   Some default templates and applications have changed with OVO A.08.10. If you have modified these templates or applications, you should rename them before downloading the data. By renaming them you ensure that the old, default configuration *does not* overwrite the new, modified configuration. See the section "Uploading the OVO A.08.00 Default Configuration" for a list of the elements of the default configuration that have changed with A.08.10, as well as the corresponding OS-SPI documentation, as the majority of the default instrumentation is now included as part of the OS-SPI.

   If you rename any templates, make sure to redistribute them to the managed nodes after the upgrade has completed.

2. Create a new user, or modify an existing user, in the `OVO User Bank`. This user *must* have full responsibility for *all* message groups and node groups. You will need this user later on to acknowledge all active messages.

3. Verify that all running Java-based GUIs are terminated by entering:

   ```
   ps -eaf | grep opcui
   ```

4. Stop the HP OpenView platform processes by entering:

   ```
   /opt/OV/bin/ovstop
   ```

5. Stop the local agent on the management server:

   ```
   /opt/OV/bin/OpC/opcagt -kill
   ```

6. Download all the configuration data:

   a. Create an empty download specification file:

      ```
      echo "* ;" > /tmp/download.dsf
      ```

b. Download the configuration:

```
/opt/OV/bin/OpC/opccfgdwn /tmp/download.dsf \
/tmp/cfgdwn
```

7. If you want to migrate your active messages, do this:

   a. Perform a history download by entering

   ```
   /opt/OV/bin/OpC/opchistdwn -older 0s -file /tmp/history
   ```

   b. Acknowledge all active messages by running `opcack` for the user you have previously set up:

   ```
   /opt/OV/bin/OpC/opcack -u <user_for_all_msg_grps> -a -f
   ```

   c. Perform a second history download by entering:

   ```
   /opt/OV/bin/OpC/opchistdwn -older 0s -file
   /tmp/active
   ```

8. If you want to migrate audit data, do this:

   a. Download all audit data by entering:

   ```
   /opt/OV/bin/OpC/opcauddwn -older 0s -file /tmp/audit
   ```

9. If Service Navigator is installed:

   If you have Service Navigator installed, see the *HP OpenView Service Navigator Concepts and Configuration Guide* for information about migrating your service data.

10. If ANS from OV Advanced Security is installed:

    If you have installed OV Advanced Security, you must deactivate and deinstall OVAS. OVAS is *not* supported with OVO A.08.10. For more information, see the *HP OpenView Operations Advanced Security Installation and Concepts Guide*.

Clearing the Database

1. If you have added any foreign keys, triggers, and so on to the OVO database, remove them now.
2. As user `root`, do one of the following:
   - Remove the OVO database:

     `/opt/OV/bin/OpC/opcdbsetup -d`

     See the man page *opcdbsetup(1M)* for more information about this command.
   - Migrate from dictionary base to locally managed tablespaces. Login as a database administrator and enter the following:

```
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('TOOLS');
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('OPC_1');
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('OPC_2');
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('OPC_3');
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('OPC_4');
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('OPC_5');
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('OPC_6');
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('OPC_7');
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('OPC_8');
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('OPC_9');
execute SYS.dbms_space_admin.tablespace_migrate_TO_local('OPC_10');
```

NOTE

OVO's Oracle tablespaces are *not all* locally managed, due to the following limitations:

— It is *not* possible to have `SYSTEM` as a locally managed tablespace.

— It is *not* possible to create a first `ROLLBACK` segment in a locally managed tablespace, unless a non-system `ROLLBACK` segment already exists in the dictionary-managed tablespace.

Deinstalling OVO A.07.1x

The standard upgrade case can be executed with a script that is provided with OVO version A.08.10. The script is named `ovoremove710.sh` and is located on the OVO A.08.10 installation CD1 (OVOCD1).

NOTE Note that the script `ovoremove710.sh` is *not* localized.

To deinstall the old version of the OVO management-server software, follow these steps:

1. If you are using other products with dependencies to OVO A.07.1x bundles, products or filesets, it is recommended that you deinstall them prior to the upgrade to OVO A.08.10. To determine these dependencies use the `ovoremove710.sh` script with the `-check_dep` option.
2. With OVO A.08.00 there is no `opcsvinfo` file anymore, instead all the management-server configuration data is maintained in the foundation config component. If you have made any custom adaptations to the `opcsvinfo` file, create a backup copy and store it in a safe place. The contents of this file will be imported to OVO A.08.10 in the section “Importing Saved A.07.1x Management-Server Configuration Data” on page 170.
3. Execute the script `ovoremove710.sh`, as follows:

   ```
   ovoremove710.sh -upgrade
   ```

4. This script performs all the upgrade steps, saves the necessary data and removes the OVO A.07.1x product.

   a. The script asks a number of questions. They can be answerd using `y` for yes, `n` for no, or `a` for abort.

   b. The script determines the list of currently installed bundles and products related to OVO A.07.1x and compares it with an internal list on bundles and products that must be preserved. This provides a list of files that need to be removed.

   c. The `ovoremove710.sh` script writes all the elements from the drop list into a list file `/tmp/ovo710todrop.list`.

d. The script copies `/optOV/bin/OpC/install/opcsvinfo` to `/tmp/save710/opcsvinfo`.

e. The script starts `swremove` as follows:

```
swremove -f /tmp/ovo710todrop.list -x
```

NOTE If you have more recent OVO A.07.1x DCE agent patches installed than those delivered with OVO A.08.10, you *must* reinstall the agent patches with the SD option `-x reinstall=true` if you want to use the newer versions.

NOTE When running `ovoremove710.sh` with the `-check_dep` option, some internal dependency checks result in the display of warning messages, which are also written to the swagent.log file.

Example of message:

```
The fileset "OVOPC-CLT.OVOPC-UX10-CLT,l=/,r=A.07.10"
requires the selected fileset
"OVOPC-ORA.OVOPC-GUI-ORA,l=/,r=A.07.10" as a prerequisite.
```

The `ovoremove710.sh` script evaluates these logs and creates a list of the dependent products it has discovered. It is recommended that you deinstall (using `swremove`) these products prior to the execution of `ovoremove710.sh` with the `-upgrade` option. You may now decide whether to follow these recommendations or not. If not, these products will remain with unresolved dependencies when cleaning up OVO A.07.10, as all dependencies will then be ignored.

Installing the OVO Software

To install the OVO management-server software, follow these steps:

1. Install the OVO version A.08.10 software, as described in Chapter 2, “Installing OVO on the Management Server.”

IMPORTANT

Make sure your system meets the hardware and software requirements for the OVO A.08.10 software installation.

For information about the installation requirements, refer to Chapter 1, “Installation Requirements for the Management Server,” and to installation requirements info files.

The installation requirements info files are stored in the `Required_OS_Patch_Lists` directory on the OVO 8 (1) CD. For more information about the installation CDs’ layout, refer to Chapter 2, “Installing OVO on the Management Server.”

Uploading the Saved OVO A.07.1x Configuration

To upload the previously saved configuration with `opccfgupld`, follow these steps:

1. Stop the HP OpenView platform processes.

   To stop the HP OpenView platform processes, enter:

   `/opt/OV/bin/ovstop`

2. Upload the configuration data.

   To upload the configuration data, enter:

   `opccfgupld -add -subentity -configured \`
   `<download_directory>`

   For example:

   ```
   opccfgupld -add -subentity -configured /tmp/cfgdwn
   ```

NOTE

With OVO version A.08.00, the default templates have been replaced by the OS-SPI. Because the saved A.07.1x configuration contains node / template assignments referring to the obsolete default templates, they will also be uploaded. It is recommended that you deassign the old default templates from the managed nodes and replace them with the templates provided by the OS-SPI after the upload.

3. Start the HP OpenView platform processes.

   To start the HP OpenView platform processes, enter:

   `/opt/OV/bin/ovstart`

4. Upload your active messages.

   If you have downloaded your active messages, upload them now:

   a. Upload the “active” messages from your download:

      `/opt/OV/bin/OpC/opchistupl /tmp/active`

b. Reset the IP submaps as described in the “After an OVO Upgrade” on page 169.

c. Unacknowledge the “active” messages in the `History Message Browser` and disown them in the `Message Browser` using the OVO administrator GUI.

d. Upload the history messages:

```
/opt/OV/bin/OpC/opchistupl /tmp/history
```

5. If you have downloaded audit data, upload it now by entering:

```
/opt/OV/bin/OpC/opcaudupl /tmp/audit
```

6. If Service Navigator is installed:

   If you have Service Navigator installed, see the *HP OpenView Service Navigator Concepts and Configuration Guide* for information about migrating your saved service configuration and data.

After an OVO Upgrade

After the upgrade but before starting OVO, the IP submaps need to be reset.

To reset the submaps:

1. Start `ovw -map opc_adm`.
2. Select the `VPO Node Bank`.
3. Select `Edit: Delete...` from the menu bar, then click `From All Submaps`.

Now when you start OVO, the correct `OVO Node Bank` icon is displayed.

NOTE

After the successful upgrade and restart of OVO, OVO A.07.1x managed nodes that were in the original `VPO Node Bank` are now in the `Holding Area`. Move these nodes from the `Holding Area` to the `OVO Node Bank`.

Importing Saved A.07.1x Management-Server Configuration Data

If you have made any custom adaptations to the `opcsvinfo` file and have created a backup copy as described in the section "Deinstalling OVO A.07.1x" on page 164, Step 2, import the data from `opcsvinfo` to OVO A.08.10 as follows:

1. Restore the `opcsvinfo` from backup to `/tmp` directory on the management server.
2. Import the data using the `opcinfoconv` tool as follows:

   ```
   /opt/OV/contrib/OpC/opcinfoconv /tmp/opcsvinfo opc
   ```

3. Remove the `opcsvinfo` file from the `/tmp` directory.

Upgrading the OVO Java Operator UI

To upgrade the OVO Java GUI, follow these steps:

1. Deinstall any previous version of the OVO Java GUI from the client system.
2. Install version A.08.10 of the OVO Java GUI on the client system.

NOTE See Chapter 3, “Installing the Java Operator GUI,” for information about installing and deinstalling the Java GUI.

Upgrading Managed Nodes

Version A.08.10 of the OVO management server can manage nodes for version A.07.1x and A.08.10. However, you should upgrade your managed nodes to OVO version A.08.10 to take advantage of the latest improvements and supported operating-system versions. For details of the improved capabilities of the new HTTPS agent, refer to the *HTTPS Agent Concepts and Configuration Guide*. This manual describes in detail the new OVO agent architecture, commands and compatibility aspects.

Compatibility with A.07.1x Managed Nodes

The major version of your OVO agent software *must not be higher* than the version of your OVO management-server software. For example, an OVO version A.08.10 HTTPS agent *cannot* communicate with an OVO version A.07.1x management server.

If you are operating in a flexible management environment with A.07.1x and A.08.10 management servers, make sure that all OVO agents remain on version A.07.1x until all the management servers have been upgraded to OVO version A.08.10.

Obsoleted A.07.xx Agent Platforms

With OVO A.08.10, the following OVO A.07.xx DCE Agent Platforms have been obsoleted:

- AIX 4.3.x
- HP-UX 10.20
- Linux Kernel 2.2 all derivatives
- Novell NetWare 4.x
- Sun Solaris 2.6
- Tru64 UNIX 4.0x
- Windows NT 4.0
- ptx

Version A.08.10 of the OVO management server can support managed nodes for versions A.07.1x and A.08.10. However, you should upgrade your managed nodes to OVO version A.08.10 to take advantage of the latest improvements and supported operating-system versions. For details of the platforms supported by the new HTTPS agent, refer to the *HTTPS Agent Concepts and Configuration Guide*.

Upgrading Managed Nodes to A.08.10 from OVO GUI

Every effort has been made to prevent data loss during the upgrade of the agent software. For most managed-node platforms the message queues are converted to the format required by OVO version A.08.10 and then forwarded to the message browser after the upgrade has completed. Events that have not been processed by OVO *before* the upgrade begins will be lost. Message queues on Novell NetWare managed nodes are *not* converted.

IMPORTANT Make sure you have installed the OS patches required for OVO A.08.10 managed nodes before starting the upgrade process. Refer to *HTTPS Agent Concepts and Configuration Guide* and to the *OVO DCE Agent Concepts and Configuration Guide* for more information about the required OS patches for the managed nodes.

To upgrade a managed node to version A.08.10 from OVO GUI, follow these steps:

1. Stop the OVO agent processes on the managed nodes by entering:

   opcagt -stop

2. Select the managed node in `OVO Node Bank` on the management server and open the `Modify Node` window `Actions -> Node -> Modify...`.

   Select `HTTPS` type and close the window.

3. From the menu bar of the `OVO Node Bank`, select `Actions: Agents -> Install/Update SW & Config...`.

   The `Install / Update OVO Software and Configuration` window opens.

   From the `Install / Update OVO Software and Configuration`, do this:

   a. In the `Components` section, check the boxes corresponding to the parts of the OVO agent you want to upgrade:

      - `Agent Software`: Upgrades the agent software to version A.08.10.
      - `Templates`: Installs A.08.10 templates on the managed node.

If you select this option, but do *not* select the `Agent Software` box, you *must* make sure that the templates do not make use of any new features introduced with OVO A.08.10. This workaround is a temporary solution used during the OVO migration process. Do *not* select the `Actions`, `Monitors` or `Commands` boxes if you do not select the `Agent Software` box.

Select the managed nodes you want to upgrade.

b. Click `[OK]`.

An additional terminal window opens, running the installation script `inst.sh(1M)`. Review the messages carefully as the installation script might require your interaction.

4. After the installation has completed successfully, verify that the OVO agent processes are running.

If they are *not* running, start them manually on the managed node by entering:

```
opcagt -status
opcagt -start
```

NOTE

If you had more recent OVO A.07.1x DCE agent patches installed than those delivered with OVO A.08.10, you *must* reinstall the agent patches with the SD option `-x reinstall=true` if you want to use the newer versions.

License Migration During an Upgrade to OVO A.08.10

When an OVO A.07.x installation is upgraded to OVO A.08.10, most of the OVO 7.x licenses can be reused as long as the IP address is not changed on that system. The OVO 7.x license password files are saved by the ovoremove710.sh script and stored at the following locations:

- `/tmp/save710/.itolicense`
- `/tmp/save710/.license`

To install these licenses, add them with the OVO A.08.10 license tools:

1. Stop the OVO and NNM processes:

   `ovstop -v`

2. Add the OVO 7.x license passwords:

   `/opt/OV/bin/opclic -add /tmp/save710/.itolicense`

3. Add the NNM license passwords:

   `/opt/OV/bin/ovnnmInstallLic /tmp/save710/.license`

4. Check the installed passwords:

   `/opt/OV/bin/opclic -report`

NOTE It is *not* possible to run NNM 7.01 with an OVO license password. With OVO A.08.10 it is necessary to have at least an NNM AE 1000 license, which is not available in the migrated NNM license file. This license *must* be requested from the password delivery center.

Upgrading OVO Version A.08.00 to OVO Version A.08.10

If you have OVO A.08.00 installed, you can directly upgrade to OVO A.08.10 and retain and reuse the database instance and all the stored data.

To upgrade a standalone OVO A.08.00 installation to OVO Version A.08.10:

1. Backup the current installation as described in “Backing Up the Current OVO A.07.1x Installation” on page 158.
2. Prepare the installations as described in “Preparing for the OVO Software Installation from a CD-ROM” on page 69 or “Preparing for the OVO Software Installation Using CD Images” on page 70
3. Start the install process as described in “Installing the OVO Software on the HP-UX Management Server” on page 71, using one of the following commands, as appropriate:
   - If you are installing OVO from a CD-ROM, enter the following:

     /<*mount_point*>/ovoinstall -t

     where *<mount_point>* is a location where the OVO installation CD is mounted.
   - If you are installing OVO using the CD images, enter the following:

     /<*master_directory*>/OVOCD1/ovoinstall -t
4. Follow the on-screen instructions and enter the requested information.
5. Change the CD when requested.
6. After the installation process completes, restart OVO.

NOTE

If you had more recent OVO A.07.1x DCE agent patches installed than those delivered with OVO A.08.10, you *must* reinstall the agent patches with the SD option `-x reinstall=true` if you want to use the newer versions.

If you had installed OVO A.08.10 agent patches on your OVO A.08.00 system, when you upgrade to OVO A.08.10 the HTTPS agents will have the component versions of the OVO A.08.10 HTTPS agent. You *must* reinstall the agent patches with the SD option `-x reinstall=true` if you want to use the more recent agent-patch versions.

8 Setting Up OVO Licensing

In This Chapter

This chapter describes how to install and configure OVkey licenses for HP OpenView Operations (OVO).

About OVkey Licenses

OVO uses the AutoPass licensing security technology for the management of OVkey licenses. All OVkey licenses' passwords are stored in a license file, maintained by AutoPass.

Because the OVkey licensing technology does *not* require a license server, the product may be used behind firewalls and in MC/ServiceGuard environments.

When installing and setting up OVKey licenses in your OVO environment, keep the following points in mind:

- No license server is required.
- Password files work in an MC/ServiceGuard environment.
- Licenses are linked to the IP address of the OVO management server and *not* its target ID.
- Multiple licenses may be linked to one password (for example, OVO managed nodes).
- Each OVO management server has one central location for license administration.

Types of Licenses

You can obtain the following types of licenses:

- **Instant-On License**

  This license enables you to use OVO for evaluation purposes. You can use OVO for a period of 60 days. You can extend its validity once for a further 60 days by submitting a request to the HP Password Delivery Service.

- **Permanent License**

See "Requesting a Product License" on page 185 for more details about requesting licenses.

Checking Licenses

OVO checks management-server licenses at its startup and when scheduled, once in 24 hours. OVO managed-node licenses are checked once a week.

If your Instant-On license is still valid, you will be informed of the days remaining before the license expires.

If your Instant-On license has expired, or if there are not enough OVO managed-node licenses available, you receive a message in a message browser at each 24-hour check.

Setting Up and Activating OVkey Licenses

To set up and activate an OVO product license, follow these steps:

1. Obtain the required information from your host system.

   See “Getting the Required License Information” on page 184.

2. Complete the HP OpenView License Request Form by doing one of the following:

   - Edit the request-form file for a licence, then email, fax or mail the file to HP.
   - Fill out an online form at the HP Internet License Request Center.

   See “Requesting a Product License” on page 185 for details.

3. Receive a license from the HP Password Delivery Center.

   See “Receiving Your License Password” on page 187 for details.

4. Install and verify the OVO Product License.

   See “Installing Product Licenses” on page 188, and “Verifying Product Licenses” on page 190.

Getting the Required License Information

You can get the information specified in Table 8-1 from documents included with your product.

Table 8-1 Information Required to Get Licenses

Information Required	Where to Find It:
HP Order Number (Permanent passwords *only*)	License-to-Use Entitlement Certificate Local system administrator or HP Sales Representative.
IP address of the OVO[a] management server	On the OVO management server, enter: **`/usr/bin/nslookup <OVO_mgt_server_name>`**
Hostname[b]	On the OVO management server, enter: **`hostname`**
Operating System Version	On the OVO management server, enter: **`uname -a`**
Number of Licenses (Permanent passwords *only*)	HP Purchase Order

a. If you are operating in an MC/ServiceGuard environment, the IP address of the OVO SG package is required.
b. If you are operating in an MC/ServiceGuard environment, the fully-qualified hostname of the OVO SG package is required.

Requesting a Product License

You may request a license in one of two ways:

- **Internet**

  If you can access the Internet, you can use the HP Internet Password Delivery Service.

- **Mail, Phone or Fax**

  If you *cannot* access the Internet, you can complete and submit a license-request form.

Requesting a Product License Via the Internet

If you can access the Internet, you can get license passwords by visiting the home page of the HP Password Delivery Service at the following location:

`http://www.webware.hp.com/`

You can use this site to do the following:

- **Generate Passwords**

  Generate new product passwords, assuming you have already purchased a product and have an HP order number.

- **Move Licenses**

  Move licenses from one machine to another.

- **Migrate Licenses**

  Migrate licenses from an older version of a product to a new version using a migration password. For more information, see the OVO cover letter, *HP OpenView Operations A.08.10: License Information*.

Requesting a Product License by Mail, Phone or Fax

If you *cannot* access the Internet, you can request a license by mail or fax.

To request a license by mail or fax, follow these steps:

1. Log on to the OVO management server.
2. Make a copy of the file in the following directory:

   `/etc/opt/OV/share/conf/OVLicense/forms/opc/`

Edit the copied file:

- **New Purchases**

  `product.OVO`

- **Evaluations**

  `evaluation.OVO`

- **Server IP Address Changes**

  `server_move.OVO`

3. Complete all requested information.
4. Save the file.
5. Print the form.

   Mail or fax it to the nearest HP Password Delivery Center using the information in Table 8-2.

Table 8-2 HP Password Delivery Centers

Your Location	Password Center Location	Email Address	Phone/Fax Number	Service Hours (Local Time)
North/South America	USA	americas_password @cnd.hp.com	+1 (801) 431-1597 +1 (801) 431-3654	08:00-20:00 (EST)[a]
Asia/Pacific	Japan	asia_password @cnd.hp.com	+81 (3) 3227-5264 +81 (3) 3227-5238	09:00-17:00 (JST)[b]
Europe & Africa	Netherlands	europe_password @cnd.hp.com	+31 (55) 543 4642 +31 (55) 543 4645	08:00-17:00 (CET)[c]

a. Eastern Standard Time (U.S.A.)
b. Japanese Standard Time
c. Central European Time

Receiving Your License Password

You should receive your license password:

- **Immediately (Internet)**

  If you ordered a password on the HP License Center Internet site, you will receive a license password immediately.

- **Within 48 hours (mail, fax)**

  If you ordered a password by mail, fax, or phone, you will receive a license password within 48 hours of receipt from one of the Password Delivery Centers listed in Table 8-2 on page 186.

You will receive your password in one of three ways:

- **Email**

  If you provided an email address on your request form, you will receive your password by email.

- **Fax**

  If you did *not* specify an email address, you will receive your password by fax.

- **Phone**

  If you did *not* specify either a fax number or an email address, you will receive your password by phone.

Installing Product Licenses

When you receive your license password(s), you can install the OVO A.08.10 product license.

IMPORTANT To install OVO product licenses, you *must* login as user `root` or as OVO administrator.

To install the OVO A.08.10 product licenses, follow these steps:

1. Login as user `root`.
2. Enter the license password in the password file using the following command:

   `opclic -add [<filename>]`

   Where *<filename>* is the name of the file where you store your password(s).

IMPORTANT If you do not specify the *<filename>* with the `-add` option of the opclic command, the Autopass GUI opens and enables you to select a file from which you choose the licence(s) you want to install.

Make sure you set the `$DISPLAY` variable before you use this feature.

The licenses included with the Password Certificate consist of only one line, even though they may be wrapped in multiple lines. An example of the OVO management-server password string is:

```
# HP OpenView Operations Management Server
4MSF 97ZW 2SCR KSHT 3DP6 X9BC XF77 TKRV 7XPS U746 EPNB
4ERP MR9F DH2A EGU7 96Q3 YQ6W LZG9 AZA9 EQ97 "Annotation
of Password"
```

The first line in the example above is a comment. *Do not include any comment lines in the license file.* The second line (which wraps to two lines) is the password, followed by the annotation.

NOTE

The annotation is part of the license password. If you receive a password without an annotation, pass an empty annotation (`""`) with the `opclic` command.

3. Verify that there are no license-related error messages in the OVO error log:

   `/var/opt/OV/log/System.txt`

Verifying Product Licenses

After installing OVO A.08.10 product licenses, make sure that the licenses are correctly added to the license file. You can verify licenses in the following ways:

❑ **List Passwords in the License File.**

You can do this in one of the following ways::

- Enter the following:

  `opclic -list`

  This command lists all the valid OVO license passwords. Obsolete passwords are ignored.

- Enter the following:

NOTE

Make sure you set the `$DISPLAY` variable before you use the following command.

  `opclic - glist`

  This command lists *all* the installed license passwords in the AutoPass GUI.

By listing the passwords you check which licenses are in the license file.

❑ **Generate an OVO License Report.**

You can do this in one of the following ways:

- In the OVO GUI, select `Actions->Utilities->Reports...->License Overview`

  The AutoPass report passwords' window is displayed, showing an OVO license report.

- Enter the following:

  `opclic -report`

By generating an OVO license report, you check if enough licenses are installed to allow OVO to run correctly as well as how many valid licenses are in the license file. If there are insufficient licences, warning messages are displayed.

❏ **Check whether OVO Runs in a Licensed State.**

Enter the following:

```
opclic -check [-quiet]
```

One of the following values is returned:

0 (Licensed)

4 (Server not licensed)

8 (Missing agent licenses)

A Installing OVO in an MC/ServiceGuard Environment

In This Chapter

This chapter describes the following:

- Installation and configuration of the OVO management server in an MC/ServiceGuard environment.
- Deinstallation of the OVO management server from cluster nodes.
- Upgrade of the OVO management server in an MC/ServiceGuard environment.

About the OVO in a Cluster System

Glossary of Cluster Terms

HA Resource Group Application running in a cluster environment. An HA Resource Group can simultaneously be a cluster object that represents an application in a cluster. HA Resource Group is equivalent to a package in the MC/SG environment.

Volume Group One or more disk drives that are configured to form a single large storage area.

Logical Volume An arbitrary-size space in a volume group that can be used as a separate file system or as a device swap space.

Installation Requirements

To run OVO in an MC/ServiceGuard environment, you *must* meet the following requirements:

- HP-UX 11.00 or 11.11.
- MC/ServiceGuard versions A.11.09, A.11.13, A.11.14, or A.11.15.

For additional requirements for the installation of OVO, see Chapter 1, “Installation Requirements for the Management Server,” on page 25.

Installation Requirements for an Oracle Database

OVO requires that the entire Oracle database (the database binaries) be installed on the local disk.

Installing and Configuring the OVO Management Server on a Cluster Node

To install and configure the OVO management server in a cluster environment, you *must* complete the following procedures:

- ❏ Installation and configuration of the OVO management server on the **first** cluster node.

  See section “Installing and Configuring the OVO Software on the First Cluster Node” on page 198 for details.

- ❏ Installation of the OVO server on **additional** cluster nodes.

  See“Installing the OVO Software on Additional Cluster Nodes” on page 204 for details.

WARNING **You *cannot* install OVO simultaneously on the cluster nodes. When the installation process is completed on one cluster node, you need to proceed with the installation on the next node, until OVO is installed on all the nodes in a cluster environment.**

Installing and Configuring the OVO Software on the First Cluster Node

To install and configure the OVO management server on the first cluster node, you *must* complete the following procedures:

1. **Preparation steps**

   See "Before You Install the OVO Management Server" on page 198 for details.

2. **Installation of Oracle database**

   See "Installing the Oracle Database" on page 201 for details.

3. **Installation and Configuration of the OVO management server**

   See "Installing and Configuring the OVO Management Server" on page 201 for details.

4. **Installation of the OVO Agent Software and Templates**

   See "Installing the OVO Agent Software and Templates on the First Cluster Node" on page 203 for details.

Before You Install the OVO Management Server

I. **Installation Prerequisites**

Before you install the OVO management server in a cluster environment, the following prerequisites *must* be met:

- Define the volume group `ov-vg`, consisting of at least one shared disk for the HA Resource group.

NOTE

The volume group name is used as an example and can be different.

- Define the following four logical volumes within the `ov-vg` volume group:
  - `ov-volume-var`
  - `ov-volume-etc`

  - — ov-volume-ora-data
  - — ov-volume-lcore

- The following shared file systems located on shared disk volumes *must* be available:
  - — file system for the OVO server database
  - — file system for /etc/opt/OV/share
  - — file system for /var/opt/OV/share
  - — file system for /var/opt/OV/shared/server

II. **Pre-Installation Steps**

You *must* perform the following preparation steps manually:

1. Prepare mount points for the shared file systems:
   - /etc/opt/OV/share
   - /var/opt/OV/share
   - /var/opt/OV/shared/server
   - Mount point for the OVO management-server database.

     You can select an alternative mount point. The default is: /u01/oradata/<*ORACLE_SID*>,

     where <*ORACLE_SID*> is the value of the ORACLE_SID variable used for the configuration of the OVO management-server database. It is usually set to openview.

Table A-1 Disk Space Required for Shared File Systems:

Shared File System	Recommended	Initial
/etc/opt/OV/share	150 MB	55 MB
/var/opt/OV/share	1 GB	550 MB[a]
/var/opt/OV/shared/server	100 MB	1 MB
/u01/oradata/openview	1 GB	420 MB[b]

a. Further disk space will be required when SPIs are installed.
b. For small to medium sized installations. Larger installations and high numbers of messages will result in greater space requirements.

NOTE

When installing on additional cluster nodes, the disk space for /etc/opt/OV/share, /var/opt/OV/share, and /var/opt/OV/shared/server is needed only temporarily and can be removed after the installation, before the shared disks are switched to that node. For example, local volumes can be created and mounted to these locations before installing. These volumes can be deleted after installation is complete.

2. Start the ov-vg volume group by entering:

   vgchange -a e ov-vg

3. Mount shared file systems on prepared mount points as follows:

   a. **mount /dev/ov-vg/ov-volume-var /var/opt/OV/share**

   b. **mount /dev/ov-vg/ov-volume-etc /etc/opt/OV/share**

   c. **mount /dev/ov-vg/ov-volume-lcore \ /var/opt/OV/shared/server**

   d. **mount /dev/ov-vg/ov-volume-ora-data \ /<*oracle_database_mount_point*>**,

      where *oracle_database_mount_point* is the mount point you have chosen for the OVO server database.

4. Start Virtual Network IP using the `cmmodnet` command:

   `cmmodnet -a -i <IP> <subnet>`

   where

   - *<IP>* is the IP address of the virtual host that you previously selected.
   - *<subnet>* is the subnet address of the virtual host you previously selected.

NOTE

To configure the IP address, use decimal notation (for example, 255.255.0.0) instead of hex notation (for example, ffff0000).

Installing the Oracle Database

Install the Oracle database software as described in Chapter 2, “Installing OVO on the Management Server,” on page 49.

Oracle *must* be installed on the local file system, which enables it to operate as a separate HA resource group.

Installing and Configuring the OVO Management Server

Install the OVO management server as described in Chapter 2, “Installing OVO on the Management Server,” on page 49.

The OVO management server *must* be installed as a standalone system.

When installing OVO in a cluster environment, you *must* provide responses to some questions and specify some values differently than in the standalone OVO installation. The following lists the cluster-specific questions that are displayed on the screen and the information that you *must* enter:

❑ `“Configure OVO Server as HA resource group (y|n)” : [y]`

Press **Enter** to continue.

- "Separate Oracle from OVO server (3Tier configuration)" : [n]

  Press **Enter** to continue.

- "HA resource group name" : [ov-server]

CAUTION

The entered HA Resource Group name must not be one of the already existing names.

Press **Enter** to continue, or specify an alternative HA Resource Group name.

NOTE

If you choose an alternative HA Resource Group name, use that name throughout the installation and configuration process.

- Short name of a valid virtual host : []

  Enter the short name of the virtual host, for example, **virtual**.

- IP address of a valid virtual host : []

  Enter the IP address, for example **192.168.0.1**

- Netmask of a valid virtual host : []

  Enter the netmask value of the virtual host, for example, **255.255.0.0**.

- Network interface for virtual host : []

  Enter the network interface for the virtual host, for example, **lan0**.

- Type for shared file systems : []

  Enter the type of shared file systems, for example, **vxfs**.

After the installation process is complete, the OVO management server should be running on the node as an HA resource group.

Installing the OVO Agent Software and Templates on the First Cluster Node

IMPORTANT

When installing the OVO software in a cluster environment, only the OVO management server is automatically installed. You *must* also install the OVO agent software and templates using the OVO Administrator's GUI.

To install the OVO agent software and templates on the first cluster node, the OVO management server *must* be running on this node. Open the OVO Administrator's GUI and install the OVO agent software and templates on the local cluster node. You will find the local cluster node in the `Holding Area`. You can move it to the `OVO Node Bank`.

For more information on installing OVO agents on managed nodes, see the *OVO Administrator's Reference* manual.

Installing the OVO Software on Additional Cluster Nodes

Installing the OVO Management Server on Additional Cluster Nodes

The following preconditions *must* be met prior to installing the OVO management server on an additional cluster node:

- The OVO management server *must* already be installed and running on one of cluster nodes. This allows you to add a local node to the OVO management server configuration and install and start the OVO agent software on the local node.
- On the node where OVO is running, enable remote shell connection for user `root` to the node where you plan to next install the OVO management-server software. This is done by putting the following line into `/.rhosts`:

  `<node> root`

  You can check if the remote shell is enabled by using

  `remsh <active_node> -l root -n ls`.

  A list of files on the `root` directory from the node where the OVO management server is running should be displayed.

  In more secure environments it is possible to setup a secure-shell (SSH) connection between the node where you plan to install an OVO Server, and the node where the OVO Server is running.

  For the OVO Server installation you have to enable passwordless SSH access for user `root` between these two nodes. `ssh` and `scp` are the two commands that are used during the installation. Both commands *must* be accessible from the main path.

  You can check if the secure remote shell is enabled by using the following command:

  `ssh <active node> -l root -n ls`

  The type of connection will be automatically detected. A secure connection has a higher priority if both types of connection are enabled.

- ❏ Shared file systems *must not* be mounted on this cluster node. They are already mounted on the cluster node where the OVO management server is running.
- ❏ Virtual IP *must not* be started on this node, since it is already used on the node where the OVO management server is running.

The OVO management server installation on additional cluster nodes follows procedures as used to install the OVO management-server on the first cluster node:

1. Installation of the Oracle database software

   See “Installing the Oracle Database” on page 201 for details.

2. Installation and configuration of the OVO management server

   See “Installing and Configuring the OVO Management Server” on page 201 for details.

Installing the OVO Agent Software and Templates on Additional Cluster Nodes

IMPORTANT

When installing the OVO software in a cluster environment, only the OVO management server is automatically installed. You *must* also install the OVO agent software and templates using the OVO Administrator’s GUI.

To install the OVO agent software and templates on additional cluster nodes, the OVO management server *must* be running on one of the cluster nodes. After the installation of the OVO management server is finished on the additional cluster node, proceed with the installation of the OVO agent software and templates on this node. On the node where the OVO management server is running, open the OVO Administrator’s GUI and install the OVO agent software and templates on the additional cluster node. You will find the additional cluster node in the `Holding Area`. You can move it to the `OVO Node Bank`.

For more information on installing OVO agents on managed nodes, see the *OVO Administrator’s Reference* manual.

Deinstalling the OVO Software from Cluster Nodes

The OVO software can be deinstalled:

- **Completely from a cluster environment.**

  When deinstalling the OVO management server from a cluster environment, you *must* perform the deinstallation procedure in the following sequence:

  1. Deinstall the OVO management server from the **passive cluster nodes**. These are the systems that are installed and configured to run the OVO management server, but are currently *not* being used to run OVO.

     For details about how to deinstall the OVO server from the passive cluster nodes, see the section “Deinstalling OVO from Passive Cluster Nodes” on page 207.

  2. When the OVO management-server software has been deinstalled from all the passive nodes, deinstall it from the **active cluster node**, on which the OVO server is currently up and running as an HA resource group.

     For details on how to deinstall the OVO management server from the active cluster node, see the section “Deinstalling OVO from the Active Cluster Node” on page 208.

- **From selected cluster node(s) only.**

  By deinstalling the OVO management server from a cluster node, this node will no longer be able to run the OVO management server. The cluster environment running the OVO management server is reduced by one node.

  To deinstall the OVO management-server software from a cluster node, this node *must* be in the passive state. For details on how to deinstall the OVO management-server software from passive cluster nodes, see the section entitled “Deinstalling OVO from Passive Cluster Nodes” on page 207.

Deinstalling OVO from Passive Cluster Nodes

Before the OVO management server is deinstalled from a passive cluster node, the following requirements *must* be met:

1. The OVO Server Resource group `ov-server` *must not* be active on this node.
2. Virtual host *must not* be active.
3. Shared file systems *must not* be mounted.

After ensuring that all these requirements are met, proceed with the deinstallation:

1. Deinstall the OVO agent software from this node using the following command:

   `/opt/OV/bin/OpC/install/opc_inst -r`

NOTE Ignore possible dependency warnings during the OVO agent software deinstallation.

2. When the OVO agent software is removed, remove the managed node from the Motif GUI Nodebank.
3. Deinstall the OVO management server as described in Chapter 6, “Software Administration on the Management Server,” on page 141.

CAUTION Do *not* perform any agent-related operations described in Chapter 6, “Software Administration on the Management Server.”

When asked for the name of the HA Resource group, enter the OVO Server HA resource group, this is normally `ov-server`.

When the deinstallation procedure is complete, remove the following files/directories (if they exist):

- ❏ `/opt/oracle/admin/<ORACLE_SID>`
- ❏ `/opt/oracle/product/9.2.0/dbs/init<ORACLE_SID>.ora`
- ❏ `/opt/oracle/product/9.2.0/dbs/lk<ORACLE_SID>`

- /opt/oracle/product/9.2.0/network/admin/sqlplus.ora
- /opt/oracle/product/9.2.0/network/admin/listener.ora
- /opt/oracle/product/9.2.0/network/admin/tnsnames.ora
- /opt/oracle/product/9.2.0/network/admin/tnsnav.ora

where <*ORACLE_SID*> is the value of the ORACLE_SID variable used for the configuration of the OVO management-server database. It is usually set to openview.

Deinstalling OVO from the Active Cluster Node

When the OVO management server is deinstalled from all the passive cluster nodes, you can start the deinstallation process from the node on which the OVO management server is running.

1. Deinstall the OVO agent software from this node using the following command:

   /opt/OV/bin/OpC/install/opc_inst -r

2. Deinstall the OVO management-server software from this node as described in Chapter 6, “Software Administration on the Management Server,” on page 141 .

   When asked for the name of the HA Resource group, enter the OVO Server HA resource group, this is normally ov-server.

After you deinstalled OVO from this cluster node, check whether the HA Resource group is still present by entering:

/usr/sbin/cmviewcl -p ov-server

If the HA Resource group is still present on the node, remove it by entering:

/usr/sbin/cmdeleteconf -f -p ov-server

Upgrading OVO to Version A.08.10 in a Cluster Environment

To upgrade the OVO management server running in a cluster environment from version A.07.1x to version A.08.10, you must first perform the upgrade procedure on the active node, and then on all the passive nodes.

Upgrading the OVO Management Server on the Active Cluster Node

To upgrade the OVO management server from version A.07.1x to version A.08.10 on the node where the OVO management server is currently running, perform the following steps:

1. Put the OVO management server represented as an HA Resource Group in maintenance mode to disable possible failovers when the OVO management server is stopped.
2. Backup the current installation.

   See the section entitled “Backing Up the Current OVO A.07.1x Installation” on page 158 for details.
3. Save the Administrator’s ovw map.

   See the section entitled “Saving the Administrator’s ovw Map” on page 159 for details.
4. Stop the OVO management server by entering:

   ```
   /opt/OV/bin/ovstop
   ```
5. Download the current OVO A.07.1x configuration.

   See the section entitled “Downloading the Current OVO A.07.1x Configuration” on page 160 for details.
6. Clear the database.

   See the section entitled “Clearing the Database” on page 162 for details.
7. Remove the OVO A.07.1x management server.

See the section entitled “Deinstalling OVO A.07.1x” on page 164 for details.

8. Remove the HA Resource group representing the OVO management server from the cluster configuration.
9. Adapt the shared file system to match the requirements of the OVO 08.00 management server. Check the section entitled “Before You Install the OVO Management Server” on page 198 for details.

   The OVO 07.1x management server is using the shared file systems mounted on the following mount points:

   ```
   /var/opt/OV/share
   /etc/opt/OV/share
   /opt/oracle
   /opt/oradata
   ```

   For the OVO 08.00 management server, the shared file systems are mounted on different mount points. The file system containing the Oracle database software is removed and used for shared configuration files.

   Table A-2 indicates the mount points required for the OVO A.07.1x management server and the OVO A.08.10 management server:

Table A-2 Differences Between the Mount Points for A.07.1x and A.08.10

A.07.1x	A.08.10
/var/opt/OV/share	/var/opt/OV/share
/etc/opt/OV/share	/etc/opt/OV/share
/opt/oracle	/var/opt/OV/shared/server
/opt/oradata	/opt/oradata/<*ORACLE_SID*>[a]

a. where <*ORACLE_SID*> is the value of the ORACLE_SID variable used for the configuration of the OVO management-server database. It is usually set to openview.

10. Upgrade the Oracle database software.

If the Oracle software was installed on the local file system, you need to upgrade the Oracle database version as described in the section entitled "Upgrading the Oracle Database Version" on page 154. If the Oracle software was installed on the shared file system, you must install the Oracle database software on the local file system from the beginning, as described in Chapter 2, "Installing OVO on the Management Server," on page 49.

Check if the `$ORACLE_BASE/admin/$ORACLE_SID` (for example, `/opt/oracle/admin/openview`) directory exists on the cluster node and remove it with all its contents.

11. Install the OVO management server.

    To install the OVO management server, use the procedure for installation on the first cluster node, which is described in the section "Installing and Configuring the OVO Software on the First Cluster Node" on page 198.

12. Disable the HA Resource group monitoring using the command

    `/opt/OV/lbin/ovharg -monitor ov-server disable`

13. Upload the saved OVO A.07.1x configuration as described in the section entitled "Uploading the Saved OVO A.07.1x Configuration" on page 167.

14. Import the saved OVO management server A.07.1x configuration data as described in the section entitled "Importing Saved A.07.1x Management-Server Configuration Data" on page 170.

15. Upgrade the OVO Java Operator UI as described in the section entitled "Upgrading the OVO Java Operator UI" on page 171.

16. For each cluster node listed in the `OVO Node Bank`, open `Modify Node` window `Actions -> Node -> Modify...`

    Select `HTTPS` type and close the window.

17. Enable the HA Resource group monitoring using the command

    `/opt/OV/lbin/ovharg -monitor ov-server enable`

NOTE

Before enabling the HA Resource group monitoring, make sure that the OVO management server is running.

Upgrading the OVO Management Server on the Passive Cluster Node

To upgrade the OVO management server from version A.07.1x to version A.08.10 on the remaining cluster nodes on which the OVO management server is not currently running, perform the following steps:

1. Remove the OVO A.07.1x management server.

   See the section entitled "Deinstalling OVO A.07.1x" on page 164 for details.

NOTE

You can expect some error messages during the deinstallation because the shared file systems are not mounted. These error messages can safely be ignored.

2. Upgrade the Oracle database software.

   If the Oracle software was installed on the local file system, you need to upgrade the Oracle database version as described in the section entitled "Upgrading the Oracle Database Version" on page 154. If the Oracle software was installed on the shared file system, you must install the Oracle database software on the local file system from the beginning, as described in Chapter 2, "Installing OVO on the Management Server," on page 49.

   Check if the `$ORACLE_BASE/admin/$ORACLE_SID` (for example, `/opt/oracle/admin/openview`) directory exists on the cluster node and remove it with all its contents.

3. Install the OVO management server.

   To install the OVO management server, use the procedure for installation on an additional cluster node, which is described in the section "Installing the OVO Software on Additional Cluster Nodes" on page 204.

4. On the cluster node with the OVO Server running, assign the template to the current passive node using the following command:

```
/opt/OV/bin/OpC/utils/opcnode -assign_templ \
node_name=<passive node name> \
templ_name="HA Physical Management Server" \
templ_type=TEMPLATE_GROUP net_type=NETWORK_IP
```

5. Disable the HA Resource group monitoring using the command

   `/opt/OV/lbin/ovharg -monitor ov-server disable`

6. Import the saved OVO management-server A.07.1x configuration data as described in the section entitled “Importing Saved A.07.1x Management-Server Configuration Data” on page 170.

7. Upgrade the OVO Java Operator UI as described in the section entitled “Upgrading the OVO Java Operator UI” on page 171.

8. Enable the HA Resource group monitoring using the command

   `/opt/OV/lbin/ovharg -monitor ov-server enable`

NOTE

Before enabling the HA Resource group monitoring, make sure that the OVO management server is running.

Upgrading OVO From Version A.08.00 to Version A.08.10 in a Cluster Environment

To upgrade the OVO management server running in a cluster environment from version A.08.00 to version A.08.10, you *must* first perform the upgrade procedure on the active node, and then on all the passive nodes. The upgrade procedure is as follows:

1. To disable possible failovers when the OVO management server is stopped, put the OVO management server represented by an HA Resource Group, in maintenance mode on the active cluster node, where the OVO Server is running.

   To put the OVO Server HA resource group in maintenance mode, disable the HA Resource group monitoring using the following command:

   /opt/OV/lbin/ovharg -monitor ov-server disable

2. Perform an OVO Management-Server upgrade on *all* the passive cluster nodes, where the OVO Management server is not running.

   - If you are installing OVO from a CD-ROM, enter the following:

     /*<mount_point>*/ovoinstall -t

     where *<mount_point>* is the location where the OVO installation CD is mounted.

   - If you are installing OVO using the CD images, enter the following:

     /*<master_directory>*/OVOCD1/ovoinstall -t

3. When the OVO Management Server is upgraded on all passive cluster nodes, perform an OVO Management Server upgrade on the active cluster node, where the OVO Management Server is running.

   Start the install process using one of the following commands as appropriate:

   - If you are installing OVO from a CD-ROM, enter the following:

     /*<mount_point>*/ovoinstall -t

where *<mount_point>* is a location where the OVO installation CD is mounted.

- If you are installing OVO using the CD images, enter the following:

  /<*master_directory*>/OVOCD1/ovoinstall -t

4. When the OVO Management Server is running again on the active cluster node, put it back to the operational mode by enabling the OVO Management-Server HA Resource Group monitoring.

   Enable the HA Resource group monitoring using the following command:

   /opt/OV/lbin/ovharg -monitor ov-server enable

NOTE Before enabling the HA Resource group monitoring, make sure that the OVO management server is running.

Stopping the OVO Management Server in a Cluster Environment for Maintenance

When there is a need to stop the OVO management server (in the case of a patch installation, an upgrade, maintenance, and so on), stop the OVO management server as follows:

1. Disable the HA Resource group monitoring using the command

   `/opt/OV/lbin/ovharg -monitor ov-server disable`

2. Stop the OVO management server.

NOTE The OVO management server *must not* be stopped by using the cluster-related commands; only the OVO native commands such as `ovstop`, `opcsv` can be used.

3. Perform the intended action (the patch installation, the upgrade, the maintenance, and so on).
4. Start the OVO management server.

NOTE The OVO management server *must not* be started by using the cluster-related commands; only the OVO native commands such as `ovstart`, `opcsv` can be used.

5. Enable the HA Resource group monitoring using the command

   `/opt/OV/lbin/ovharg -monitor ov-server enable`

NOTE Before enabling the HA Resource group monitoring, make sure that the OVO management server is running.

B Installing OVO in a VERITAS Cluster Server Environment

In This Chapter

This chapter describes the following:

- Installation and configuration of the OVO management server in a VERITAS cluster server environment.
- Deinstallation of the OVO management server from VERITAS cluster server nodes.
- Upgrade of the OVO management server in a VERITAS cluster server environment.

About OVO in a VERITAS Cluster Server System

Glossary of VERITAS Cluster Server Terms

HA Resource Group — Application running in a cluster environment. An HA Resource Group can simultaneously be a cluster object that represents an application in a cluster.

Installation Requirements

To run OVO in a VERITAS cluster server environment, you *must* meet the following requirements:

❑ For VERITAS Cluster Server on HP-UX:

- HP-UX 11.11.
- VERITAS Cluster Server for HP-UX version 3.5.
- VERITAS Volume Manager for HP-UX version 3.5 (it is provided with the HP-UX 11.11 package).

For additional requirements about installing OVO, see the Chapter 1, “Installation Requirements for the Management Server,” on page 25.

Installation Requirements for an Oracle Database

OVO requires that the entire Oracle database (the database binaries) be installed on the local disk.

Installing and Configuring the OVO Software on a Cluster Node

To install and configure the OVO management server in a cluster environment, you *must* complete the following procedures:

- ❏ Installation and configuration of the OVO management server and agent software on the **first** cluster node.

  See section “Installing and Configuring the OVO Software on the First Cluster Node” on page 222 for details.

- ❏ Installation of the OVO management server and agent software on **additional** cluster nodes.

  See“Installing the OVO Software on Additional Cluster Nodes” on page 229 for details.

WARNING **You *cannot* install OVO simultaneously on the cluster nodes. When the installation process is completed on one cluster node, proceed with the installation on the next node, until OVO is installed on all the nodes in a cluster environment.**

Installing and Configuring the OVO Software on the First Cluster Node

To install and configure the OVO management server on the first cluster node, you *must* complete the following procedures:

1. **Preparation Steps**

   See “Before You Install the OVO Management Server” on page 222 for details.

2. **Installation of the Oracle Database**

   See “Installing the Oracle Database” on page 226 for details.

3. **Installation and Configuration of the OVO Management Server**

   See “Installing and Configuring the OVO Management Server” on page 226 for details.

4. **Installation of the OVO Agent Software and Templates**

   See “Installing the OVO Agent Software and Templates on the First Cluster Node” on page 227 for details.

Before You Install the OVO Management Server

I. **Installation Prerequisites**

Before you install the OVO management server in a cluster environment, the following prerequisites *must* be met:

- Define the disk group `ov-dg`, consisting of at least one shared disk for the HA Resource group.
- Define the following four volumes within the `ov-dg` disk group:
  - `ov-volume-var`
  - `ov-volume-etc`
  - `ov-volume-ora-data`
  - `ov-volume-lcore`

NOTE Alternatively, you can mirror these volumes.

- The following file systems located on shared disk volumes *must* be available:
  - — file system for the OVO management-server database
  - — file system for `/etc/opt/OV/share`
  - — file system for `/var/opt/OV/share`
  - — file system for `/var/opt/OV/shared/server`

II. **Pre-Installation Steps**

You *must* perform the following preparation steps manually:

1. Prepare mount points for the shared file systems:
   - `/etc/opt/OV/share`
   - `/var/opt/OV/share`
   - `/var/opt/OV/shared/server`
   - Mount point for the OVO management-server database.

     You can select an alternative mount point. The defaults are:

     — HP-UX: `/u01/oradata/<ORACLE_SID>`

Table B-1 Disk Space Required for Shared File Systems:

Shared File System	Recommended	Initial
`/etc/opt/OV/share`	150 MB	55 MB
`/var/opt/OV/share`	1 GB	550 MB[a]
`/var/opt/OV/shared/server`	100 MB	1 MB
`/u01/oradata/openview`	1 GB	420 MB[b]

a. Further disk space will be required when SPIs are installed.
b. For small to medium sized installations. Larger installations and high numbers of messages will result in greater space requirements.

NOTE

When installing on additional cluster nodes, the disk space for `/etc/opt/OV/share`, `/var/opt/OV/share`, and `/var/opt/OV/shared/server` is needed only temporarily and can be removed after the installation, before the shared disks are switched to that node. For example, local volumes can be created and mounted to these locations before installing. These volumes can be deleted after installation is complete.

2. Import the `ov-dg` disk group by entering:

   `/usr/sbin/vxdg import ov-dg`

3. Start the volumes by entering:

   `/usr/sbin/vxvol -g ov-dg startall`

4. Check whether all the volumes of the `ov-dg` disk group are started by entering:

   `/usr/sbin/vxinfo -g ov-dg`

   If the volumes are started, an output similar to the following is displayed:

```
ov-volume-lcore Started
ov-volume-ora-data Started
ov-volume-etc Started
ov-volume-var Started
```

5. Mount the shared file systems on the previously prepared mount points as follows:

   a. **/usr/sbin/mount -F <*FSType*> **
   /dev/vx/dsk/ov-dg/ov-volume-var /var/opt/OV/share

   b. **/usr/sbin/mount -F <*FSType*> **
   /dev/vx/dsk/ov-dg/ov-volume-etc /etc/opt/OV/share

   c. **/usr/sbin/mount -F <*FSType*> **
   **/dev/vx/dsk/ov-dg/ov-volume-lcore **
   /var/opt/OV/shared/server

   d. **/usr/sbin/mount -F <*FSType*> **
   **/dev/vx/dsk/ov-dg/ov-volume-ora-data **
   /<*oracle_database_mount_point*>,

   where *oracle_database_mount_point* is the mount point you have chosen for the OVO server database, and *FSType* is a file system type of shared file systems.

6. Activate Virtual Network IP using the `ifconfig` command:

   ifconfig <*network_interface*>:1

   For example, you can configure the IP address as follows:

   ifconfig <*network_interface*>:1 plumb

   **ifconfig <*network_interface*>:1 inet <*IP*> **
   netmask 255.255.0.0 up

   Where

   - *<network_interface>* is the physical network interface used for the virtual IP. Most commonly, `lan0` is used as the network interface on HP-UX .
   - *<IP>* is the IP address of the virtual host that you previously selected.

NOTE To configure the IP address, use decimal notation (for example, 255.255.0.0) instead of hex notation (for example, ffff0000).

Installing the Oracle Database

Install the Oracle database software as described in Chapter 2, “Installing OVO on the Management Server,” on page 49.

Oracle *must* be installed on the local file system, which enables it to operate as a separate HA resource group.

Installing and Configuring the OVO Management Server

Install the OVO management server as described in Chapter 2, “Installing OVO on the Management Server,” on page 49.

The OVO management server *must* be installed as a standalone system.

When installing OVO in a cluster environment, you *must* provide responses to some questions and specify some values differently than in the standalone OVO installation. The following lists the cluster-specific questions that are displayed on the screen and the information that you must enter:

- `"Configure OVO Server as HA resource group (y|n)" : [y]`

  Press **Enter** to continue.

- `"Separate Oracle from OVO server (3Tier configuration)" : [n]`

  Press **Enter** to continue.

- `"HA resource group name" : [ov-server]`

CAUTION The entered HA Resource Group name must not be one of the already existing names.

Press **Enter** to continue, or specify an alternative HA Resource Group name.

NOTE If you choose an alternative HA Resource Group name, use that name throughout the installation and configuration process.

- `Short name of a valid virtual host :`
  `[]`

  Enter the short name of the virtual host, for example, **`virtual`**.

- `IP address of a valid virtual host:`
  `[]`

  Enter the virtual host IP address, for example, **`192.168.0.1`**

- `Netmask of a valid virtual host:`
  `[]`

  Enter the netmask value of the virtual host, for example, **`255.255.0.0`**.

- `Network interface for virtual host:`
  `[]`

  Enter the network interface for the virtual host, for example, **`hme0`**.

- `Type for shared file systems :`
  `[]`

  Enter the type of shared file systems, for example, **`ufs`**.

After the installation process is completed, the OVO management server should be running on the node as an HA resource group.

Installing the OVO Agent Software and Templates on the First Cluster Node

IMPORTANT When installing the OVO software in a cluster environment, only the OVO management server is automatically installed. You *must* also install the OVO agent software and templates using the OVO Administrator's GUI.

To install the OVO agent software and templates on the first cluster node, the OVO management server *must* be running on this node. Open the OVO Administrator's GUI and install the OVO agent software and templates on the local cluster node. You will find the local cluster node in the `Holding Area`. You can move it to the `OVO Node Bank`.

For more information on installing OVO agents on managed nodes, see the *OVO Administrator's Reference* manual.

Installing the OVO Software on Additional Cluster Nodes

Installing the OVO Management Server on Additional Cluster Nodes

The following preconditions *must* be met prior to installing the OVO management server on an additional cluster node:

- The OVO management server *must* already be installed and running on one of cluster nodes. This allows you to add a local node to the OVO management-server configuration and install and start the OVO agent software on the local node.
- On the node where OVO is running, enable remote shell connection for user `root` to the node where you plan to next install the OVO management-server software. This is done by putting the following line into `/.rhosts`:

  `<node> root`

  You can check if the remote shell is enabled by using the command:

  `remsh <active_node> -l root -n ls`

  A list of files on the `root` directory from the node where the OVO management server is running should be displayed.

  In more secure environments it is possible to setup a secure-shell (SSH) connection between the node where you plan to install an OVO Server, and the node where the OVO Server is running.

  For the OVO Server installation you have to enable passwordless SSH access for user `root` between these two nodes. `ssh` and `scp` are the two commands that are used during the installation. Both commands *must* be accessible from the main path.

  You can check if the secure remote shell is enabled by using the following command:

  `ssh <active node> -l root -n ls`

  The type of connection will be automatically detected. A secure connection has a higher priority if both types of connection are enabled.

- ❏ Shared file systems must *not* be mounted on this cluster node. They are already mounted on the cluster node where the OVO management server is running.
- ❏ Virtual IP *must not* be activated on this node, since it is already used on the node where the OVO management server is running.

The OVO management-server installation on additional cluster nodes follows the same procedures as used to install the OVO management-server software on the first cluster node:

1. Installation of the Oracle database software.

   See “Installing the Oracle Database” on page 226 for details.

2. Installation and configuration of the OVO management server.

   See “Installing and Configuring the OVO Management Server” on page 226 for details.

Installing the OVO Agent Software and Templates on Additional Cluster Nodes

IMPORTANT

When installing the OVO software in a cluster environment, only the OVO management server is automatically installed. You *must* also install the OVO agent software and templates using the *OVO Administrator’s GUI*.

To install the OVO agent software and templates on additional cluster nodes, the OVO management server must be running on one of the cluster nodes. After the installation of the OVO management server is finished on the additional cluster node, proceed with the installation of the OVO agent software and templates on this node. On the node where the OVO management server is running, open the OVO Administrator’s GUI and install the OVO agent software and templates on the additional cluster node. You will find the additional cluster node in the `Holding Area`. You can move it to the `OVO Node Bank`.

For more information on installing OVO agents on managed nodes, see the *OVO Administrator’s Reference* manual.

Deinstalling the OVO Software from Cluster Nodes

The OVO software can be deinstalled:

- **Completely from a cluster environment.**

  When deinstalling the OVO management server from a cluster environment, you *must* perform the deinstallation procedure in the following sequence:

  1. Deinstall the OVO management server from the **passive cluster nodes**. These are the systems that are installed and configured to run the OVO management server, but are currently *not* being used to run OVO.

     For details about how to deinstall the OVO server from the passive cluster nodes, see the section “Deinstalling OVO from Passive Cluster Nodes” on page 232.

  2. When the OVO management-server software has been deinstalled from all the passive nodes, deinstall the software from the **active cluster node** on which the OVO management server is currently up and running as an HA resource group.

     For details on how to deinstall the OVO management server from the active cluster node, see the section “Deinstalling OVO from the Active Cluster Node” on page 233.

- **From particular cluster nodes only.**

  By deinstalling the OVO management-server software from a cluster node, this node will no longer be able to run the OVO management server. The cluster environment running the OVO management server will be reduced by one node.

  To deinstall the OVO management-server software from a cluster node, this node *must* be in the passive state. For details on how to deinstall the OVO management-server software from passive cluster nodes, see the section entitled “Deinstalling OVO from Passive Cluster Nodes” on page 232.

Deinstalling OVO from Passive Cluster Nodes

Before the OVO management server is deinstalled from a passive cluster node, the following requirements *must* be met:

1. The OVO Server HA Resource group *must not* be active on this node.
2. Virtual host must *not* be active.
3. Shared file systems must *not* be mounted.

After ensuring that all these requirements are met, proceed with the deinstallation:

1. Deinstall the OVO agent software from this node using the following command:

   `/opt/OV/bin/OpC/install/opc_inst -r`

NOTE

Ignore possible dependency warnings during the OVO agent software deinstallation.

2. When the OVO agent software is removed, remove the managed node from the Motif GUI Nodebank.
3. Deinstall the OVO management server as described in Chapter 6, “Software Administration on the Management Server,” on page 141.

CAUTION

Do *not* perform any agent-related operations described in Chapter 6, “Software Administration on the Management Server.”

When asked for the name of the HA Resource group, enter the OVO Server HA resource group, this is normally `ov-server`.

When the deinstallation procedure is complete, remove the following files/directories (if they exist):

- ❏ `/opt/oracle/admin/<ORACLE_SID>`
- ❏ `/opt/oracle/product/9.2.0/dbs/init<ORACLE_SID>.ora`
- ❏ `/opt/oracle/product/9.2.0/dbs/lk<ORACLE_SID>`
- ❏ `/opt/oracle/product/9.2.0/network/admin/sqlplus.ora`

- /opt/oracle/product/9.2.0/network/admin/listener.ora
- /opt/oracle/product/9.2.0/network/admin/tnsnames.ora
- /opt/oracle/product/9.2.0/network/admin/tnsnav.ora

where <*ORACLE_SID*> is the value of the ORACLE_SID variable used for the configuration of the OVO management-server database. It is usually set to openview.

Deinstalling OVO from the Active Cluster Node

When the OVO management-server software is deinstalled from all the passive cluster nodes, you can start the deinstallation process from the node on which the OVO management server is running.

1. Deinstall the OVO agent software from this node using the following command:

   /opt/OV/bin/OpC/install/opc_inst -r

2. Deinstall the OVO management-server software from this node as described in Chapter 6, “Software Administration on the Management Server,” on page 141 .

   When asked for the name of the HA Resource group, enter the OVO Server HA resource group, this is normally ov-server.

Upgrading OVO to Version A.08.10 in a Cluster Environment

To upgrade the OVO management server running in a cluster environment from version A.07.1x to version A.08.10, you must first perform the upgrade procedure on the active node, and then on all the passive nodes.

Upgrading the OVO Management Server on the Active Cluster Node

To upgrade the OVO management server from version A.07.1x to version A.08.10 on the node where the OVO management server is currently running, perform the following steps:

1. Put the OVO management server represented as an HA Resource Group in maintenance mode to disable possible failovers when the OVO management server is stopped.
2. Backup the current installation.

   See the section entitled “Backing Up the Current OVO A.07.1x Installation” on page 158 for details.
3. Save the Administrator’s ovw map.

   See the section entitled “Saving the Administrator’s ovw Map” on page 159 for details.
4. Stop the OVO management server by entering:

   ```
   /opt/OV/bin/ovstop
   ```
5. Download the current OVO A.07.1x configuration.

   See the section entitled “Downloading the Current OVO A.07.1x Configuration” on page 160 for details.
6. Clear the database.

   See the section entitled “Clearing the Database” on page 162 for details.
7. Remove the OVO A.07.1x management server.

See the section entitled “Deinstalling OVO A.07.1x” on page 164 for details.

8. Remove the HA Resource group representing the OVO management server from the cluster configuration.
9. Adapt the shared file system to match the requirements of the OVO 08.00 management server. Check the section entitled “Before You Install the OVO Management Server” on page 222 for details.

   The OVO 07.1x management server is using the shared file systems mounted on the following mount points:

   ```
   /var/opt/OV/share
   /etc/opt/OV/share
   /opt/share
   /opt/oradata
   ```

   For the OVO 08.00 management server, the shared file systems are mounted on different mount points. The file system containing the Oracle database software is removed and used for shared configuration files.

   Table B-2 indicates the mount points required for the OVO A.07.1x management server and the OVO A.08.10 management server:

Table B-2 Differences Between the Mount Points for A.07.1x and A.08.10

A.07.1x	A.08.10
/var/opt/OV/share	/var/opt/OV/share
/etc/opt/OV/share	/etc/opt/OV/share
/opt/oracle	/var/opt/OV/shared/server
/opt/oradata	/opt/oradata/<*ORACLE_SID*>[a]

a. where <*ORACLE_SID*> is the value of the ORACLE_SID variable used for the configuration of the OVO management-server database. It is usually set to openview.

10. Upgrade the Oracle database software.

If the Oracle software was installed on the local file system, you need to upgrade the Oracle database version as described in the section entitled "Upgrading the Oracle Database Version" on page 154. If the Oracle software was installed on the shared file system, you must install the Oracle database software on the local file system from the beginning, as described in Chapter 2, "Installing OVO on the Management Server," on page 49.

Check if the `$ORACLE_BASE/admin/$ORACLE_SID` (for example, `/opt/oracle/admin/openview`) directory exists on the cluster node and remove it with all its contents.

11. Install the OVO management server.

    To install the OVO management server, use the procedure for installation on the first cluster node, which is described in the section "Installing and Configuring the OVO Software on the First Cluster Node" on page 222.

12. Disable the HA Resource group monitoring using the command

    `/opt/OV/lbin/ovharg -monitor ov-server disable`

13. Upload the saved OVO A.07.1x configuration as described in the section entitled "Uploading the Saved OVO A.07.1x Configuration" on page 167.

14. Import the saved OVO management server A.07.1x configuration data as described in the section entitled "Importing Saved A.07.1x Management-Server Configuration Data" on page 170.

15. Upgrade the OVO Java Operator UI as described in the section entitled "Upgrading the OVO Java Operator UI" on page 171.

16. For each cluster node listed in the `OVO Node Bank`, open `Modify Node` window `Actions -> Node -> Modify...`

    Select `HTTPS` type and close the window.

17. Enable the HA Resource group monitoring using the command

    `/opt/OV/lbin/ovharg -monitor ov-server enable`

NOTE

Before enabling the HA Resource group monitoring, make sure that the OVO management server is running.

Upgrading the OVO Management Server on the Passive Cluster Node

To upgrade the OVO management server from version A.07.1x to version A.08.10 on the remaining cluster nodes on which the OVO management server is not currently running, perform the following steps:

1. Remove the OVO A.07.1x management server.

   See the section entitled “Deinstalling OVO A.07.1x” on page 164 for details.

NOTE

You can expect some error messages during the deinstallation because the shared file systems are not mounted. These error messages can safely be ignored.

2. Upgrade the Oracle database software.

   If the Oracle software was installed on the local file system, you need to upgrade the Oracle database version as described in the section entitled “Upgrading the Oracle Database Version” on page 154. If the Oracle software was installed on the shared file system, you must install the Oracle database software on the local file system from the beginning, as described in Chapter 2, “Installing OVO on the Management Server,” on page 49.

   Check if the `$ORACLE_BASE/admin/$ORACLE_SID` (for example, `/opt/oracle/admin/openview`) directory exists on the cluster node and remove it with all its contents.

3. Install the OVO management server.

   To install the OVO management server, use the procedure for installation on an additional cluster node, which is described in the section “Installing the OVO Software on Additional Cluster Nodes” on page 229.

4. On the cluster node with the OVO Server running, assign the template to the current passive node using the following command:

```
/opt/OV/bin/OpC/utils/opcnode -assign_templ \
node_name=<passive node name> \
templ_name="HA Physical Management Server" \
templ_type=TEMPLATE_GROUP net_type=NETWORK_IP
```

5. Disable the HA Resource group monitoring using the command

   `/opt/OV/lbin/ovharg -monitor ov-server disable`

6. Import the saved OVO management server A.07.1x configuration data as described in the section entitled “Importing Saved A.07.1x Management-Server Configuration Data” on page 170.

7. Upgrade the OVO Java Operator UI as described in the section entitled “Upgrading the OVO Java Operator UI” on page 171.

8. Enable the HA Resource group monitoring using the command

   `/opt/OV/lbin/ovharg -monitor ov-server enable`

NOTE Before enabling the HA Resource group monitoring, make sure that the OVO management server is running.

Upgrading OVO From Version A.08.00 to Version A.08.10 in a Cluster Environment

To upgrade the OVO management server running in a cluster environment from version A.08.00 to version A.08.10, you *must* first perform the upgrade procedure on the active node, and then on all the passive nodes. The upgrade procedure is as follows:

1. To disable possible failovers when the OVO management server is stopped, put the OVO management server represented by an HA Resource Group, in maintenance mode on the active cluster node, where the OVO Server is running.

   To put the OVO Server HA resource group in maintenance mode, disable the HA Resource group monitoring using the following command:

   /opt/OV/lbin/ovharg -monitor ov-server disable

2. Perform an OVO Management-Server upgrade on *all* the passive cluster nodes, where the OVO Management server is not running.

   - If you are installing OVO from a CD-ROM, enter the following:

     /*<mount_point>*/ovoinstall -t

     where *<mount_point>* is the location where the OVO installation CD is mounted.

   - If you are installing OVO using the CD images, enter the following:

     /*<master_directory>*/OVOCD1/ovoinstall -t

3. When the OVO Management Server is upgraded on all passive cluster nodes, perform an OVO Management Server upgrade on the active cluster node, where the OVO Management Server is running.

   Start the install process using one of the following commands as appropriate:

   - If you are installing OVO from a CD-ROM, enter the following:

     /*<mount_point>*/ovoinstall -t

where *<mount_point>* is a location where the OVO installation CD is mounted.

- If you are installing OVO using the CD images, enter the following:

  ```
  /<master_directory>/OVOCD1/ovoinstall -t
  ```

4. When the OVO Management Server is running again on the active cluster node, put it back to the operational mode by enabling the OVO Management-Server HA Resource Group monitoring.

   Enable the HA Resource group monitoring using the following command:

   ```
   /opt/OV/lbin/ovharg -monitor ov-server enable
   ```

NOTE Before enabling the HA Resource group monitoring, make sure that the OVO management server is running.

Stopping the OVO Management Server in a Cluster Environment for Maintenance

When there is a need to stop the OVO management server (in the case of a patch installation, an upgrade, maintenance, and so on), stop the OVO management server as follows:

1. Disable the HA Resource group monitoring using the command

   `/opt/OV/lbin/ovharg -monitor ov-server disable`

2. Stop the OVO management server.

NOTE The OVO management server *must not* be stopped by using the cluster-related commands; only the OVO native commands such as `ovstop`, `opcsv` can be used.

3. Perform the intended action (the patch installation, the upgrade, the maintenance, etc.).
4. Start the OVO management server.

NOTE The OVO management server *must not* be started by using the cluster-related commands; only the OVO native commands such as `ovstart`, `opcsv` can be used.

5. Enable the HA Resource group monitoring using the command

   `/opt/OV/lbin/ovharg -monitor ov-server enable`

NOTE Before enabling the HA Resource group monitoring, make sure that the OVO management server is running.

C Installing the Remote NNM Integration Package

In This Appendix

This appendix describes how to install the HP OpenView Operations (OVO) software package for a remote integration with Network Node Manager (NNM). For a list of system requirements and installation instructions for the NNM software, refer to the documentation supplied with NNM.

Installing the NNM Integration Software

When NNM is installed on the same system as the OVO management server (as is usually the case), the relevant integration files are automatically installed with the OVO installation package. To make use of the remote OVO integration with Network Node Manager (NNM), you *must* manually install the NNM-specific OVO bundle on one or more NNM systems. The OVORemoteOVw package supplied with OVO 8.0 is only suitable for the platforms on which the OVO managment server is supported.

Before installation, ensure that:

- ❏ NNM is already installed before the installation of the OVO integration bundle.

  For NNM installation and configuration instructions, consult the relevant NNM documentation.

- ❏ The OVO agent is installed on the NNM system.

  For the prerequisites and installation instructions for the OVO agent, refer to *OVO DCE Agent Concepts and Configuration Guide*.

- ❏ An X-Window system (for example, Reflection-X on Windows NT/2000) is installed on the OVO GUI client system.

To install the OVO NNM integration software on the NNM system, run the `swinstall(1M)` utility of SD-UX and use the following command:

```
swinstall -s .../OVOCD2/OV_DEPOT/HPOvOServer.depot \
OVORemoteOVw
```

Next, install and configure the OVO software as described in “Installing the OVO Software on the Management-Server System” on page 68.

Choose the following software bundle to install the remote NNM integration package: `OVORemoteOVw`.

NOTE For the local-use case of NNM, where NNM is installed on the OVO management server, the relevant integration files are automatically installed with the normal OVO installation package.

D OVO Software Bundles

In This Appendix

The tables in this appendix list the contents of the various HP OpenView Operations (OVO) software bundles. You can also check the contents of these bundles in the “Software Selection” window of `swinstall(1M)`.

- ❏ OVO Bundles
- ❏ OVO Products
- ❏ OVO Components in the Subproducts

OVO Product Bundles

The OVO principle bundle is a hierarchical structure made up of associated bundles, products, and filesets.

Table D-1 OVO Bundles

OVO Bundle	OVO Product	Description
OVOEnglish	OVCHECK OVOPC-HA OVOPC-ORA OVOPC OVOPC-WWW OVOPC-OVW OVOPC-DOC OVOPC-SVC	HP OpenView OVO, with Documentation (English)
OVOLocalized[a]	OVCHECK OVOPC-HA OVOPC-ORA OVOPC-ORA-JPN OVOPC OVOPC-JPN OVOPC-SPA OVOPC-WWW OVOPC-OVW OVOPC-DOC OVOPC-DOC-JPN OVOPC-SVC	HP OpenView OVO, with Documentation (for languages other than English)
OVORemoteOVw	OVOPC-OVW	Remote OVw Integration

a. *Must* be installed on top of the `OVOEnglish` bundle for the following languages: Japanese, Spanish, Korean and Simplified Chinese.

Table D-2 OVO Products

OVO Products	Description
OVCHECK	OVO prerequisites.
OVOPC	Generic filesets for OVO in an English environment (for example, NLS, manpages, and so on). Database independent.
OVOPC-DEV[a]	OVO Developer's Toolkit fileset.
OVOPC-DEVDOC[a]	OVO Developer's Toolkit documentation (PDF).
OVOPC-DOC[b]	Contains the OVO documentation files (PDF).
OVOPC-DOC-JPN[b]	OVO Japanese Documentation.
OVOPC-DOC-SPA[b]	OVO Spanish Documentation.
OVOPC-DOC-KOR[b]	OVO Korean Documentation.
OVOPC-DOC-SCH[b]	OVO Simplified Chinese Documentation.
OVOPC-JPN[b]	OVO Generic Japanese product.
OVOPC-KOR[b]	OVO Generic Korean product.
OVOPC-ORA	Contains all the filesets for an Oracle database (English).
OVOPC-ORA-JPN[b]	OVO Japanese Oracle product.
OVOPC-OVW	Files for the remote OVO Integration Package for Network Node Manager.
OVOPC-SCH[b]	OVO Generic Simplified Chinese product.
OVOPC-WWW	Fileset for the OVO Java-based GUI.
OVOPC-SPA[b]	OVO Generic Spanish product.
OVOPC-SVC	OVO Service Navigator.

Table D-2 OVO Products (Continued)

OVO Products	Description
OVO-CLT	Generic HTTPS client filesets.
OVO-CLT-NLS[c]	Generic HTTPS client localization packages (message catalogs and help files).
OVOPC-CLT	OVO RPC clients.
OVOPC-CLT-ENG	OVO RPC clients - English.

a. To have the OVO Developer's Toolkit available, it should be installed on top of OVO if not already installed by `ovoinstall`.
b. Can be removed *after* OVO installation if you want to save disk space or if you *do not* need this product.
c. Installed *only* if you choose localization packages to be installed during OVO installation with `ovoinstall`.

Table D-3 OVO Components in the Subproducts

OVO Product	Filesets in Product	Description of Fileset
OVCHECK	OVOENGLISH	OVO Prerequisites English with documentation.
OVOPC	OVOPC-COMPOSER[a]	ECS Composer integration.
	OVOPC-GUI	OVO GUI client - common files.
	OVOPC-GUI-ENG	OVO GUI client - English files.
	OVOPC-LIB	OVO common files - libraries.
	OVOPC-MAN	OVO manual pages.
	OVOPC-NLS	Management-server online help.
	OVOPC-UX-MGR78	Management-server bits for HP-UX 11.x.

Table D-3 OVO Components in the Subproducts (Continued)

OVO Product	Filesets in Product	Description of Fileset
OVO-CLT	OVO-LIN-CLT[a]	HTTPS Agent software for Intel-based PCs running Linux.
	OVO-WIN-CLT[a]	HTTPS Agent software for Intel-based PCs running MS Windows 2000/XP/2003.
	OVO-SOL-CLT[a]	HTTPS Agent software for Sun SPARC systems running Sun Solaris.
	OVO-UXIA-CLT[a]	HTTPS Agent software for Itanium systems running HP-UX 11.23.
	OVO-UX11-CLT[a]	HTTPS Agent software for HP 9000 Servers systems running HP-UX 11.x.
OVO-CLT-NLS	OVO-CLT-JPN[a]	Localization packages for HTTPS Agent Software (Japanese).
	OVO-CLT-SPA[a]	Localization packages for HTTPS Agent Software (Spanish).
	OVO-CLT-KOR[a]	Localization packages for HTTPS Agent Software (Korean).
	OVO-CLT-SCH[a]	Localization packages for HTTPS Agent Software (Simplified Chinese).
OVOPC-CLT	OVOPC-AIX-CLT	RPC Agent software for IBM RS/6000 systems running on AIX.
	OVOPC-LIN-CLT	RPC Agent software for Intel-based PCs running Linux.
	OVOPC-NT-CLT	RPC Agent software for Intel-based PCs running MS Windows NT/2000/XP/2003.
	OVOPC-OSF-CLT	RPC Agent software for Compaq systems running Tru64 UNIX.
	OVOPC-SOL-CLT	RPC Agent software for Sun SPARC systems running Sun Solaris.
	OVOPC-UXIA-CLT	RPC Agent software for Itanium systems running HP-UX 11.22.
	OVOPC-UX11-CLT	RPC Agent software for HP 9000 Servers systems running HP-UX 11.x.

Table D-3 OVO Components in the Subproducts (Continued)

OVO Product	Filesets in Product	Description of Fileset
OVOPC-CLT-ENG	OVOPC-MPE-CLT	RPC Agent software for HP 3000/900 systems running MPE/iX.
	OVOPC-NW-CLT	RPC Agent software for Intel-based PCs running Novell Netware.
	OVOPC-PTX-CLT	RPC Agent software for IBM Symmetry systems running ptx.
	OVOPC-SGI-CLT	RPC Agent software for Silicon Graphics systems running IRIX.
	OVOPC-SNM-CLT	RPC Agent software for SNI systems running SINIX.
OVOPC-DEV	OPVPC-DEV-MAN	OVO Developer's Toolkit manual pages.
	OVOPC-DEV-MGR	OVO Developer's Toolkit management server.
OVOPC-DEVDOC	OVOPC-DOC-DENG[a]	OVO Developer's Toolkit documentation (PDF).
OVOPC-DOC	OVOPC-DOC-RENG	OVO English documentation (PDF).
OVOPC-DOC-JPN	OVOPC-DOC-RJPN[a]	OVO Japanese documentation (PDF).
OVOPC-DOC-SPA	OVOPC-DOC-RSPA[a]	OVO Spanish documentation (PDF).
OVOPC-DOC-KOR	OVOPC-DOC-RKOR[a]	OVO Korean documentation (PDF).
OVOPC-DOC-SCH	OVOPC-DOC-RSCH[a]	OVO Simplified Chinese documentation (PDF).
OVOPC-JPN	OVOPC-GUI-JPN[a]	OVO Client - common files, Japanese.
	OVOPC-NLS-JPN[a]	OVO management-server Japanese messages.
OVOPC-KOR	OVOPC-GUI-KOR[a]	OVO Client - common files, Korean.
OVOPC-ORA	OVOPC-GUI-ORA	OVO Client - Oracle files
	OVOPC-UX-ORAA	Oracle-specific management-server bits for HP-UX (Part A)
	OVOPC-UX-ORAB	Oracle-specific management-server bits for HP-UX (Part B)

Table D-3 OVO Components in the Subproducts (Continued)

OVO Product	Filesets in Product	Description of Fileset
OVOPC-ORA-JPN	OVOPC-UX-ORAJ[a]	Oracle-specific management-server bits for HP-UX (Japanese))
OVOPC-OVW	OVOPC-OVW-MGR	Files for remote OVO GUI integration with Network Node Manager.
OVOPC-SCH	OVOPC-GUI-SCH[a]	OVO Client - common files, Simplified Chinese.
OVOPC-SPA	OVOPC-GUI-SPA[a]	OVO Client - common files, Spanish.
OVOPC-SVC	OVOPC-SVC-DOC	OVO Service Navigator English Documentation.
	OVOPC-SVC-JDOC[a]	OVO Service Navigator Japanese Documentation.
	OVOPC-SVC-EDOC[a]	OVO Service Navigator Spanish Documentation.
	OVOPC-SVC-KDOC[a]	OVO Service Navigator Korean Documentation.
	OVOPC-SVC-SDOC[a]	OVO Service Navigator Simplified Chinese Documentation.
	OVOPC-SVC-ENG	OVO Service Navigator Localized Files-English.
	OVOPC-SVC-KOR[a]	OVO Service Navigator Localized Files-Korean.
	OVOPC-SVC-SCH[a]	OVO Service Navigator Localized Files-Simplified Chinese.
	OVOPC-SVC-JPN[a]	OVO Service Navigator Localized Files-Japanese.
	OVOPC-SVC-MGR	OVO Service Navigator Manager.
	OVOPC-SVC-SPA[a]	OVO Service Navigator Localized Files-Spanish.

Table D-3 OVO Components in the Subproducts (Continued)

OVO Product	Filesets in Product	Description of Fileset
OVOPC-WWW	OVOPC-WWW-ENG	OVO Java-based web GUI—English online documentation and message catalogues.
	OVOPC-WWW-JPN[a]	OVO Java-based web GUI—Japanese online documentation and message catalogues.
	OVOPC-WWW-KOR[a]	OVO Java-based web GUI—Korean online documentation and message catalogues.
	OVOPC-WWW-SCH[a]	OVO Java-based web GUI—Simplified Chinese online documentation and message catalogues.
	OVOPC-WWW-SPA[a]	OVO Java-based web GUI—Spanish online documentation and message catalogues.
	OVOPC-WWW-GUI	OVO Java web GUI—language-independent files.
	OVOPC-WWW-ORA	OVO Java web GUI—database files and UI server.

a. Can be removed *after* OVO installation if you want to save disk space or if you *do not* need this component.