# HP OpenView Service Assurance for Communication Networks

## Installation Guide

**HP-UX, Solaris, Windows NT®**


**Manufacturing Part Number: J5119-90004**

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# Document Conventions

The following typographical conventions are used in all of the manuals provided with this product.

| Font | What the Font Represents | Example |
|---|---|---|
| *Italic* | Book or manual titles, and manpage names | Refer to the *HP OpenView Telecom DM TMN Developer's Guide* and the *ovaddobj*(1M) manpage for more information. |
| | Provides emphasis | You *must* follow these steps. |
| | Specifies a variable that you must supply when entering a command | At the prompt type:<br>`rlogin` *your_name* where you supply your login name. |
| | Parameters to a method | The *assigned_criteria* parameter returns an ACSE response. |
| **Bold** | New terms | The **distinguishing attribute** of this class... |
| `Computer` | Text and items on the computer screen | The system replies: `Press Enter` |
| | Command names | Use the `grep` command ... |
| | Method names | The `get_all_replies()` method does the following... |
| | File and directory names | `/usr/bin/X11` |
| | Process names | Check to see if `pmd` is running. |
| | Window/dialog box names | In the `IP Internet` map window... |
| **`Computer Bold`** | Text that you must enter | At the prompt, type: **`ls -l`** |
| **Keycap** | Keyboard keys | Press **Return**. |

| Font | What the Font Represents | Example |
|---|---|---|
| `[Button]` | Buttons on the user interface. | Click `[NET]`.<br>Click on the `[Apply]` button. |
| `Menu Items` | A 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 `Locate:Objects->by Comment` |

# 1 Before the Installation

# Introduction

The forward looking OpenView Foundation strategy integrates existing products to form compatible software components and solutions, enabling customers to quickly implement and efficiently provide end to end service management. HP OpenView Service Assurance for Communication Networks is the first of the OpenView Foundation structures, integrating HP OpenView Operations, HP OpenView Service Navigator, HP OpenView Network Node Manager, and OpenView Communications Service Assurance to provide integrated management of IP, telecom, system, and applications.

The core component of HP OpenView Service Assurance for Communication Networks is HP OpenView Operations (OVO) with HP OpenView Network Node Manager (NNM).

To manage alarms generated by telecom devices, you should install the add-on products OV Topology Server, which improves upon the OVC/Assurance product, and OV Telecom Extensions for OV Operations, which provides the code that integrates OV Topology Server and OVO and forwards telecom alarms to the OVO GUI.

It is recommended that you also purchase and install HP OpenView Service Navigator to manage services.

This document describes the steps necessary to install each of these components and the initialization steps needed to get the components up and running.

# Deployment Options

This section describes the two deployment options available to you:

- Entry Configuration
- Standard Configuration

## Entry Configuration

An entry level configuration consists of deploying the OV Telecom Extensions for OV Operations and HP OpenView Operations. This approach is appropriate for small and moderately sized networks that need only a means to acquire alarms from telecom equipment.

In this approach, OV Topology Server is not deployed, and, hence, the topology server and topology GUI are not available. Without the topology server, messages are not correlated to problems and root cause correlation is not available. Without the topology GUI, telecom-specific messages cannot be displayed in topology maps, outage plans cannot be managed for topology objects, and details about telecom-specific problems may not be available.

## Standard Configuration

A standard configuration consists of the deployment of HP OpenView Operations with HP OpenView Network Node Manager and Service Navigator, OV Telecom Extensions for OV Operations, and OV Topology Server with OVC/Assurance. This approach is appropriate for most communication service provider deployments.

In this approach, a remote telecom subagent collects telecom messages and forwards them to the topology server for correlation into problems. Problem correlation reduces the number of inputs a Network Operation Center (NOC) operator must consider and increases the information available in each displayed message. After problems are produced from the topology server, they are injected in the OVO system. This approach provides a higher level of abstraction into OVO and off loads the OVO server because it has fewer inputs to handle.

# Installation Options

HP OpenView Service Assurance for Communication Networks (OVSACN) supports the following installation options:

- Single server model with an entry configuration
- Single server model with a standard configuration
- Dual server model with a standard configuration

## Single Server Model

With entry configurations, HP OpenView Operations and OV Telecom Extensions for OV Operations can be installed on a single machine running either HP-UX 11.X or Solaris 7.

With standard configurations, HP OpenView Operations, OV Telecom Extensions for OV Operations, and OV Topology Server can all be installed on a single machine running HP-UX 11.X.

## Dual Server Model

For the dual server model, HP OpenView Operations and OV Telecom Extensions for OV Operations are installed on one machine running HP-UX 11.X while OV Topology Server is installed on another machine running HP-UX 11.X.

Dual server models are only supported for standard configurations.

## Multiple Agents

Single and dual server installation models can have one or more agents deployed. Agents are installed on separate OVO agent machines. OVO agent machines are supported on HP-UX 11.X for standard configurations, and either HP-UX 11.X or Solaris 7 for entry configurations depending on the platform of the OVO server.

## iNOC Console

The iNOC Console is a set of graphical user interfaces that are delivered with the products. The GUIs help administrators and NOC operators

monitor and manage an entire network.

The iNOC Console consists of the following GUIs:

- OVO operator GUI
- OVO admin GUI
- Topology GUI
- NNM admin GUI

# Installation Prerequisites

You can install all of the HP OpenView Service Assurance for Communication Networks components on a single machine or you can separate the components across an OVO server, topology server, and agent machines. This next chapters presents the order that you *must* install each component to ensure a successfully working OVSACN solution. If you are separating the components across two machines, you must complete the installation of a specific component on one machine before installing the next component on the other machine.

For entry configurations, see Chapter 2, “Installing Entry Configurations,” on page 39.

For standard configurations on a single server, see Chapter 3, “Installing Single Server, Standard Configurations,” on page 53.

For standard configurations on dual servers, see Chapter 4, “Installing Dual Server, Standard Configurations,” on page 73.

You must make sure your systems meet all of the prerequisites, including hardware and software requirements, before installing the product components. See “OS Requirements” on page 17, “Hardware Requirements” on page 18, and “Software Requirements” on page 33 before proceeding.

## OS Requirements

HP-UX 11.0 and system patches are required to be installed and configured prior to installing the OVO server and the topology server.

Solaris 7 and systems patches are required to be installed and configured on the OVO server system prior to installing OVO components.

# Hardware Requirements

Disk space and kernel settings *must* be configured prior to installing the product components.

Systems running HP-UX have different disk space and kernel setting requirements than systems running Solaris. Also, entry configurations have different disk space and kernel setting requirements than standard configurations.

This section describes the disk space and kernel setting requirements for:

- Single server model with an entry configuration running either Solaris or HP-UX 11.X. See page 19.
- Single server model with a standard configuration running HP-UX 11.X. See page 23.
- Dual server model with a standard configuration running HP-UX 11.X. See page 27.

For instructions on how to apply the disk space and kernel parameters settings defined for your installation model in the following sections, see “Modifying Disk Space Values” on page 31 and “Modifying Kernel Parameters Values” on page 31, respectively.

For HP-UX 11.X systems, two options are available to modify kernel parameter settings:

- Use SAM to modify kernel parameter settings.
- Copy kernel parameter settings from a tunable file provided with the product into `/stand/system`. Then, edit `/stand/system` directly.

For Solaris systems, you can modify kernel parameter settings by copying contents from a tunable file provided with the product into `/etc/system` and then editing directly `/etc/system`.

**NOTE** HP OpenView Service Assurance for Communication Networks is supported only on PA Risk 2.0 Hewlett-Packard hardware.

## Single Server Model with Entry Configuration

For single server models with entry configurations, HP OpenView Operations and OV Telecom Extensions for OV Operations are installed on a single machine running either HP-UX 11.X or Solaris 7. All components of an entry configuration must be running HP-UX or Solaris.

### Disk Space Requirements for Single Server, Entry Configuration

The following disk space sizes are suggested running either HP-UX 11.X or Solaris 7, prior to installation. Be aware that disk space requirements can increase depending on the size of your managed network.

**Table 1-1** **Disk Space Requirements for HP-UX 11.X Management Server**

| File System | Suggested Disk Space |
|---|---|
| /opt | 1.5 GB |
| /var | 1 GB (OS and application files) |
| /var/opt/ORACLE/oradata | Depends on your database sizing |
| /etc | 256 MB |
| /usr | 500 MB |

**Table 1-2** **Disk Space Requirements for Solaris 7 Management Server**

| File System | Suggested Disk Space |
|---|---|
| /opt | 1.5 GB |
| /var | 1 GB |
| /var/opt/ORACLE/oradata | Depends on your database sizing |
| /etc | 256 MB |
| /usr | 500 MB |

**Table 1-3** **Disk Space Requirements for Agents**

| File System | Suggested Disk Space |
|---|---|
| /var/opt/OV | 150 MB |

**NOTE** The placement of the Oracle database for OVO in `/var/opt/ORACLE/oradata` is suggested, not required.

### Kernel Settings for Single Server, Entry Configuration

The following kernel parameters are required by the systems running either HP-UX 11.X or Solaris 7, prior to installation.

**For HP-UX 11.X:** See the *HP OpenView VantagePoint Operations for UNIX Installation Guide*, in chapter *Installation Prerequisites for Management Server* for more details on the required kernel settings for the management server.

Table 1-4 provides suggested kernel parameter values. The suggested kernel parameter values should increase if Service Navigator is to be installed, your managed network has more than thirty five nodes, more than ten operator GUIs are to be open at once, and so on.

**NOTE** The values of some kernel parameters on your management system may be higher than the value shown in the following table. Do not decrease any kernel parameter value. Adding additional software on the management system may require increasing some of the values.

**Table 1-4 Kernel Settings for HP-UX 11.X (Entry Configuration)**

| Parameter | Description | Minimum Value |
|---|---|---|
| `default_disk_ir` | Enables asynchronous disk writes and disk write caching | 1 |
| `max_thread_proc` | Maximum number of threads allowed in each process | 1024 |
| `maxdsiz` | Maximum process data segment size in bytes | 0X10000000 (64 MB) |
| `maxfiles` | Maximum number of open files per process | 120 |

**Table 1-4** **Kernel Settings for HP-UX 11.X (Entry Configuration)**

| Parameter | Description | Minimum Value |
|---|---|---|
| `maxssiz` | Maximum process stack size in bytes | 0X10000000 (64 MB) |
| `maxuprc` | Maximum number of processes a user can have | 100 |
| `nfile` | Maximum number of open files | 3000 |
| `nflocks` | Maximum number of file locks | 200 |
| `nproc` | Maximum number of processes which may simultaneously exist | 700 |
| `nkthread` | Maximum number of kernel threads supported by the system | 6000 |
| `sema` | Enable sys V semaphores | 1 |
| `semmni` | Maximum number of semaphore sets in the system | 70 |
| `semmns` | Maximum number of semaphore | 200 |
| `shmem` | Enable sys V shared memory | 1 |
| `shmmax` | Maximum number of bytes in a shared memory segment | 0X40000000 (1 GB) |
| `shmmni` | Maximum number of shared memory segments | 100 |
| `shmseg` | Maximum number of shared memory segments that can be attached by a process | 12 |

**For Solaris 7:** See the *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide*, in the section *Management Server*

*Requirements*, for more details about configurable kernel parameters and values for the management server.

**Table 1-5 Kernel Settings for Solaris (Entry Configuration)**

| Parameter | Description | Suggested Value |
|---|---|---|
| `shminfo_shmmax` | Maximum shared memory segment size in bytes | 0X40000000 (1 GB) |
| `shminfo_shmseg` | Maximum number of shared memory segments per process | 20 |
| `shminfo_shmmni` | Number of shared memory identifiers to pre-allocate | 100 |
| `seminfo_semmni` | Number of semaphore identifiers | 100 |
| `seminfo_semaem` | Adjust on exit maximum value | 16384 |
| `seminfo_semmap` | Number of entries in semaphore map | 66 |
| `seminfo_semmns` | Number of semaphores in system | 200 |
| `seminfo_semmnu` | Number of undo structures in system | 30 |
| `seminfo_semume` | Maximum number of undo entries per process | 10 |
| `seminfo_semvmx` | Semaphore maximum value | 32767 |
| `seminfo_semmsl` | Maximum number of semaphores per ID | 50 |
| `rlim_fd_cur` | Maximum number of file descriptors per process | 120 |

## Single Server Model with Standard Configuration

For single server models with standard configurations, HP OpenView Operations, OV Telecom Extensions for OV Operations, and OV Topology Server are installed on a single machine running HP-UX 11.X.

### Disk Space Requirements for Single Server, Standard Configuration

The following disk space sizes are suggested, prior to installation. Be aware that disk space requirements can increase depending on the size of your managed network.

**Table 1-6 Disk Space Requirements for HP-UX 11.X Management Server**

| File System | Suggested Disk Space |
|---|---|
| /opt | 2 GB |
| /var | 1.5 GB (OS and application files) |
| /var/opt/ORACLE/oradata | Depends on your database sizing |
| /etc | 256 MB |
| /usr | 500 MB |

**Table 1-7 Disk Space Requirements for Solaris 7 Management Server**

| File System | Suggested Disk Space |
|---|---|
| /opt | 2 GB |
| /var | 1.5 GB |
| /var/opt/ORACLE/oradata | Depends on your database sizing |
| /etc | 256 MB |
| /usr | 500 MB |

**Table 1-8 Disk Space Requirements for Agents**

| File System | Suggested Disk Space |
|---|---|
| /var/opt/OV | 150 MB |

**NOTE** The placement of the Oracle database for OVO in `/var/opt/ORACLE/oradata` is suggested, not required.

### Kernel Settings for Single Server, Standard Configuration

The following kernel parameters are required by a single server, standard configuration system running HP-UX 11.X, prior to installation.

Table 1-12 provides suggested kernel parameter values. The suggested kernel parameter values largely depends on the scale of your managed network. So kernel values should be increased to meet the needs of your network configuration. See *HP OpenView Communications Service Assurance Installation Guide* for more details on kernel parameter settings.

**NOTE** The values of some kernel parameters on your management system may be higher than the value shown in the following table. Do not decrease any kernel parameter value. Adding additional software on the management system may require increasing some of the values.

**Table 1-9 Kernel Settings for HP-UX 11.X Single Server Standard Configuration**

| Kernel Parameter | Description | Suggested Value |
|---|---|---|
| `STRMSGSZ` | Maximum size of streams message data | 65535 |
| `default_disk_ir` | Enables asynchronous disk writes and disk write caching | 1 |
| `max_thread_proc` | Maximum number of thread processes | 320 |
| `maxdsiz` | Maximum process data segment size in bytes | 0X10000000 |
| `maxfiles` | Maximum number of open files per process | 2048 |

**Table 1-9 Kernel Settings for HP-UX 11.X Single Server Standard Configuration**

| Kernel Parameter | Description | Suggested Value |
|---|---|---|
| maxfiles_lim | Hard file limit per process | 2048 |
| maxssiz | Maximum process stack size in bytes | 0X4000000 |
| maxswapchunks | Maximum number of swap chunks; value based on swap space value (256 MB) | 1536 |
| maxtsiz | Maximum text segment size | 0X4000000 |
| maxuprc | Maximum number of user processes | 520 |
| maxusers | Value of MAXUSERS macro | 128 |
| nfile | Maximum number of open files | 7500 |
| nkthread | Maximum number of kernel threads supported by the system | 6000 |
| ninode | Maximum number of open inodes | 3000 |
| nproc | Max number of processes which may simultaneously exist | 3000 |
| nstrpty | Maximum number of streams-based PTYs | 60 |
| semmni | Maximum number of semaphore sets in the system | 1024 |
| semmns | Maximum number of semaphores | 1024 |
| semmnu | Maximum number of semaphore undo structures | 90 |
| semume | Maximum number of undo entries per process | 30 |

**Table 1-9 Kernel Settings for HP-UX 11.X Single Server Standard Configuration**

| Kernel Parameter | Description | Suggested Value |
|---|---|---|
| shmmax | Maximum number of bytes in a shared memory segment | 0X40000000 |
| shmmni | Maximum number of shared memory segments | 1024 |
| shmseg | Maximum number of shared memory segmetns that can be attached by a process | 400 |

## Dual Server Model with Standard Configuration

For dual server models with standard configurations, HP OpenView Operations and OV Telecom Extensions for OV Operations are installed on a machine running HP-UX 11.X. OV Topology Server is installed on another server machine running HP-UX 11.X.

To configure disk space and kernel parameter settings for the dual server model, do the following:

- Configure disk space on the OVO server system using Table 1-10 on page 27.
- Configure disk space settings on the topology server system using Table 1-11 on page 28.
- Configure kernel setting parameters for the OVO server system using Table 1-4 on page 20.
- Configure kernel setting parameters for the topology server system using Table 1-12 on page 29

### Disk Space Requirements for OVO System

The following disk space sizes are required by the OVO system running HP-UX 11.X, prior to installation.

**Table 1-10** **Disk Space Requirements for HP-UX 11.X for OVO**

| File System | Suggested Disk Space |
|---|---|
| `/opt` | 2 GB |
| `/var` | 1 GB |
| `/var/opt/ORACLE/oradata` | Depends on your database sizing |
| `/etc` | 256 MB |
| `/usr` | 500 MB |

**NOTE** The placement of the Oracle database for OVO in `/var/opt/ORACLE/oradata` is suggested, not required.

### Disk Space Requirements for OV Topology Server System

The following disk space sizes are required by the OV Topology Server system running HP-UX 11.X, prior to installation.

**Table 1-11** **Disk Space Requirements for HP-UX 11.X for OV Topology Server**

| File System | Suggested Disk Space |
|---|---|
| /opt | 1 GB |
| /var | 1 GB + additional space for the topology server databases |
| /etc | 256 MB |
| /usr | 500 MB |

**NOTE** A tool in /opt/OEMF/V5.0/FMS/unsupported/util called cal_ora_space can be used to help calculate the necessary disk space size for the FMS database. The FMS database is the largest of the four topology server databases (guidb, ovcorba, ovnls, and fmsdb).

### Kernel Settings for OV Topology Server System

The following kernel parameters are required by the OV Topology Server system running HP-UX 11.X, prior to installation.

Table 1-12 provides suggested kernel parameter values. The suggested kernel parameter values largely depends on the scale of your managed network. So kernel values should be increased to meet the needs of your network configuration. See *HP OpenView Communications Service Assurance Installation Guide* for more details on kernel parameter settings.

**NOTE** The values of some kernel parameters on your management system may be higher than the value shown in the following table. Do not decrease any kernel parameter value. Adding additional software on the management system may require increasing some of the values.

**Table 1-12 Kernel Settings for HP-UX 11.X or OV Topology Server**

| Kernel Parameter | Description | Suggested Value |
|---|---|---|
| STRMSGSZ | Maximum size of streams message data | 65535 |
| default_disk_ir | Enables asynchronous disk writes and disk write caching | 1 |
| max_thread_proc | Maximum number of thread processes | 320 |
| maxdsiz | Maximum process data segment size in bytes | 0X10000000 |
| maxfiles | Maximum number of open files per process | 2048 |
| maxfiles_lim | Hard file limit per process | 2048 |
| maxssiz | Maximum process stack size in bytes | 0X4000000 |
| maxswapchunks | Maximum number of swap chunks; value based on swap space value (256 MB) | 1536 |
| maxtsiz | Maximum text segment size | 0X4000000 |
| maxuprc | Maximum number of user processes | 520 |
| maxusers | Value of MAXUSERS macro | 128 |
| nfile | Maximum number of open files | 7500 |
| nkthread | Maximum number of kernel threads supported by the system | 6000 |
| ninode | Maximum number of open inodes | 3000 |
| nproc | Max number of processes which may simultaneously exist | 3000 |

**Table 1-12 Kernel Settings for HP-UX 11.X or OV Topology Server**

| Kernel Parameter | Description | Suggested Value |
|---|---|---|
| nstrpty | Maximum number of streams-based PTYs | 60 |
| semmni | Maximum number of semaphore sets in the system | 1024 |
| semmns | Maximum number of semaphores | 1024 |
| semmnu | Maximum number of semaphore undo structures | 90 |
| semume | Maximum number of undo entries per process | 30 |
| shmmax | Maximum number of bytes in a shared memory segment | 0X40000000 |
| shmmni | Maximum number of shared memory segments | 1024 |
| shmseg | Maximum number of shared memory segmetns that can be attached by a process | 400 |

## Modifying Disk Space Values

**For HP-UX 11.X:** The disk space sizes can be achieved by extending the volume size (assuming the disk space exists). Use SAM to configure the disk space sizes.

**For Solaris 7:** The disk space sizes can be achieved by extending the volume size (assuming the disk space exists).

## Modifying Kernel Parameters Values

**For HP-UX 11.X**: Use SAM to configure the kernel parameters. Alternatively, edit directly the `/stand/system` file to apply the required kernel parameter settings.

When editing directly, a tunable parameters file is provided for your convenience, and is located on the OV Telecom Extensions CD-ROM.

**NOTE** Make sure these settings don't supersede settings required by other applications on your system.

The commands to apply the tunable parameters file are as follows:

Log on as user `root`.

```
cd /stand
cp system system.ovsa
edit system.ovsa

    Replace the tuneable parameter section at the end
    of the system file with the contents of tuneable.ovsa.hp11 file.

    The tunable parameters section most likely starts with the definition
    STRMSGSZ. Remove all lines from this point to the end of the file.

   Copy contents of tuneable.ovsa.hp11 to the bottom of the system.ovsa file.

Save system.ovsa
mk_kernel -s system.ovsa -o vmunix.ovsa
kmupdate vmunix.ovsa
cd /
/etc/shutdown -r 0
```

**For Solaris 7:** Edit `/etc/system` directly to apply the required kernel parameter settings. A tunable kernel parameters file, `tuneable.ovsa.sun5`, is provided for your convenience, and is located on the OV Telecom Extensions CD-ROM.

To modify the kernel parameter values on a Solaris system:

- `cp /etc/system /etc/system.orig`
- Open `/etc/system`
- Copy the contents of the `tuneable.ovsa.sun5` file to `/etc/system`
- Edit `/etc/system` according to the requirements of your managed network.
- Reboot the system. Execute: `sync; sync; reboot`

**NOTE** After modifying kernel parameters on the management server, you must reboot your system in order to make the new kernel values active.

## Software Requirements

This section describes the components that comprise HP OpenView Service Assurance for Communication Networks. Many components are optional add-on products that are designed to work with HP OpenView Service Assurance for Communication Networks to help you form a complete network management solution.

Table 1-13 lists the major components that comprise HP OpenView Service Assurance for Communication Networks.

**Table 1-13** **Core Components**

| Component | Role | Version |
|---|---|---|
| HP OpenView Operations | Provides the software needed to manage an IDC domain and display messages in a GUI. | 6.0 |
| HP OpenView Network Node Manager | Provides the software needed to manage your IP network. | 6.2 |
| OV Telecom Extensions for OV Operations | Allows the collection of alarms from telecom devices. Integrates OVO and OV Topology Server | 6.0 |
| HP OpenView Communications / Service Assurance | Provides the software needed to process alarms from telecom devices and display in a GUI. | 1.02 |
| OV Topology Server | Provides integration code to the OVC/Assurance product. | 6.0 |
| HP OpenView Service Navigator | Allows services to be monitored by mapping messages to services. | 6.0 |

Table 1-14 lists the additional components needed to support HP OpenView Service Assurance for Communication Networks that are not provided by Hewlett-Packard.

**Table 1-14 Additional Components Not Provided with Product**

| Component | Role | Version |
|---|---|---|
| Oracle Database | Required. Provides the database structure needed to store and retrieve messages, etc. | 8.0.6.0 |
| Web Browser | Optional. Enables downloading of iNOC Console components, browsing in online documentation, and viewing of online help. | Netscape 6.0 or higher with Java enabled; Internet Explorer 5.0 or higher |
| Window Scripting Host | Required for standard configurations. Enables the launch of the topology GUI from the OVO operator GUI | 2.0 or higher |
| Metrica NPR | Optional.Provides additional performance management tools. | 3.0 |
| Agilent acceSS7 | Optional. Provides additional performance management tools. | B.06.00 |
| Remedy ARS Server | Optional. A version of Remedy is provided with OVO. | 4.0.2 |
| Remedy ARS Client for HP-UX | Optional.A version of Remedy is provided with OVO. | 4.0.1 |
| Remedy ARS for NT | Optional. A version of Remedy is provided with OVO. | 4.0.2 |
| ECS Designer | Optional. Enables new correlation circuits to be written. | A.01.10 |
| WRQ Reflection X | Optional. Enables viewing of Unix environment on NT. | 8 |

# Helpful Hints

The HP OpenView Service Assurance for Communication Networks installation is composed of various installation and configuration steps. Most steps are automated through scripts. Some steps require interactivity by the user with the OVO administrator GUI.

## Saving Transcripts of Install Scripts

When running the automated scripts, it is strongly recommended to capture the output to assist with troubleshooting. To capture the output of the automated scripts, run the command `script` followed by a file name. Afterwards, enter the command to complete the installation step. When the installation step is complete, exit the shell. The output from the installation step is captured in the file you specified. The commands to execute are as follows. This example uses the OV Topology Server installation script.

```
script /tmp/ovtoposrv.install.output
./ovtoposrv.install -b
exit
```

To monitor an installation step, view the `/var/adm/sw/swinstall.log`. To do this,

1. Start an installation script.
2. Open a new window.
3. Use the command: `tail -f /var/adm/sw/swinstall.log` to monitor the installation process.

## Common Install Tasks using the OVO GUI

The Chapter 5, “Quick Steps for OVO Tasks,” on page 95 provides detailed explanations of required steps for particular tasks, such as deploying agents, launching the GUIs, and enabling a message stream interface.

## Starting and Stopping OVSACN

The script `ovsa_admin` assists in the stopping and starting of all of the processes associated with HP OpenView Service Assurance for Communication Networks. The script is located in `/opt/OV/Telco/bin` on the OVO server and in `/opt/OEMF/V5.0/TopoSrv/bin` on the topology server. The output of `ovsa_admin` is written to a log file in `/tmp` called `ovsa_admin.log`.

To stop all associated processes of OV Telecom Extensions for OV Operations and OV Topology Server, run the following command:

```
ovsa_admin stop
```

To start all associated processes of OV Telecom Extensions for OV Operations and OV Topology Server, run the following command:

```
ovsa_admin start
```

To check the status all associated processes of OV Telecom Extensions for OV Operations and OV Topology Server, run the following command:

```
ovsa_admin status
```

The `ovsa_admin` commands stop, start, and check the status of the following components:

- OVO
- OVO agent
- Telecom agent
- Telecom adaptor
- Corba
- Topology server, including the FM server and the GUI server

## Content of Product CD-ROMs

There are four CD-ROMs associated with HP OpenView Service Assurance for Communication Networks:

- OV Telecom Extensions for OV Operations CD-ROM
- OV Topology Server CD-ROM
- User Documentation CD-ROM
- Patch CD-ROM

Table 1-15 lists the components installed with the associated product CD-ROMs.

**Table 1-15 CD-ROMs and Their Content**

| Product | CD-ROM Title | Content on CD-ROM |
|---|---|---|
| OV Telecom Extensions for OV Operations | OV Telecom Extensions CD | • Telecom agent system<br>• Telecom adaptor<br>• Telecom configurator (GUI)<br>• Topology server support libraries<br>• Topology GUI<br>• Install script<br>• Release Notes |
| | User Documentation CD | • OVSACN user documentation<br>• OVC/Assurance user documentation<br>• Install script |
| | Patch CD | • Patches for OVO 6.0, NNM 6.1, HP-UX 11.X and Solaris 7<br>• Install script<br>• Patch content text file |
| OV Topology Server | OV Topology Server CD | • Topology server enhancements<br>• Topology server (A.k.a., OVC/Assurance)<br>• Installation scripts<br>• Release Notes<br>• Patches for OV Topology Server (HP-UX) |

# 2 Installing Entry Configurations

# Installing Single Server, Entry Configuration

To install all of the HP OpenView Service Assurance for Communication Networks components for an entry configuration on a single machine, install each component in the order listed below.


- "Installing Oracle" on page 41
- "Installing and Configuring OVO Server" on page 43
- "Installing OV Telecom Extensions for OV Operations" on page 46
- "Setting Up OV Telecom Extensions for OV Operations" on page 47
- "Installing iNOC Console" on page 49
- "Installing GPRS Demo Content" on page 51 (optional)
- "Installing User Documentation" on page 52 (optional)


**IMPORTANT** See Chapter 1 for OS requirements, disk space requirements, and kernel settings.

# Installing Oracle

It is the responsibility of the customer to install and setup Oracle 8.0.6 for operation with HP OpenView Service Assurance for Communication Networks. For more detailed instructions than those provided in this section, see Oracle Installation and Configuration Guide provided with the Oracle database product.

**NOTE** Oracle 8™ is a product of Oracle Corporation and cannot be purchased directly from Hewlett-Packard.

## Before Installing Oracle

Before installing Oracle, do the following:

- Make sure your system meets the hardware and software requirements.
- Create a user `oracle` and user group `dba` in the system. Make the user `oracle` is a member of the group `dba`. Use `/home/oracle` as the home directory of the `oracle` user.
- Set umask to allow users to access the Oracle binaries: **`umask 022`**

## Installing Oracle

An Oracle database system must be installed and configured for each management server system. For single server installation models, only one Oracle database system is required.

### Oracle for the Management Server System

Oracle can be installed directly on the management server system or on a separate machine. You should follow the guidelines provided in *HP OpenView VantagePoint Operations for UNIX Installation Guide* or *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide* to install an Oracle database system for the OVO management server system.

Three environment variables are important to note, and are listed in

Table 2-1. While the values of these environment variables are not fixed, they are important to remember. These values must be entered during the installation of the OVO server.

**Table 2-1 Oracle Parameters and Suggested Values**

| Environment Variables | Suggested Value |
|---|---|
| ORACLE_BASE | /opt/app/oracle |
| ORACLE_HOME | /opt/app/oracle/product/8.0.6 |
| ORACLE_SID | openview |

# Installing and Configuring OVO Server

**NOTE** This step must be performed after Oracle database is installed.

To install HP OpenView Operations successfully, follow the instructions outlined in the *HP OpenView VantagePoint Operations for UNIX Installation Guide* or *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide*.

To aid in installing OVO, HP OpenView Service Assurance for Communication Networks has included the required prerequisite software and patches for OVO on the Patch CD-ROM.

To install and configure OVO:

- Install OVO prerequisite software on management server.

  This step is required only for HP-UX systems. OVO requires two software pieces to be installed prior to installing OVO: DCE-KT-Tools and SNMPAgent. The Patch CD-ROM contains these two software pieces.

  To install these prerequisites prior to installing OVO, execute:

  cd *<Patch CD Directory>*

  **./patch.install -b -preovo**

**NOTE** You can run this command interactively by executing:
**./patch.install -i -preovo**

- Install the OVO software on the management server.

  See *HP OpenView VantagePoint Operations for UNIX Installation Guide* or *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide* for instructions.

- Install required OVO patches on management server.

  HP OpenView Service Assurance for Communication Networks requires specific OVO and NNM patches to be installed to insure all

applications operate as documented. The Patch CD-ROM contains the necessary patches.

To install these patches after installing OVO, execute:

cd *<Patch CD Directory>*

**./patch.install -b -ovo -nnm**

**NOTE**

You can run this command interactively by executing:
**./patch.install -i -ovo -nnm**

- Install OVO prerequisite software on each agent system.

  This step is required only for HP-UX systems. OVO prerequisite software must be installed on each agent system when agent software is to be deployed on a separate box than the OVO server. In particular, `DCE-KT-Tools` must be installed on the agent system before an OVO agent can be deployed to that agent system.

  To install these prerequisites on an agent system, execute:

  cd *<Patch CD Directory>*

  **./patch.install -b -preovo**

**IMPORTANT**

To migrate to HP OpenView Network Node Manager 6.2, you must follow the steps outlined in *Migration Guide* before configuring OVO. After the OVO database is configured, migrating to NNM 6.2 requires first backing up your templates and database.

- Configure the OVO server.

**NOTE**

During the installation of the OVO software, you are prompted to enter the location of Oracle. You should refer to the information you entered during the Oracle installation process. See Table 2-1 on page 42 for the type of information needed.

Set the Oracle environment variables for user `root`.

```
export ORACLE_BASE=<location defined during Oracle installation>
export ORACLE_HOME=<location defined during Oracle installation>
export ORACLE_SID=<value entered during ORacle installation>
```

Then, as user `root`, execute: `/opt/OV/bin/OpC/install/opcconfig`

- Deploy the OVO agents.

  HP OpenView Operations must have the OVO agent deployed on the OVO management system, meaning the local node, before messages can be processed.

  To enable OVO to receive default messages, deploy the OVO agent. For an example on how to deploy an agent, see “Deploying an Agent” on page 96.

  OVO agents can also be deployed on remote managed nodes. To enable OVO to receive messages from agent systems, deploy the OVO agent on a remote managed node. For instructions on how to deploy an agent, see “Deploying an Agent” on page 96.

**NOTE** You must deploy the agents before installing and configuring other components.

# Installing OV Telecom Extensions for OV Operations

**NOTE** You must perform this step after the OVO server is installed and setup.

Install the OV Telecom Extensions for OV Operations components targeted for the OVO server using the `ovtelco.install` script located on the OV Telecom Extensions CD-ROM. The commands to execute are as follows:

```
cd <OV Telecom Extensions Directory>
./ovtelco.install -b -entry
```

**NOTE** You can also run `ovtelco.install` interactively. For more information, execute **`ovtelco.install -?`**

# Setting Up OV Telecom Extensions for OV Operations

**NOTE** You must perform this step after the OVO server is installed, configured, and an OVO agent is deployed.

**IMPORTANT** For a non-US-English locale, execute:

`ovsa_locale.setup <ll>_<tt>.<codeset>`

where, `ll` is the language, `tt` is the territory, and `codeset` is the encoding format. This command must be run on the OVO server prior to running `ovtelco.setup`. Run `locale -a` to view a list of acceptable arguments to this command. Note that this is the same as the `$LANG` format.

The process of setting up OV Telecom Extensions for OV Operations involves three steps:

- Setting up OV Telecom Extensions with an entry configuration.
- Deploying the subagent.
- Enabling the message stream interface.

## Setup Entry Configurations

The OV Telecom Extensions for OV Operations setup script loads templates, users, user profiles, and applications. The Telco user profiles are automatically assigned to the `opc_adm` user. The telecom operator, `telco_op`, is created. The templates are automatically assigned to the OVO server and deployed to the local node, i.e. OVO management server. As part of this setup, the OVO server is stopped and restarted.

To execute the OV Telecom Extensions for OV Operations configuration setup, run the following command.

**`/opt/OV/Telco/bin/ovtelco.setup -entry`**

**NOTE** **CRITICAL:** Logoff and login as user `root` to update the .profile for the OV Telecom Extensions for OV Operations environment.

## Deploy the Subagent

The data collectors are deployed to agent systems, meaning managed nodes, through the OVO subagent mechanism. Within OVO, deploy `Telco Sub-Agent` to the target managed nodes. For an example on how to deploy subagents, see “Deploying Telco Sub-Agent” on page 97.

If you need to redeploy the subagent due to errors, then you must stop the data collectors. From the OVO admin GUI, double-click `Stop` from the `Telco Subagent` application group to stop the subagent.

## Enable the Message Stream Interface (MSI)

For entry configurations, the Message Stream Interface (MSI) must be enabled in order for the telecom diverter to function as documented.

Within OVO, enable the message stream interface. For instructions on how to enable the MSI, see “Enable Message Stream Interface” on page 98.

# Installing iNOC Console

**NOTE** You must perform this step after the OV Telecom Extensions for OV Operations is installed and configured.

The iNOC Console consists of the following GUIs:

- OVO operator GUI
- OVO admin GUI
- Topology GUI
- NNM admin GUI

The OVO admin GUI and NNM admin GUI are installed when the OVO component is installed. These GUIs run on the platform of the OVO management server; either Solaris 7 or HP-UX 11.X.

The topology GUI and the OVO operator GUI need to be downloaded and installed from the OVO web server download pages. These GUIs can be run on Solaris 7, HP-UX 11.X, and Windows NT platforms.

**NOTE** For entry configurations, the topology GUI is not available.

## OVO Operator GUI Installation

Install the OVO operator GUI from the OVO web server. See instructions on installing the OVO operator GUI found at the following URL:

`http://<OVO_servername>:8880/Telco/index.html`

Select the link `OVO Operator GUI Installation` under iNOC Client Installation from this web page.

**NOTE** The OVO operator GUI is recommended to be installed on a PC.

**For HP-UX 11.X:**

- Download `jre_HP-UX11.tar` to the `/opt` directory.
- Unpackage the tar file with the `tar` command.
- Download and untar `ito_op_install.tar`.
- Launch the OVO operator GUI by executing **`/opt/OV/www/htdocs/ito_op/ito_op`**.

**For Solaris:**

- Download `jre_SunOS5.tar` to the `/opt` directory.
- Unpackage the tar file with the `tar` command.
- Download and untar `ito_op_install.tar`.
- Launch the OVO operator GUI by executing **`/opt/OV/www/htdocs/ito_op/ito_op`**.

**For Windows NT:**

- Download and execute `ITO_JAVA.exe`.
- Launch the OVO operator GUI from the **`Start`** menu.

# Installing GPRS Demo Content

The GPRSSample setup script provides a set of sample topology data and scripts that demonstrate how the integrated features add value for managing multiple domains.

Installed and configured demo data is needed to follow along with the *HP OpenView Service Assurance for Communication Networks Quick Start Guide*.

**NOTE** Functionality of the GPRS demo is limited for entry configurations since OV Topology Server is not installed.

Setting up the GPRS demo content is a two-step process:

- Load the demo data on the OVO server.
- Apply the demo data to the OVO agent.

## Load Demo Data on OVO Server

The GPRSSample setup script loads templates, commands, and applications for the OV Telecom Extensions for OV Operations as well as setting up the associated services and configuration.

To load the GPRS demo content on the OVO server, execute:

```
/opt/OV/Telco/contrib/GPRSDemo/GPRSSample.setup
```

## Apply Demo Data on OVO Agent

**NOTE** The GPRS demo must be applied to the OVO agent located on the OVO management server. The GPRS demo will not function properly when installed on a remote agent.

To apply the demo topology configuration to the OVO agent, execute:

```
/opt/OV/Telco/bin/ovagt.apply GPRS -n <node1 node2...>
```

## Installing User Documentation

This step needs to be performed on the OVO server after OV Telecom Extensions for OV Operations is installed.

When you install the set of user documentation on the OVO server, you can download and view all of the user documentation via the main web page. See "Software Requirements" on page 33 for acceptable web browser versions to view the online documentation.

Install the user documentation files using the `doc.install` script located on the User Documentation CD-ROM. The commands to execute are:

**`cd <User Documentation Directory>`**

**`./doc.install -b`**

**NOTE** `doc.install` can be run interactively. For more information, execute **`doc.install -?`**

Once the user documentation is installed, it can be viewed from the OVO web server at
`http://<OVO_hostname>:8880/Telco/user_doc/index.htm`

**NOTE** If you have viewed this page before installing the user documentation, you will need to refresh your web browser to view the installed user documentation.

**NOTE** The user documentation files are in PDF format. They can be browsed using Adobe Acrobat Reader. If you do not have Acrobat Reader, you can download a free version from Adobe's web site: `www.adobe.com`.

# 3 Installing Single Server, Standard Configurations

# Installing Single Server, Standard Configuration

To install all of the HP OpenView Service Assurance for Communication Networks components for a standard configuration on a single machine, install each component in the order listed below.


- "Installing Oracle" on page 55
- "Installing and Configuring OVO Server" on page 57
- "Installing OV Telecom Extensions for OV Operations" on page 60
- "Installing OV Topology Server" on page 61
- "Setting Up OV Topology Server" on page 62
- "Setting Up OV Telecom Extensions for OV Operations" on page 64
- "Installing iNOC Console" on page 66
- "Installing GPRS Demo Content" on page 70 (optional)
- "Installing User Documentation" on page 72 (optional)


**IMPORTANT** See Chapter 1 for OS requirements, disk space requirements, and kernel settings.

# Installing Oracle

It is the responsibility of the customer to install and setup Oracle 8.0.6 for operation with HP OpenView Service Assurance for Communication Networks. For more detailed instructions than those provided in this section, see Oracle Installation and Configuration Guide provided with the Oracle database product.

**NOTE** Oracle 8™ is a product of Oracle Corporation and cannot be purchased directly from Hewlett-Packard.

## Before Installing Oracle

Before installing Oracle, do the following:

- Make sure your system meets the hardware and software requirements.
- Create a user `oracle` and user group `dba` in the system. Make the user `oracle` is a member of the group `dba`. Use `/home/oracle` as the home directory of the `oracle` user.
- Set umask to allow users to access the Oracle binaries: **`umask 022`**

## Installing Oracle

An Oracle database system must be installed and configured for each management server system. For single server installation models, only one Oracle database system is required.

### Oracle for the Management Server System

Oracle can be installed directly on the management server system or on a separate machine. You should follow the guidelines provided in *HP OpenView VantagePoint Operations for UNIX Installation Guide* or *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide* to install an Oracle database system for the OVO management server system.

Three environment variables are important to note, and are listed in

Table 3-1. While the values of these environment variables are not fixed, they are important to remember. These values must be entered during the installation of the OVO server.

**Table 3-1 Oracle Parameters and Suggested Values**

| Environment Variables | Suggested Value |
|---|---|
| ORACLE_BASE | /opt/app/oracle |
| ORACLE_HOME | /opt/app/oracle/product/8.0.6 |
| ORACLE_SID | openview |

# Installing and Configuring OVO Server

**NOTE** This step must be performed after Oracle database is installed.

To install HP OpenView Operations successfully, follow the instructions outlined in the *HP OpenView VantagePoint Operations for UNIX Installation Guide* or *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide*.

To aid in installing OVO, HP OpenView Service Assurance for Communication Networks has included the required prerequisite software and patches for OVO on the Patch CD-ROM.

To install OVO:

- Install OVO prerequisite software on management server.

  OVO requires two software pieces to be installed prior to installing OVO: DCE-KT-Tools and SNMPAgent. The Patch CD-ROM contains these two software pieces.

  To install these prerequisites prior to installing OVO, execute:

  cd *<Patch CD Directory>*

  **./patch.install -b -preovo**

**NOTE** You can run this command interactively by executing:
**./patch.install -i -preovo**

- Install the OVO software on the management server.

  See *HP OpenView VantagePoint Operations for UNIX Installation Guide* or *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide* for instructions.

- Install required OVO patches on management server.

  HP OpenView Service Assurance for Communication Networks requires specific OVO and NNM patches to be installed to insure all applications operate as documented. The Patch CD-ROM contains the

necessary patches.

To install these patches after installing OVO, execute:

cd *<Patch CD Directory>*

**./patch.install -b -ovo -nnm**

**NOTE**

You can run this command interactively by executing:
**./patch.install -i -ovo -nnm**

- Install OVO prerequisite software on each agent system.

  OVO prerequisite software must be installed on each agent system when agent software is to be deployed on a separate box than the OVO server. In particular, DCE-KT-Tools must be installed on each agent system before an OVO agent can be deployed to that agent system.

  To install these prerequisites on an agent system, execute:

  cd *<Patch CD Directory>*

  **./patch.install -b -preovo**

**IMPORTANT**

To migrate to HP OpenView Network Node Manager 6.2, you must follow the steps outlined in *Migration Guide* before configuring OVO. After the OVO database is configured, migrating to NNM 6.2 requires first backing up your templates and database.

- Configure the OVO server.

**NOTE**

During the installation of the OVO software, you are prompted to enter the location of Oracle. You should refer to the information you entered during the Oracle installation process. See Table 3-1 on page 56 for the type of information needed.

Set the Oracle environment variables for user root.

```
export ORACLE_BASE=<location defined during Oracle installation>
```

```
export ORACLE_HOME=<location defined during Oracle installation>
export ORACLE_SID=<value entered during ORacle installation>
```

Then, as user `root`, execute: `/opt/OV/bin/OpC/install/opcconfig`

- Deploy the OVO agents.

  HP OpenView Operations must have the OVO agent deployed on the OVO management system, meaning the local node, before messages can be processed.

  To enable OVO to receive default messages, deploy the OVO agent. For an example on how to deploy an agent, see “Deploying an Agent” on page 96.

  OVO agents can also be deployed on remote managed nodes. To enable OVO to receive messages from agent systems, deploy the OVO agent on a remote managed node. For instructions on how to deploy an agent, see “Deploying an Agent” on page 96.

**NOTE** You must deploy the agents before installing and configuring other components.

# Installing OV Telecom Extensions for OV Operations

**NOTE** You must perform this step after the OVO server is installed and configured.

Install the OV Telecom Extensions for OV Operations components targeted for the OVO server using the `ovtelco.install` script located on the OV Telecom Extensions CD-ROM. The commands to execute are as follows:

```
cd <OV Telecom Extensions Directory>
./ovtelco.install -b -standard
```

**NOTE** You can also run `ovtelco.install` interactively. For more information, execute **`ovtelco.install -?`**

# Installing OV Topology Server

**NOTE** You must perform this step after the OV Telecom Extensions for OV Operations and Oracle are installed.

Install the OV Topology Server components using the `ovtoposrv.install` script located on OV Topology Server CD-ROM. The commands to execute are as follows:

**`cd <OV Topology Server Directory>`**

**`./ovtoposrv.install -b`**

**NOTE** You can also run `ovtoposrv.install` interactively. For more information, execute **`ovtoposrv.install -?`**

**NOTE** `ovtoposrv.install` can also be run with the command line argument **`-excludeSA`**, which skips the installation of the required OVC/Assurance software. This is useful when installing the OV Topology Server on top of an existing OVC/Assurance installation.

# Setting Up OV Topology Server

**NOTE** You must perform this step after the OV Topology Server is installed.

**IMPORTANT** For a non-US-English locale, execute:

`ovsa_locale.setup <ll>_<tt>.<codeset>`

where, `ll` is the language, `tt` is the territory, and `codeset` is the encoding format. This command must be run on the topology server prior to running `ovtoposrv.setup`. Run `locale -a` to view a list of acceptable arguments to this command. Note that this is the same as the `$LANG` format.

The OV Topology Server setup script sets up the OV Topology Server environment, depending upon whether it is co-located or not with OVO. This setup script sets up Corba, FM server, GUI server, and GUI database components. In addition, this script sets up the default topology operator and profile.

Each individual OV Topology Server component (that is, Corba, FM server, GUI server, and GUI database), uses default settings defined in its associated answer file. The answer files are located under `/etc/opt/OEMF/V5.0/TopoSrv/share/conf`. Review and modify the default settings prior to running the OV Topology Server setup script.

**NOTE** The Oracle location values are specified in the answer files. You should refer to the information you entered during the Oracle installation process and make the appropriate modifications to the answer files.

If errors occur during the setup of the individual OV Topology Server components, use the associated unsetup scripts to correct the error condition before re-running `ovtoposrv.setup`. See “Uninstalling the Topology Server Components” on page 102.

### Setup OV Topology Server

To execute the OV Topology Server setup, execute:

**`/opt/OEMF/V5.0/TopoSrv/bin/ovtoposrv.setup`**

**NOTE** `ovtoposrv.setup` can be run with the command line argument **`-excludeSA`**, which skips the setup of the required OVC/Assurance software. This is useful when setting up the OV Topology Server on top of an existing OVC/Assurance installation.

**NOTE** **CRITICAL:** Logoff and login as user `root` to update the `.profile` for the OV Topology Server environment.

### Set the Administrator Password

As user `root`, set the password of OV Topology Server administrator account, `oemfadm`. The commands to execute are as follows:

```
passwd oemfadm
  Changing password for oemfadm
  New password: <unique-password>
  Re-enter new password: <unique-password>
  Passwd successfully changed
```

### Set the Operator Password

As user `root`, set the password to the OV Topology Server operator account, `telco_op`. The commands to execute are as follows:

```
passwd telco_op
  Changing password for telco_op
  New password: <unique-password>
  Re-enter new password: <unique-password>
  Passwd successfully changed
```

# Setting Up OV Telecom Extensions for OV Operations

**NOTE** You must perform this step after the OVO server is installed, configured, and an OVO agent is deployed. The OV Topology Server must be installed, configured, and running.

The process of setting up OV Telecom Extensions for OV Operations involves three steps:

- Setting up OV Telecom Extensions with standard configuration.
- Deploying the subagent.
- Enabling the message stream interface.

## Setup Standard Configurations

The OV Telecom Extensions for OV Operations setup script loads templates, users, user profiles, and applications. The Telco user profiles are automatically assigned to the `opc_adm` user. The telecom operator, `telco_op`, is created. The templates are automatically assigned to the OVO server and deployed to the local node, i.e. OVO management server. As part of this setup, the OVO server is stopped and restarted.

To execute the OV Telecom Extensions for OV Operations configuration setup, run the following command.

```
/opt/OV/Telco/bin/ovtelco.setup -standard
```

**NOTE** **CRITICAL:** Logoff and login as user `root` to update the .profile for the OV Telecom Extensions for OV Operations environment.

## Deploy the Subagent

The data collectors are deployed to agent systems, meaning managed nodes, through the OVO subagent mechanism. Within OVO, deploy

`Telco Sub-Agent` to the target managed nodes. For an example on how to deploy subagents, see “Deploying Telco Sub-Agent” on page 97.

If you need to redeploy the subagent due to errors, then you must stop the data collectors. From the OVO admin GUI, double-click `Stop` from the `Telco Subagent` application group to stop the subagent.

## Enable the Message Stream Interface (MSI)

For standard configurations, the Message Stream Interface (MSI) must be enabled in order for messages to be forwarded to the topology server.

Within OVO, enable the message stream interface. For instructions on how to enable the MSI, see “Enable Message Stream Interface” on page 98.

# Installing iNOC Console

**NOTE** You must perform this step after the OV Telecom Extensions for OV Operations is installed and configured.

The iNOC Console consists of the following GUIs:

- OVO operator GUI
- OVO admin GUI
- Topology GUI
- NNM admin GUI

The OVO admin GUI and NNM admin GUI are installed when the OVO component is installed. These GUIs run on the platform of the OVO management server; either Solaris 7 or HP-UX 11.X.

The topology GUI and the OVO operator GUI need to be downloaded and installed from the OVO web server download pages. These GUIs can be run on Solaris 7, HP-UX 11.X, and Windows NT platforms.

**NOTE** The platform of the topology GUI must match the platform of the OVO operator GUI.

## OVO Operator GUI Installation

Install the OVO operator GUI from the OVO web server. See instructions on installing the OVO operator GUI found at the following URL:

`http://<OVO_servername>:8880/Telco/index.html`

Select the link `OVO Operator GUI Installation` under iNOC Client Installation from this web page.

**NOTE** The OVO operator GUI is recommended to be installed on a PC.

**For HP-UX 11.X:**

- Download `jre_HP-UX11.tar` to the `/opt` directory.
- Unpackage the tar file with the `tar` command.
- Download and untar `ito_op_install.tar`.
- Launch the OVO operator GUI by executing **`/opt/OV/www/htdocs/ito_op/ito_op`**.

**For Solaris:**

- Download `jre_SunOS5.tar` to the `/opt` directory.
- Unpackage the tar file with the `tar` command.
- Download and untar `ito_op_install.tar`.
- Launch the OVO operator GUI by executing **`/opt/OV/www/htdocs/ito_op/ito_op`**.

**For Windows NT:**

- Download and execute `ITO_JAVA.exe`.
- Launch the OVO operator GUI from the **`Start`** menu.

## Topology GUI Installation

Install the topology GUI from the OVO web server. Refer to the topology GUI installation and configuration documentation found at:

`http://<OVO_hostname>:8880/Telco/index.html`

Select the link `Topology GUI Installation` under iNOC Client Installation from this web page.

**NOTE** The platform for the topology GUI needs to be the same as the OVO operator GUI.

**For HP-UX 11.X:**

- Download `iNOC_pkg_HP11.tar.Z` to your `/tmp` directory.
- Unpackage the tar file with the `zcat` and `tar` commands.
- Execute: `./inoc.install -b -t <Topology Server Name>`
- For each non-US-English locale under which an operator starts the iNOC Console, execute: `/opt/OEMF/V5.0/GUIC/oemf/util/ovsa_inoc_locale <ll>_<tt>.<codeset>`, where `ll` is the language type, `tt` is the territory, and `codeset` is the encoding format. This command is not required for operators starting the iNOC Console under a US-English-based locale.
- Launch the topology GUI by clicking **`Actions: Start-> Telco iNOC-> Launch UX GUI`** from the OVO operator GUI.

**For Solaris:**

- Download the tar file `iNOC_pkg_Sun5.tar.Z` to your `/tmp` directory.
- Unpackage the tar file with the `zcat` and `tar` commands.
- Execute: `./inoc.install -b -t <Topology Server Host Name>`
- For each non-US-English locale under which an operator starts the iNOC Console, execute: `/opt/OEMF/V5.0/GUIC/oemf/util/ovsa_inoc_locale <ll>_<tt>.<codeset>`, where `ll` is the language type, `tt` is the

territory, and `codeset` is the encoding format. This command is not required for operators starting the iNOC Console under a US-English-based locale.

- Launch the topology GUI by clicking **`Actions: Start-> Telco iNOC-> Launch UX GUI`** from the OVO operator GUI.

**For Windows NT:**

- Download and execute `OVCA_guiCL_NT4.exe`.
- Reboot your PC to setup the necessary environment needed to successfully continue the iNOC installation.
- Download and execute `OVOPC_TelcoCli_NT4.exe` to install iNOC add-on software.
- For each non-US-English locale under which an operator starts the iNOC Console, execute: `%OVCAROOTDIR%\bin\ovsa_inoc_locale`. For each such regional setting, open the `Control Panel Regional Settings` dialog; select the appropriate setting; click **`Apply`**; and run `ovca_inoc_locale`. This command is not required for operators starting the iNOC Console under a US-English-based locale.
- Edit the `%OVCAROOTDIR%\config\hostfile.dat` file to include the host name of the topology server so that the topology GUI can be launched from the OVO operator GUI.
- Launch the topology GUI by clicking **`Actions: Start-> Telco iNOC-> Launch NT GUI`** from the OVO operator GUI.

**IMPORTANT**

To enable launching from the OVO operator GUI to the topology GUI on NT platforms, Window Scripting Host software must be installed. This requirement can be fulfilled by installing one of the following options on your PC machine:

- Windows NT 4.0 Option Pack
- Internet Information Services (IIS) 4.0
- Windows Scripting Host (WSH) (any version; downloadable from the MicroSoft web site)

# Installing GPRS Demo Content

The GPRSSample setup script provides a set of sample topology data and scripts that demonstrate how the integrated features add value for managing multiple domains.

Installed and configured demo data is needed to follow along with the *HP OpenView Service Assurance for Communication Networks Quick Start Guide*.

Setting up the GPRS demo content is a four step process:

- Load the demo data on the OVO server.
- Load the generated demo data on the topology server.
- Apply the demo data to the OVO server.
- Apply the demo data to the OVO agent.

## Load Demo Data on OVO Server

The GPRSSample setup script loads templates, commands, and applications for the OV Telecom Extensions for OV Operations as well as setting up the associated services and configuration.

To load the GPRS demo content on the OVO server, execute:

```
/opt/OV/Telco/contrib/GPRSDemo/GPRSSample.setup
```

## Load Demo Data on Topology Server

The GPRSSample setup script pulls the configuration, created by the GPRSSample setup from the OVO server, and creates the associated topology on the topology server.

To load the GPRS demo content on the topology server, execute:

```
/opt/OEMF/V5.0/TopoSrv/contrib/GPRSDemo/install_demo_topo.sh
```

## Apply Demo Data on OVO Server

The GPRS demo data needs to be applied to the OVO server.

To apply the demo data on the OVO server, execute:

```
/opt/OV/Telco/bin/ovoconf.apply GPRS
```

## Apply Demo Data on OVO Agent

**NOTE** The GPRS demo must be applied to the OVO agent located on the OVO management server. The GPRS demo will not function properly when installed on a remote agent.

To apply the demo topology configuration to the OVO agent, execute:

```
/opt/OV/Telco/bin/ovagt.apply GPRS -n <node1 node2...>
```

## Installing User Documentation

This step needs to be performed on the OVO server after OV Telecom Extensions for OV Operations is installed.

When you install the set of user documentation on the OVO server, you can download and view all of the user documentation via the main web page. See "Software Requirements" on page 33 for acceptable web browser versions to view the online documentation.

Install the user documentation files using the `doc.install` script located on the User Documentation CD-ROM. The commands to execute are:

**`cd <User Documentation Directory>`**

**`./doc.install -b`**

**NOTE** `doc.install` can be run interactively. For more information, execute **`doc.install -?`**

Once the user documentation is installed, it can be viewed from the OVO web server at
`http://<OVO_hostname>:8880/Telco/user_doc/index.htm`

**NOTE** If you have viewed this page before installing the user documentation, you will need to refresh your web browser to view the installed user documentation.

**NOTE** The user documentation files are in PDF format. They can be browsed using Adobe Acrobat Reader. If you do not have Acrobat Reader, you can download a free version from Adobe's web site: `www.adobe.com`.

# 4 Installing Dual Server, Standard Configurations

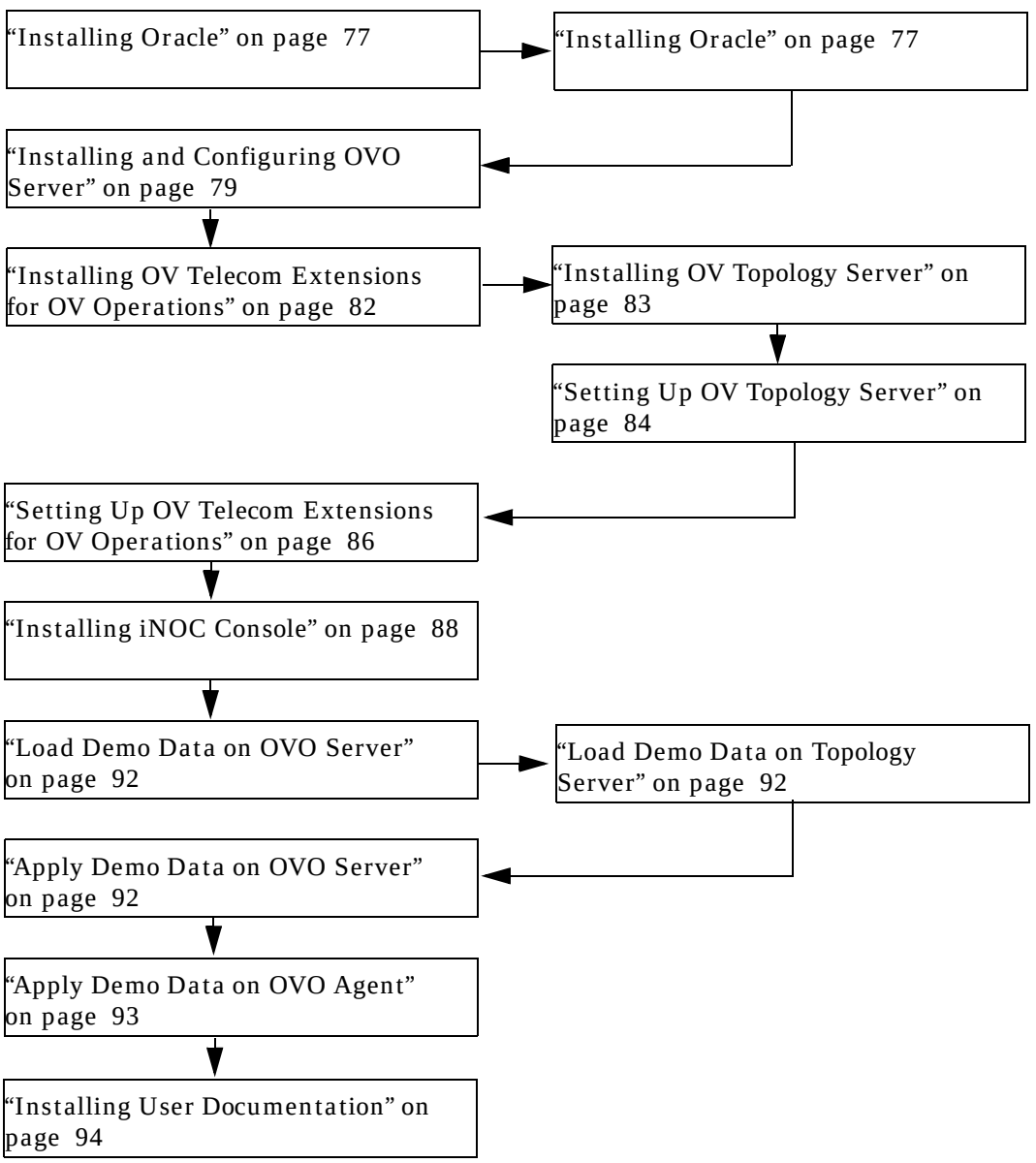
With the dual server model, HP OpenView Operations and OV Telecom Extensions for OV Operations are installed on one server while OV Topology Server is installed on another server.

# Installing Dual Server, Standard Configurations

To install the OVSACN components on two machines, you must complete the installation of a specific component on one machine before you begin the installation of the next component on the other machine. Each step in Figure 4-1 indicates on which machine you need to install each component.

**IMPORTANT** See Chapter 1 for OS requirements, disk space requirements, and kernel settings.

**Figure 4-1 Installing Standard Configuration on Dual Servers**



# Installing Oracle

It is the responsibility of the customer to install and setup Oracle 8.0.6 for operation with HP OpenView Service Assurance for Communication Networks. For more detailed instructions than those provided in this section, see Oracle Installation and Configuration Guide provided with the Oracle database product.

**NOTE** Oracle 8™ is a product of Oracle Corporation and cannot be purchased directly from Hewlett-Packard.

## Before Installing Oracle

Before installing Oracle, do the following:

- Make sure your system meets the hardware and software requirements.
- Create a user `oracle` and user group `dba` in the system. Make the user `oracle` is a member of the group `dba`. Use `/home/oracle` as the home directory of the `oracle` user.
- Set umask to allow users to access the Oracle binaries: **`umask 022`**

## Installing Oracle

An Oracle database system must be installed and configured for each management server system. For dual server installation models, two Oracle database systems are required: one for the OVO management system and one for the OV Topology Server system.

### Oracle for the OVO Management Server System

Oracle can be installed directly on the OVO management server system or on a separate machine. You should follow the guidelines provided in *HP OpenView VantagePoint Operations for UNIX Installation Guide* or *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide* to install an Oracle database system for the OVO management server system.

Three environment variables are important to note, and are listed in Table 4-1. While the values of these environment variables are not fixed, they are important to remember. These values must be entered during the installation of the OVO server.

**Table 4-1 Oracle Parameters and Suggested Values**

| Environment Variables | Suggested Value |
|---|---|
| ORACLE_BASE | /opt/app/oracle |
| ORACLE_HOME | /opt/app/oracle/product/8.0.6 |
| ORACLE_SID | openview |

### Oracle for the OV Topology Server System

Oracle can be installed directly on the OV Topology Server system or on a separate machine. You should follow the guidelines provided in *HP OpenView Communications Service Assurance Installation Guide* to install an Oracle database system for theOV Topology Server system.

Two environment variables are important to note, and are listed in Table 4-2. While the values of these environment variables are not fixed, they are important to remember. These values must be entered during the installation of OV Topology Server.

**Table 4-2 Oracle Parameters and Suggested Values**

| Environment Variable | Suggested Value |
|---|---|
| ORACLE_BASE | /opt/app/oracle |
| ORACLE_HOME | /opt/app/oracle/product/8.0.6 |

# Installing and Configuring OVO Server

**NOTE** This step must be performed after Oracle database is installed.

To install HP OpenView Operations successfully, follow the instructions outlined in the *HP OpenView VantagePoint Operations for UNIX Installation Guide* or *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide*.

To aid in installing OVO, HP OpenView Service Assurance for Communication Networks has included the required prerequisite software and patches for OVO on the Patch CD-ROM.

To install OVO:

- Install OVO prerequisite software on management server.

  OVO requires two software pieces to be installed prior to installing OVO: DCE-KT-Tools and SNMPAgent. The Patch CD-ROM contains these two software pieces.

  To install these prerequisites prior to installing OVO, execute:

  cd *<Patch CD Directory>*

  **./patch.install -b -preovo**

**NOTE** You can run this command interactively by executing:
**./patch.install -i -preovo**

- Install the OVO software on the management server.

  See *HP OpenView VantagePoint Operations for UNIX Installation Guide* or *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide* for instructions.

- Install required OVO patches on management server.

  HP OpenView Service Assurance for Communication Networks requires specific OVO and NNM patches to be installed to insure all applications operate as documented. The Patch CD-ROM contains the

necessary patches.

To install these patches after installing OVO, execute:

cd *<Patch CD Directory>*

**./patch.install -b -ovo -nnm**

**NOTE**

You can run this command interactively by executing:
**./patch.install -i -ovo -nnm**

- Install OVO prerequisite software on each agent system.

  OVO prerequisite software must be installed on each agent system when agent software is to be deployed on a separate box than the OVO server. In particular, DCE-KT-Tools must be installed on the agent system before an OVO agent can be deployed to that agent system.

  To install these prerequisites prior on an agent system, execute:

  cd *<Patch CD Directory>*

  **./patch.install -b -preovo**

**IMPORTANT**

To migrate to HP OpenView Network Node Manager 6.2, you must follow the steps outlined in *Migration Guide* before configuring OVO. After the OVO database is configured, migrating to NNM 6.2 requires first backing up your templates and database.

- Configure the OVO server.

**NOTE**

During the installation of the OVO software, you are prompted to enter the location of Oracle. You should refer to the information you entered during the Oracle installation process. See Table 4-1 on page 78 for the type of information needed.

Set the Oracle environment variables for user root.

```
export ORACLE_BASE=<location defined during Oracle installation>
```

```
export ORACLE_HOME=<location defined during Oracle installation>
export ORACLE_SID=<value entered during ORacle installation>
```

Then, as user `root`, execute: `/opt/OV/bin/OpC/install/opcconfig`

- Deploy the OVO agents.

  HP OpenView Operations must have the OVO agent deployed on the OVO management system, meaning the local node, before messages can be processed.

  To enable OVO to receive default messages, deploy the OVO agent. For an example on how to deploy an agent, see “Deploying an Agent” on page 96.

  OVO agents can also be deployed on remote managed nodes. To enable OVO to receive messages from agent systems, deploy the OVO agent on a remote managed node. For instructions on how to deploy an agent, see “Deploying an Agent” on page 96.

**NOTE** You must deploy the agents before installing and configuring other components.

# Installing OV Telecom Extensions for OV Operations

**NOTE** You must perform this step after the OVO server is installed and setup.

Install the OV Telecom Extensions for OV Operations components targeted for the OVO server using the `ovtelco.install` script located on the OV Telecom Extensions CD-ROM. The commands to execute are as follows:

```
cd <OV Telecom Extensions Directory>
./ovtelco.install -b -standard
```

**NOTE** You can also run `ovtelco.install` interactively. For more information, execute **`ovtelco.install -?`**

# Installing OV Topology Server

**NOTE** You must perform this step after the OV Telecom Extensions for OV Operations and Oracle are installed.

Install the OV Topology Server components using the `ovtoposrv.install` script located on OV Topology Server CD-ROM. The commands to execute are as follows:

**`cd <OV Topology Server Directory>`**

**`./ovtoposrv.install -b`**

**NOTE** You can also run `ovtoposrv.install` interactively. For more information, execute **`ovtoposrv.install -?`**

**NOTE** `ovtoposrv.install` can also be run with the command line argument **`-excludeSA`**, which skips the installation of the required OVC/Assurance software. This is useful when installing the OV Topology Server on top of an existing OVC/Assurance installation.

# Setting Up OV Topology Server

**NOTE** You must perform this step after the OV Topology Server is installed.

**IMPORTANT** For a non-US-English locale, execute:

`ovsa_locale.setup <ll>_<tt>.<codeset>`

where, `ll` is the language, `tt` is the territory, and `codeset` is the encoding format. This command must be run on the topology server prior to running `ovtoposrv.setup`. Run `locale -a` to view a list of acceptable arguments to this command. Note that this is the same as the `$LANG` format.

The OV Topology Server setup script sets up the OV Topology Server environment, depending upon whether it is co-located or not with OVO. This setup script sets up Corba, FM server, GUI server, and GUI database components. In addition, this script sets up the default topology operator and profile.

Each individual OV Topology Server component (that is, Corba, FM server, GUI server, and GUI database), uses default settings defined in its associated answer file. The answer files are located under `/etc/opt/OEMF/V5.0/TopoSrv/share/conf`. Review and modify the default settings prior to running the OV Topology Server setup script.

**NOTE** The Oracle location values are specified in the answer files. You should refer to the information you entered during the Oracle installation process and make the appropriate modifications to the answer files.

If errors occur during the setup of the individual OV Topology Server components, use the associated unsetup scripts to correct the error condition before re-running `ovtoposrv.setup`. See “Uninstalling the Topology Server Components” on page 102.

### Setup OV Topology Server

To execute the OV Topology Server setup, run the following command. If installing on dual servers, then you are prompted for the OVO server host name.

```
/opt/OEMF/V5.0/TopoSrv/bin/ovtoposrv.setup
```

**NOTE** `ovtoposrv.setup` can be run with the command line argument **`-excludeSA`**, which skips the setup of the required OVC/Assurance software. This is useful when setting up the OV Topology Server on top of an existing OVC/Assurance installation.

**NOTE** **CRITICAL:** Logoff and login as user `root` to update the `.profile` for the OV Topology Server environment.

### Set the Administrator Password

As user `root`, set the password of the OV Topology Server administrator account, `oemfadm`. The commands to execute are as follows:

```
passwd oemfadm
  Changing password for oemfadm
  New password: <unique-password>
  Re-enter new password: <unique-password>
  Passwd successfully changed
```

### Set the Operator Password

As user `root`, set the password of the OV Topology Server operator account, `telco_op`. The commands to execute are as follows:

```
passwd telco_op
  Changing password for telco_op
  New password: <unique-password>
  Re-enter new password: <unique-password>
  Passwd successfully changed
```

# Setting Up OV Telecom Extensions for OV Operations

**NOTE** You must perform this step after the OVO server is installed, configured, and an OVO agent is deployed. The OV Topology Server must be installed, configured, and running.

The process of setting up OV Telecom Extensions for OV Operations involves three steps:

- Setting up OV Telecom Extensions with either entry or standard configuration.
- Deploying the subagent.
- Enabling the message stream interface.

## Setup Standard Configurations

The OV Telecom Extensions for OV Operations setup script loads templates, users, user profiles, and applications. The Telco user profiles are automatically assigned to the `opc_adm` user. The telecom operator, `telco_op`, is created. The templates are automatically assigned to the OVO server and deployed to the local node, i.e. OVO management server. As part of this setup, the OVO server is stopped and restarted.

To execute the OV Telecom Extensions for OV Operations configuration setup, run the following command. When installing on dual servers, you are prompted for the OV Topology Server host name.

```
/opt/OV/Telco/bin/ovtelco.setup -standard
```

**NOTE** **CRITICAL:** Logoff and login as user `root` to update the .profile for the OV Telecom Extensions for OV Operations environment.

## Deploy the Subagent

The data collectors are deployed to agent systems, meaning managed nodes, through the OVO subagent mechanism. Within OVO, deploy `Telco Sub-Agent` to the target managed nodes. For an example on how to deploy subagents, see “Deploying Telco Sub-Agent” on page 97.

If you need to redeploy the subagent due to errors, then you must stop the data collectors. From the OVO admin GUI, double-click `Stop` from the `Telco Subagent` application group to stop the subagent.

## Enable the Message Stream Interface (MSI)

For standard configurations, the Message Stream Interface (MSI) must be enabled in order for messages to be forwarded to the topology server.

Within OVO, enable the message stream interface. For instructions on how to enable the MSI, see “Enable Message Stream Interface” on page 98.

# Installing iNOC Console

**NOTE** You must perform this step after the OV Telecom Extensions for OV Operations is installed and configured.

The iNOC Console consists of the following GUIs:

- OVO operator GUI
- OVO admin GUI
- Topology GUI
- NNM admin GUI

The OVO admin GUI and NNM admin GUI are installed when the OVO component is installed. These GUIs run on the platform of the OVO management server; either Solaris 7 or HP-UX 11.X.

The topology GUI and the OVO operator GUI need to be downloaded and installed from the OVO web server download pages. These GUIs can be run on Solaris 7, HP-UX 11.X, and Windows NT platforms.

**NOTE** The platform of the topology GUI must match the platform of the OVO operator GUI.

## OVO Operator GUI Installation

Install the OVO operator GUI from the OVO web server. See instructions on installing the OVO operator GUI found at the following URL:

`http://<OVO_servername>:8880/Telco/index.html`

Select the link `OVO Operator GUI Installation` under iNOC Client Installation from this web page.

**NOTE** The OVO operator GUI is recommended to be installed on a PC.

**For HP-UX 11.X:**

- Download `jre_HP-UX11.tar` to the `/opt` directory.
- Unpackage the tar file with the `tar` command.
- Download and untar `ito_op_install.tar`.
- Launch the OVO operator GUI by executing **`/opt/OV/www/htdocs/ito_op/ito_op`**.

**For Solaris:**

- Download `jre_SunOS5.tar` to the `/opt` directory.
- Unpackage the tar file with the `tar` command.
- Download and untar `ito_op_install.tar`.
- Launch the OVO operator GUI by executing **`/opt/OV/www/htdocs/ito_op/ito_op`**.

**For Windows NT:**

- Download and execute `ITO_JAVA.exe`.
- Launch the OVO operator GUI from the **`Start`** menu.

## Topology GUI Installation

Install the topology GUI from the OVO web server. Refer to the topology GUI installation and configuration documentation found at:

`http://<OVO_hostname>:8880/Telco/index.html`

Select the link `Topology GUI Installation` under iNOC Client Installation from this web page.

**NOTE** The platform for the topology GUI needs to be the same as the OVO operator GUI.

**For HP-UX 11.X:**

- Download `iNOC_pkg_HP11.tar.Z` to your `/tmp` directory.
- Unpackage the tar file with the `zcat` and `tar` commands.
- Execute: `./inoc.install -b -t <Topology Server Name>`
- For each non-US-English locale under which an operator starts the iNOC Console, execute: `/opt/OEMF/V5.0/GUIC/oemf/util/ovsa_inoc_locale <ll>_<tt>.<codeset>`, where `ll` is the language type, `tt` is the territory, and `codeset` is the encoding format. This command is not required for operators starting the iNOC Console under a US-English-based locale.
- Launch the topology GUI by clicking **`Actions: Start-> Telco iNOC-> Launch UX GUI`** from the OVO operator GUI.

**For Solaris:**

- Download the tar file `iNOC_pkg_Sun5.tar.Z` to your `/tmp` directory.
- Unpackage the tar file with the `zcat` and `tar` commands.
- Execute: `./inoc.install -b -t <Topology Server Host Name>`
- For each non-US-English locale under which an operator starts the iNOC Console, execute: `/opt/OEMF/V5.0/GUIC/oemf/util/ovsa_inoc_locale <ll>_<tt>.<codeset>`, where `ll` is the language type, `tt` is the

territory, and `codeset` is the encoding format. This command is not required for operators starting the iNOC Console under a US-English-based locale.

- Launch the topology GUI by clicking **`Actions: Start-> Telco iNOC-> Launch UX GUI`** from the OVO operator GUI.

**For Windows NT:**

- Download and execute `OVCA_guiCL_NT4.exe`.
- Reboot your PC to setup the necessary environment needed to successfully continue the iNOC installation.
- Download and execute `OVOPC_TelcoCli_NT4.exe` to install iNOC add-on software.
- For each non-US-English locale under which an operator starts the iNOC Console, execute: `%OVCAROOTDIR%\bin\ovsa_inoc_locale`. For each such regional setting, open the `Control Panel Regional Settings` dialog; select the appropriate setting; click **`Apply`**; and run `ovca_inoc_locale`. This command is not required for operators starting the iNOC Console under a US-English-based locale.
- Edit the `%OVCAROOTDIR%\config\hostfile.dat` file to include the host name of the topology server so that the topology GUI can be launched from the OVO operator GUI.
- Launch the topology GUI by clicking **`Actions: Start-> Telco iNOC-> Launch NT GUI`** from the OVO operator GUI.

**IMPORTANT**

To enable launching from the OVO operator GUI to the topology GUI on NT platforms, Window Scripting Host software must be installed. This requirement can be fulfilled by installing one of the following options on your PC machine:

- Windows NT 4.0 Option Pack
- Internet Information Services (IIS) 4.0
- Windows Scripting Host (WSH) (any version; downloadable from the MicroSoft web site)

# Installing GPRS Demo Content

The GPRSSample setup script provides a set of sample topology data and scripts that demonstrate how the integrated features add value for managing multiple domains.

Installed and configured demo data is needed to follow along with the *HP OpenView Service Assurance for Communication Networks Quick Start Guide*.

Setting up the GPRS demo content is a four step process:

- Load the demo data on the OVO server.
- Load the generated demo data on the topology server.
- Apply the demo data to the OVO server.
- Apply the demo data to the OVO agent.

## Load Demo Data on OVO Server

The GPRSSample setup script loads templates, commands, and applications for the OV Telecom Extensions for OV Operations as well as setting up the associated services and configuration.

To load the GPRS demo content on the OVO server, execute:

```
/opt/OV/Telco/contrib/GPRSDemo/GPRSSample.setup
```

## Load Demo Data on Topology Server

The GPRSSample setup script pulls the configuration, created by the GPRSSample setup from the OVO server, and creates the associated topology on the topology server.

To load the GPRS demo content on the topology server, execute:

```
/opt/OEMF/V5.0/TopoSrv/contrib/GPRSDemo/install_demo_topo.sh
```

## Apply Demo Data on OVO Server

The GPRS demo data needs to be applied to the OVO server.

To apply the demo data on the OVO server, execute:

```
/opt/OV/Telco/bin/ovoconf.apply GPRS
```

## Apply Demo Data on OVO Agent

**NOTE** The GPRS demo must be applied to the OVO agent located on the OVO management server. The GPRS demo will not function properly when installed on a remote agent.

To apply the demo topology configuration to the OVO agent, execute:

```
/opt/OV/Telco/bin/ovagt.apply GPRS -n <node1 node2..>
```

## Installing User Documentation

This step needs to be performed on the OVO server after OV Telecom Extensions for OV Operations is installed.

When you install the set of user documentation on the OVO server, you can download and view all of the user documentation via the main web page. See "Software Requirements" on page 33 for acceptable web browser versions to view the online documentation.

Install the user documentation files using the `doc.install` script located on the User Documentation CD-ROM. The commands to execute are:

**`cd <User Documentation Directory>`**

**`./doc.install -b`**

**NOTE** `doc.install` can be run interactively. For more information, execute **`doc.install -?`**

Once the user documentation is installed, it can be viewed from the OVO web server at
`http://<OVO_hostname>:8880/Telco/user_doc/index.htm`

**NOTE** If you have viewed this page before installing the user documentation, you will need to refresh your web browser to view the installed user documentation.

**NOTE** The user documentation files are in PDF format. They can be browsed using Adobe Acrobat Reader. If you do not have Acrobat Reader, you can download a free version from Adobe's web site: `www.adobe.com`.

# 5 Quick Steps for OVO Tasks

This chapter provides procedures to common OVO tasks needed during the installation process.

# Deploying an Agent

1. Start HP OpenView Operations.
2. Go to the `ITO Node Bank` window.
3. Select the managed node you wish to deploy the agent onto.
4. Via the menu, click `Actions:Agents ->Install/Update SW & Config...`. This opens the `Install/Update ITO Software and Configuration` dialog box.
5. Make sure that the correct managed nodes are listed in the `Target Nodes` window.
6. Check `Agent Software`, `Templates`, `Actions`, `Monitors`, and `Commands`. (You may also check `Force Update` to force an update).
7. Click `[OK]` to cause the templates to be deployed onto the managed node. Afterwards, you should see a message in the message browser indicating that the agent system has been updated.

## Deploying Telco Sub-Agent

1. Start HP OpenView Operations.
2. Go to the `ITO Node Bank` window.
3. Select the managed node you wish to deploy the subagents onto.
4. Click `Actions:Subagents ->Install/Update SW & Config...` to open the `Install/Update Subagents` dialog box.
5. Make sure the targeted managed node is correct in the dialog box, then select `Telco Sub-Agent`.
6. If you are sure you wish to proceed, click `[OK]`. A dialog box displays informing you what is about to occur. You can select to continue or discontinue.
7. Select `yes` to install the subagent software on the agent system.

# Enable Message Stream Interface

1. Start HP OpenView Operations.
2. Go to the `ITO Node Bank` window.
3. Select the managed node on which to enable the MSI.
4. Right-click on the managed node to display its menu.
5. Click `Modify...` to open the `Modify Node` dialog box.
6. Click `Advanced Options...` to open the `Node Advanced Options` dialog box.
7. Under the `Message Stream Interface` option area, check `Enable Output`.
8. Click `Close`.
9. Click `[OK]` to enable the MSI. Shortly after this point you should see a message in the message browser indicating that the agent system has been updated.

# 6 Troubleshooting

This section provides techniques to troubleshoot the different HP OpenView Service Assurance for Communication Networks components.

# Useful Log Files

Table 6-1 provides the location and description of the some of the log files associated with HP OpenView Service Assurance for Communication Networks.

**Table 6-1 Useful Log Files**

| Log File | Description |
|---|---|
| `/var/adm/syslog/syslog.log` | System log file. |
| `/var/opt/OV/log/Telco/ovtopoinjector.log` | Injector log file. |
| `/var/opt/OV/log/Telco/ovtopodivertor.log` | Diverter log file. |
| `/var/opt/OV/log/Telco/ovsadc.log` | Data collector log file. |
| `/var/opt/OV/log/OpC/opcmsglg` | OpC message log. |
| `/var/opt/OV/log/Telco.ovtopoadaptor.log` | Telecom adaptor log file. |
| `/var/opt/OV/log/Telco/ovtopoadaptor.trc` | Telecom adaptor trace file. |
| `/var/opt/OV/log/Telco/ovtopoadaptor.pid` | Process ID of the running telecom adaptor. |
| `/var/opt/OV/share/log/Telco/svc2map.log` | Service to element map navigation log file. |
| `/var/opt/OV/share/log/Telco/opc2sa.log` | Message to problem navigation log file. |
| `/var/opt/OV/share/log/Telco/sysName/OpC2SAIntegApp/` | Contains additional message to problem navigation log files. |

## OVO Server Installation and Configuration

If you receive an error while attempting to configure the OVO server that says `HP OpenView Platform could not start correctly`, then stop OVO (`/opt/OV/bin/ovstop`) and rerun the OVO configuration script. Also, echo the Oracle environment variables (`ORACLE_SID`, `ORACLE_HOME`, and `ORACLE_BASE`) and verify that they are entered as required.

# OV Topology Server Configuration

Log files are located at `/opt/OEMF/V5.0/TopoSrv/share/log`.

## Validating Topology Server Setup

Use `corba.validate` to ensure that the Topology Server Corba component is running.

Use `fms.validate` to ensure that the Topology Server FM server component is running.

Use `guidb.validate` to ensure that the Topology Server GUIDB component is running.

Use `guis.validate` to ensure that the Topology Server GUI server component is running.

## Uninstalling the Topology Server Components

When experiencing a problem after the topology server is installed and set up, use the following unsetup scripts in the order listed to uninstall the topology server components.

**NOTE** The following scripts can also be run individually after its respective setup script has been run. For example, if an error occurs after you run `fms.setup`, then run `fms.unsetup` to remove the FM server component.

- `corba.unsetup` to remove the OV Topology Server Corba component.
- `fms.unsetup` to remove the OV Topology Server FM server component.
- `guidb.unsetup` to remove the OV Topology Server GUI database component.
- `guis.unsetup` to remove the OV Topology Server GUI server component.
- `operator.unsetup` to remove the OV Topology Server default

operator.

# OV Telecom Extensions Configuration

## OV Telecom Extensions Setup

Consult the OV Telecom Extensions setup log file for any errors. The log file is located in `/var/opt/OV/log/Telco/ovtelco.setup.log`.

## Subagent Setup

- Consult the data collector log file for any errors. The log file is located in `/var/opt/OV/log/Telco/ovsadc.log`
- Consult the telecom adaptor log file for any errors. The log file is located in `/var/opt/OV/share/log/Telco/ovtopoadaptor.log`.
- Consult the telecom injector log file for any errors. The log file is located in `/var/opt/OV/log/Telco/ovtopoinjector.log`
- Consult the telecom diverter log file for any errors. The log file is located in `/var/opt/OV/log/Telco/ovtopodiverter.log`

## iNOC Installation and Configuration

Table 6-2 provides the location of additional log files for the iNOC Console.

**Table 6-2 iNOC Log File Directories**

| Platform | Log File Directory |
|---|---|
| HP-UX GUI client | `$GUICVAR/share/log/<machine_name>` |
| Windows NT GUI client | `%OVCAROOTDIR\bin\log\<machine_name>` |
| Topology Server | `$GUISVAR/share/log/<machine_name>` |
| OVO Management Server | `/var/opt/OV/log/Telco/<machine_name>` |

**Problem:** Unable to launch the topology GUI from the OVO operator GUI.

**Resolution:** The topology GUI launch and navigation applications are supported only from the OVO operator GUI and not the OVO admin GUI.

Make sure the hostfile.dat file identifies the hostname of the topology server system. For NT: the file is located in `%OVCAROOTDIR\config`. For UX: the file is located in `$GUICDIR/oemf/config`.

Make sure the iNOC user is assigned the Telco_Op profile or the `Telco iNOC` application group on the OVO system. Alternatively, ensure that the iNOC user has an OVO profile assigned which contains the Telco_Op profile.

Make sure that OVO and OV Topology Server users are assigned the same user name.

Make sure that the topology GUI user is assigned at least one topology profile.

Make sure no other user is attempting to log on with the same user name.

**Problem:** User does not have access to the menu commands to launch the topology GUI and navigation applications.

**Resolution:** Make sure that the iNOC user is assigned the Telco_Op profile or the Telco iNOC application group.

**Problem:** The topology GUI returns an error saying "`Error during startup of local application`."

**Resolution:** Make sure that the iNOC user is selecting the correct launch application. For iNOC users on an NT system, click `Launch NT GUI`. For iNOC users on a UX system, click `Launch UX GUI`.

**Problem:** The topology GUI returns "`Centralized login requires hostname`."

**Resolution:** Enter the correct topology GUI hostname in the hostfile.dat file. For dual server installation models, the hostname is the name of the topology server system. For NT: the file is located in `%OVCAROOTDIR\config`. For UX: the file is located in `$GUICDIR/oemf/config`.

**Problem:** The topology GUI returns "`Error: hostfile.dat is empty. Must contain hostname of topology server`."

**Resolution:** Enter the correct topology GUI hostname in the hostfile.dat file. For dual server installation models, the hostname is the name of the topology server system. For NT: the file is located in `%OVCAROOTDIR\config`. For UX: the file is located in `$GUICDIR/oemf/config`.

**Problem:** The topology GUI returns "`Failed to find specified user.`"

**Resolution:** Make sure the iNOC user name is the same for the OVO operator GUI and topology GUI. OVSACN supports a one-to-one mapping for OVO and topology users.

**Problem:** The topology GUI returns "`Requested operator profile is not available`."

**Resolution:** The iNOC user must have either a `topologin.user` or

`topoprofile.user` file on the GUI system which specifies an invalid topology profile. Make sure the topology profile is valid and that it is assigned to that user.

**Problem:** Launching `Telco iNOC` applications fail, returning "`Error: Communication attempt to topology GUI failed. Did you launch the Telco iNOC GUI?`"

**Resolution:** The topology GUI must be launched before the other launch applications (`Show Problem`, `Highlight in Map`, and `Show Problem History`) can function properly. Launch the topology GUI and retry the applications.

**Problem:** No list of services displayed after clicking the `Show Services` menu command from the topology GUI map presenter.

**Resolution:** Some services to linked to specific presenters. When these presenters are minimized, so are the dialog boxes which display the list of services. So, maximize all topology GUI presenters to view the list of services.

**Problem:** All windows, dialog boxes, and pull down menus display in the same size.

**Resolution:** For NT systems with a Matrox video card and their driver installed, this error may occur. Go to the `Properties` dialog box and make sure `Save/restore window positions` is unchecked.

# 7 Getting Additional Information

# Available Manuals

Both printable and online documentation are available for HP OpenView Service Assurance for Communication Networks.

## OV Telecom Extensions for OV Operations Documentation

Table 7-1 lists printable documents for OV Telecom Extensions for OV Operations and OV Topology Server available to you via a web browser from the OVO server after OV Telecom Extensions for OV Operations and the documentation files are installed. Documents can be found at:

`http://<OVO servername>:8880/Telco/user_doc/index.htm`

**Table 7-1 OV Telecom Extensions for OV Operations Documentation**

| Document Title | Description |
|---|---|
| *HP OpenView Service Assurance for Communication Networks Concepts Guide* | Provides a brief overview of the product architecture. Designed for operators and administrators. |
| *HP OpenView Service Assurance for Commuinication Networks Installation Guide* | Details the steps necessary to install and initially setup OV Telecom Extensions for OV Operations and OV Topology Server. |
| *HP OpenView Service Assurance for Communication Networks Quick Start Guide* | Provides an overview to the product features and benefits and highlights 10 useful tasks users can do with the product. Designed for administrators, operators, and managers. |
| *HP OpenView Service Assurance for Communication Networks Configuration Guide* | Designed for administrators and system integrators who must configure a managed network. |

**Table 7-1 OV Telecom Extensions for OV Operations Documentation**

| Document Title | Description |
|---|---|
| *HP OpenView Service Assurance for Communication Networks Customization and Maintenance Guide* | Details the steps necessary to customize operator views and maintain the OV Topology Server. |
| *HP OpenView Service Assurance for Communication Networks Operator Online Help* | Provides operators help on navigating between the OVO Java GUI and the topology GUI as well as customizing the topology GUI. |

## HP OpenView Operations Documentation

Table 7-2 lists printable documents for HP OpenView Operations available to you. The manuals are installed on the management server in the following directory:

`/opt/OV/doc/<LANG>/OpC/`

Alternatively, you can download the manuals from the following web site:

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

**Table 7-2 HP OpenView Operations Documentation**

| Document Title | Description |
|---|---|
| *HP OpenView VantagePoint Operations for UNIX Concepts Guide* | Provides a brief overview of the product architecture. Designed for operators and administrators. |
| *HP OpenView VantagePoint Operations for UNIX Installation Guide* | Designed for administrators who need to install OVO software on the management server and perform initial configuration. |
| *HP OpenView VantagePoint Operations for Sun Solaris Installation Guide* | Designed for administrators who need to install OVO software on the management server and perform initial configuration. |

**Table 7-2 HP OpenView Operations Documentation**

| Document Title | Description |
|---|---|
| *HP OpenView VantagePoint Operations for UNIX Administrator's Reference - Vol 1* | Designed for administrators who are responsible for OVO administration and troubleshooting. It contains conceptual and general information about managed nodes. |
| *HP OpenView VantagePoint Operations for UNIX Administrator's Reference - Vol 2* | Provides platform-specific information about each managed node platform. |
| *HP OpenView VantagePoint Operations for UNIX Reporting and Database Schema* | Provides a detailed description of the OVO database tables and examples for generating reports from the database. |
| *Managing Your Network with HP OpenView Network Node Manager* | Designed for administrators and operators. Describes the basic functionality of NNM, which is embedded in OVO. |

## HP OpenView Communications Service Assurance Documentation

Table 7-1 lists printable documents for OVC/Assurance available to you via a web browser from the OVO server after OV Telecom Extensions for OV Operations and the documentation files are installed. Documents can be found at:

`http://<OVO servername>:8880/Telco/user_doc/ovca_index.htm`

**Table 7-3 OVC/Assurance Online Documentation**

| Document Title | Description |
|---|---|
| *Welcome to HP OVC/Assurance* | Provides a brief introduction to the product, and lists support resources available. |

**Table 7-3 OVC/Assurance Online Documentation**

| Document Title | Description |
|---|---|
| *HP OVC/Assurance Installation Guide* | Guides you in the installation of various servers and clients that comprise OVC/Assurance. |
| *HP OVC/Assurance High Availability Installation Guide* | Describes the installation and configuration processes for OVC/Assurance in high availability. It includes information regarding:<br>• Pre-requisites and requirements for high availability<br>• Planning for the installation<br>• Installation process |
| *HP OVC/Assurance Administration Guide* | Describes the administrative functions of the product. It helps you to:<br>• Start up and shut down the various servers<br>• Check the status of the servers<br>• Troubleshoot the installation<br>• Load and maintain object information details<br>• Load and maintain GUI presentation details |
| *HP OVC/Assurance Configuration Guide* | Describes the process of configuring OVC/Assurance. It describes the configuration utilities and the overall configuration planning procedure. It helps you to configure:<br>• Network and object classes<br>• Message classes<br>• Mediation devices<br>• Event correlation<br>• Status propagation<br>• System distribution rules |

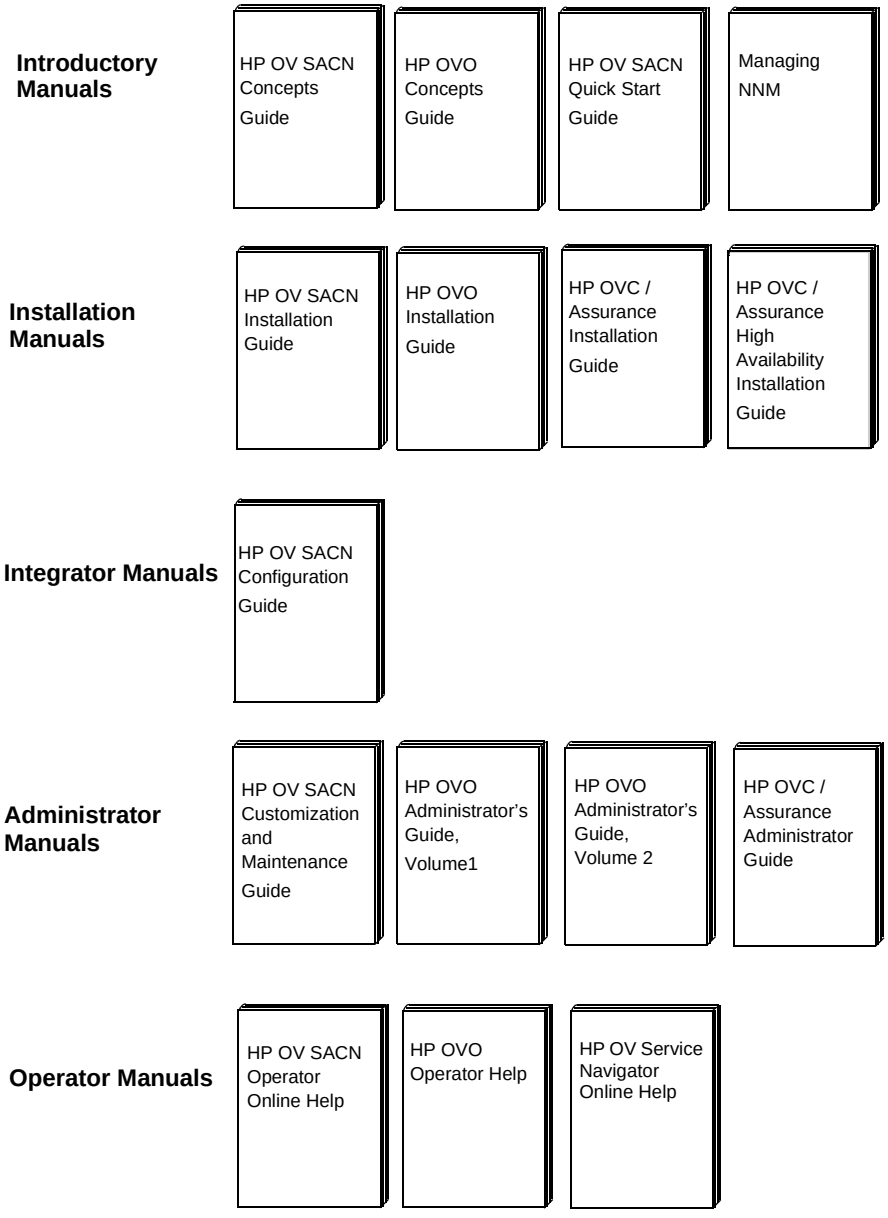
**Table 7-3 OVC/Assurance Online Documentation**

| Document Title | Description |
|---|---|
| *HP OVC/Assurance SDK Getting Started Guide* | Provides integration concept information for those who plan to code to integrate with the Service Assurance FMS, MDS and/or GUI components. |
| *HP OVC/Assurance FMS Integration Guide* | Provides specific details on integrating with the Service Assurance FMS component. |
| *HP OVC/Assurance MD Development Guide* | Provides specific details on integrating with the Service Assurance MDS component. |
| *HP OVC/Assurance GUI Integration Guide* | Provides specific details on integrating with the Service Assurance GUI component. |
| *HP OVC/Assurance Installing the Remedy ARS Integration Module* | Provides information on installing and configuring the adapter needed to integrate with the Remedy ARS software. |
| *HP OVC/Assurance Installing and Using the ADC Metrica/NPR Integration Module* | Provides information on installing and configuring the adapter needed to integrate with the ADC Metrica/NPR software. |
| *HP OVC/Assurance Installing the Agilent/acceSS7 Integration Module* | Provides the information for installing and configuring the adapter needed to integrate with the Agilent acceSS7 software. |
| *HP OVC/Assurance HP SNMP Management Integration Administrator's Guide* | Provides the information for installing and configuring the adapter needed to integrate with SNMP Management Integration software, specifically, with HP OpenView Network Node Manager. |

# OVSACN Manual Path

Figure 7-1, Recommended OVSACN Manuals Map, illustrates the manuals which are available with HP OpenView Service Assurance for Communication Networks and a recommended order to follow when getting started.

**Figure 7-1 Recommended OVSACN Manuals Map**



# Viewing Adobe Acrobat Documents

## Accessing Acrobat Documents

To access documentation in Adobe Acrobat form, use a standard Adobe Acrobat Reader. If you do not have Adobe Acrobat Reader, or your Reader is not compatible with the files provided, you can download the latest Acrobat Reader free of charge from Adobe's web site at: `http://www.adobe.com`.

## Viewing Acrobat Documents in UNIX

To view Acrobat books using the Acrobat Reader:

1. Start the Acrobat Reader. The default location for the Reader is `/opt/Acrobat3`. To start the Reader from the default location, type:

   **`/opt/Acrobat3/bin/acroread`**

   If the Reader is installed in a different location, you need to search for the installed location of the Reader in order to start it.

2. Use the **`File: Open`** menu item to navigate to the location of the installed `.pdf` books.

3. The list of books appear in the right-hand Book Window. Double-click the book you wish to view.

## Searching Acrobat Documents

To search within a document, use the **`Tools: Find`** menu item. To search multiple documents, use the **`Tools: Search -> Query`** menu item and be sure that the `.pdx` index file in the directory containing the manuals has been added as a search index. Type the word or phrase for which you want to search, and click **`[Find]`** or **`[Search]`**.

## Printing Acrobat Documents

To print, use the **`File: Print`** menu item to print whole documents or selected pages.

## If The Online Documentation Is Not Installed

If the online documentation has not been installed on a particular system, you may find it installed on other systems, or you can install the documentation from the User Documentation CD-ROM. For more information on installing the online documentation, see “Installing User Documentation” on page 52.

# Online Help

## Online Help for OV Topology Server

Online help is available when you need instruction on the iNOC Console and how to use it.

- From the OVO GUI, click **`Actions:Start -> Telco iNOC -> Launch iNOC Help`** to display the online help in a web browser. This online help details cross-navigation within the iNOC Console.
- From the topology GUI, click [**`Help`**] to display the online help in web browser. This online help details operator tasks associated with the OV Topology Server topology GUI.

## Online Help for HP OpenView Operations

Table 7-4 lists web-browsable online help for HP OpenView Operations available to you from the OVO server after OVO is installed. Online help for OVO can be found at:

`http://<OVO servername>:8880/ITO_OP/index.html`

**Table 7-4 HP OpenView Operations Online Help**

| Document Title | Description |
|---|---|
| *HP OpenView Operations Operator Help* | Designed for operators who use OVO to resolve IT tasks. |
| *HP OpenView Service Navigator Help* | Designed for administrators and operators who use Service Navigator to resolve service-related tasks |

# Reference Pages

Reference pages for most of the commands and files needed by network administrators to configure, customize, and maintain HP OpenView Service Assurance for Communication Networks are provided in two formats: HTML and nroff.

- HTML reference pages for OV Telecom Extensions for OV Operations and OV Topology Server can be viewed by visiting:
  `http://<OVO servername>:8880/Telco/man/index.html`
- HTML reference pages for HP OpenView Operations can be viewed by visiting:
  `http://<OVO servername>:8880/ITO_MAN/index.html`
- Nroff reference pages for HP OpenView Service Assurance for Communication Networks can be viewed in the UNIX environment by typing:
  `man <command or filename>`

## Other Resources

Other resources available that will help you use the product more effectively include:

- Release Notes (available from your local HP Sales Representative)
- HP OpenView web site at:

  **http://www.openview.hp.com/**

  This site includes information on resources such as:

  - HP OpenView Consulting Services
  - HP OpenView Training
  - HP OpenView Technical Support

# Glossary

**acknowledge** Active messages in the iNOC console's Active Messages browser and Problem Presenter can be acknowledged by an administrator or operator or automatically after an action has been completed successfully.

**action** A response to a message triggered by an event.

**admin group** A system-defined user group. Users belonging to this group have supervisory rights over other users. Administrators can discharge and disown problem conditions owned by other users.

**administrator** A user who has privileges and responsibilities to configure and maintain a managed network.

**agent** A management component deployed on a system for the purpose of collecting events and injecting them as alarms into the management system. The agent performs basic event data collection and initial processing into a normalized alarm format.

**alarm** A message about an event that is collected from a network element or system and forwarded to the management system for processing.

**annotation** Text entered by operators, administrators, or automatically after actions that describe actions and tasks that have been applied to solve a given problem.

**annotation server** A user-supplied server that receives a request from an annotation node within a correlation circuit, performs some action, and returns a response to the annotate node. The action performed by the annotation server may involve information extracted from events in the circuit. The information returned is typically obtained external to the annotation server.

**application handlers** Applications that connect to the graphical user interface and are responsible for the accuracy and completeness of the data in the Client Controller.

**application server** Consists of a set of CORBA client applications, referred to as the application handlers, which interface between the topology server and the GUI Client. The application handlers supported are problem handler, map handler, outage plan handler, and OM event handler.

**ARS** Remedy Corporation's Action Request System, a network-based trouble ticketing and tracking system.

**attributes** Properties associated with a managed object class (See managed object class) and are registered under a registration identifier (See Registration ID).

**attribute value assertion (AVA)** The association of an attribute with a value, written in the form `attribute registration id = value`.

**button panel** A row of buttons either at the bottom or the right side of a window. Each button has a specific function. The function of a button is activated only when the button is highlighted. Menu greying indicates that the function is either not available or not applicable.

**circuit** See Correlation circuit.

**CMIP (Common Management Information Protocol)** A connection-oriented protocol that allows network elements, such as hosts, terminal servers, gateways, and management agents, to be manipulated via sophisticated messages.

**CMISE** The services defined for CMIP protocol are known as CMISE.

**Client Controller** The GUI Server process containing the object model and data and the views that manage the GUI Client presenters.

**column based parser** The parser type used for message classes that follow a single fixed column format.

**component** Physical objects contained within a network element. Components may or may not emit alarms.

**component class** A logical class type in an object model that can be contained under a network element class, termination point class, and other component classes. Objects in this class may or may not emit alarms.

**composite event** In ECS, a composite event consists of a structured aggregation of addressed component events, each of which may be a primitive event, a temporary event, or a composite event. A composite event may only exist within a correlation circuit.

**connection** See Link.

**connection class** A logical class type of an object model that can be contained under a network class. Objects in this class are used to link two managed objects via their termination point objects.

**connection symbol** A symbol on a network map that connects two map symbols.

**containment hierarchy** The rooted tree that is constructed by applying the relationship "is contained within" to the actual object instances (See Managed object instance). Lower level object instances are contained within object instances one level higher in the containment tree to which they are attached. The containment hierarchy follows the containment rules specified by the containment tree.

**containment tree** The rooted tree that is constructed by applying the relationship “can be contained into” object classes (See Managed object class). Lower level object classes can be contained within an object class one level higher in the containment tree to which they are attached. The containment tree specifies the containment rules by listing the classes of object instances that a particular object instance (of a particular object class) may contain.

**CORBA (Common Object Request Broker Architecture)**

A specification for objects to locate and activate one another in a distributed computing infrastructure.

**correlation circuit** In ECS, a collection of interconnected primitive and compound nodes configured to perform a filtering or correlation activity. Each correlation node is configured appropriately to the correlation requirement. The configuration includes the specification of the event types and the allowed transit delays for those events. A correlation circuit can be loaded into the ECS correlation engine.

**correlation engine** The ECS component that reads an input event stream, decodes the input events, performs the event correlation, encodes the output events, and returns the output events to the event stream. The

event correlation is as specified by one or more correlation circuits loaded into the correlation engine.

**correlation node** A set of customizable processing elements that facilitates the correlation of event storms in real time.

**data collector** A data collector receives messages emitted from network elements and forwards them to the agent.

**data store** In ECS, a component of the ECS engine that holds user-specified values for named data items. A correlation circuit may be associated with one of many data stores loaded into the correlation engine.

**details** An operation on the Problem Presenter that displays additional information about a network element emitting an alarm. The Problem Details panel displays the problem condition, owner, and FDN for a managed object.

**device** A piece of equipment that generates alarms when any of its components fail.

**discharge** An operation that removes a problem or event from the table area of table presenters. When you discharge a problem or event, it is removed for all users. Only operators who own a problem or event can discharge the problem or event.

**disown** An operation that releases a problem or event from its owner. When an event or problem is disowned, it appears in the table area of a Problem or OM Event Presenter for all users as unacknowledged. It is recommended that operators disown problems and events when they are not monitoring the network.

**ECS** See Event Correlation Services (ECS).

**ECS circuit** See Correlation circuit.

**ECS Designer** An ECS component that is used to create and test correlation circuits. It works in two modes: build and simulate. Must be purchased separately.

**ECS Engine** See Correlation engine.

**Element Management System (EMS)** Vendor- or device-specific components that provide device-specific interfaces for receiving events or monitoring the end network elements.

**event correlation** A process of filtering superfluous messages based on user-configured criteria.

**Event Correlation Services (ECS)** The HP Open View Event Correlation Services product, which uses correlation circuits and ECS engine to filter events.

**explodable** Map symbols that result in a submap upon double-clicking.

**fact store** A component of the ECS Engine that stores relationships among objects. Any two objects may be related using any user-defined relationship. The facts may be accessed at runtime by the ECDL expressions configured into the correlation node parameters.

**Fault Management Server (FM Server)** A topology server component that contains a representation of the underlying network. The FM Servers receive, store, and manage messages from the agents to which they are connected.

**FDN (Fully distinguished name)** The FDN uniquely identifies an object instance. The FDN is formed by concatenating all of the relative distinguished names (RDNs) for each object instance in the containment path from the root of the containment hierarchy to the base of the object instance that is being identified. The FDN is written as /RDN/RDN/.../RDN where each RDN is the RDN of the object instances along the containment path.

**filter** A condition that changes, suppresses, or redirects information to the topology GUI Clients.

**FM Server** See Fault Management Server.

**GUI Client** A set of GUIs that enable users to view topology-specific information. It connects to the topology server.

**GUIDB** See GUI database.

**GUI database** Used to store persistent graphical information, including user preferences and graphic layouts. Also known as the presentation database.

**GUI Server** A topology server component that is responsible for managing the display processes. It runs the application handlers that form the bridge between the FM Server process and the GUI Client.

**high availability** An optional package that enables the topology server to continue operations in spite of a single point of hardware or software failure.

**history** An operation in a Problem Presenter that displays all alarms associated with an active problem. When an operator owns or discharges a problem, all alarms associated with that problem become historical data and are not available with this operation.

**host** A server or workstation.

**hostname** The name of the server in the network.

**information icon** An icon that replaces secondary state icons when more than two secondary state icons are present for a single node.

**installation** A term used to describe an entire managed network, installed and configured with the topology server. Also referred to as a site.

**interceptor** An agent process dedicated to collecting alarms from a particular source. The logfile encapsulator collects alarms from log files. The opcmsg interceptor collects alarms injected using the opcmsg(3) API.

**IP** Stands for Internet Protocol. This is a datagram-oriented network layer protocol used by TCP and UDP protocols. Its main function is to route datagrams among nodes in different networks.

**IPC** Stands for InterProcess Communication. In this document, IPC specifically refers to the HP-UX IPC facility.

**link** Refers to the object that is represented by the connection symbol.

**locate** An operation in the table presenters that locates a problem, outage, or event in a managed network.

**location** A cluster of one of more machines offering telecom topology services. Each location contains only one topology server.

**log file** Files that store received messages emitted from network elements in a managed network, including a raw log, a report log, an unknown log, and a message class log.

**managed object** A logical or physical resource that can be managed. Every managed object is a member of a specific object class, whose members share the same set of attributes, operations that can be performed on them, notifications they can emit, and behaviors. With the topology server, managed objects are represented graphically by map symbols on Map Presenters.

**managed object class (MOC)** A group of managed object instances with the same or similar properties. An object class is registered under a unique registration ID, and is defined by a list of attributes, a list of naming attributes, a set of operations that it supports, and notifications or events that it can emit.

**managed object instance (MOI)** A representation of a specific occurrence of an object class to be managed. The MOI is addressed by a FDN.

**management domain** A logical grouping of network elements that is not dependent upon the physical boundaries of the network.

**management server** The central system from which all messages emitted from managed nodes are forwarded. The OV Operations software and relational database reside on the management server.

**map presenter** A type of GUI Client presenter that displays network topology information and status. It displays details of elements being monitored in a network. It also receives updates regarding the state and status of managed objects and network topology, and displays this information on a map.

**map symbol** A symbol on a network map that represents a managed object instance. An icon is assigned to each managed object

class, so managed object instances can be displayed in a Map Presenter. This assignment is performed by an administrator using the GUI Server configurator, the Admin Panel.

**MC/ServiceGuard** Allows the creation of a high availability cluster of HP 9000 Series 800 computers. A high availability computer system allows applications to continue in spite of a hardware or software failure.

**message** A structured, readable piece of information about a status, event, or problem related to a managed node.

**message classes** A network element can have multiple message classes. Basic details, such as message logging, must be specified for each message class. Configuration information includes message headers and trailers, message format, and message mapping to CMISE format.

**naming attribute** The attribute of an object class which distinguishes the object instances belonging to that class.

**network class** A logical class type of an object model that is the highest containment class of managed objects. Network classes, network element classes, and connection classes can be contained under a network class.

**network element** A piece of manageable telecommunications equipment that generates alarms when any of its components fail. For example, a network element can be a digital cross connect, an add-drop multiplexer, or a digital loop carrier.

**network element class** A logical class type of an object model that consists of network elements. This is the highest class of objects that can emit alarms.

**NNM (Network Node Manager)** An OpenView software product that discovers and manages a given IP and IPX network.

**NOC (Network Operations Center)** A place from which a network is supervised, monitored, and maintained.

**node** A connection point for data transmissions.

**object** A representation of a logical or physical entity or resource, or a group of such physical entities that exist in the network. Examples of objects are a network, a computer, an interface, and a process. Objects are represented graphically by the symbols that appear on submaps.

**object instance** See Managed object instance.

**object model** Enables the classification of devices in a monitored network into object classes, including network class, network element class, connection class, termination point class, and component class.

**OM Event Presenter** A type of GUI Client presenter that manages and displays non-alarm events generated by management applications. It contains the problem management functions: own, disown, discharge, and locate.

**operation profile** See profile.

**Operation Profile Configurator** A topology server GUI with which administrators configure operator IDs, roles, operation profiles, filters, and application domains.

**Open Systems Interconnection (OSI)** A systems management model that defines the rules for processing and transferring data over networks.

**OSF/Motif GUI** A graphical user interface standard that conforms to Open Software Foundation's recommendations.

**outage plan** Outage schedules to track when network elements are to be taken out of service from a monitored network.

**outage plan presenter** A type of GUI Client presenter that displays outage plans and schedules in tabular form. It contains the problem management functions: submit, modify, locate, and restore.

**outstanding alarms** Alarms, both new and acknowledged that have not yet been discharged.

**OV Operations** An OpenView software product that provides a generic framework for system, applications, and network management. Also known as OVO, VantagePoint Operations (VPO), and ITO.

**OV DM TMN** HP OpenView TMN Distributed Management Platform.

**ovstart** The program that starts up the OV DM TMN processes. This program is (normally) run automatically on system startup and can only be run by the superuser (i.e. UNIX System Administrator).

**ovstop** The program that stops OV DM TMN processes. This program is (normally) run automatically on system shutdown and can only be run by the superuser.

**OVw** HP OpenView Windows, an advanced graphical user interface designed to integrate network management and system management applications.

**own** An operation that assigns a problem or event to an operator. Owned problems and events appear in the table area of Problem and OM Event Presenters to all users as owned. After a problem or event is owned, a trouble ticket can be created to track the problem, or an operator can discharge it.

**parser type** The parser that is used for identifying the messages.

**partition** A set of managed objects grouped together based on physical characteristics or network technology. Each partition is associated with one location.

**PDU (Protocol Data Unit)** Used for the specification of association requests and responses.

**presentation database** See GUI database.

**primary FM Server** The FM Server from which system distribution rules are set. It is the server used to configure details for an installation or site.

**problem** The result of correlating multiple alarms with the same target object, probable cause, and specific problem and presenting them as a single instance to the user. Problems are higher level abstractions of groups of underlying alarms.

**problem presenter** A type of GUI Client presenter that displays problems in a tabular form. It contains the problem management functions: own, disown, discharge, locate, history, and details.

**profile** Collection of tasks, applications, capabilities, and responsibilities that can be assigned to a user.

**radio buttons** Radio buttons are typically used for setting states or modes. Depressed button state indicates that the parameter is selected.

**raw alarms** Alarm messages that are emitted from network elements in a managed network, and are not formatted or correlated.

**RAV (Raw alarm viewer)** A type of alarm viewer that displays real-time or query-based raw alarm messages for any network element in a managed network.

**RDN (Relative Distinguished Name)** List of Attribute Value Assertions (AVAs) of the naming attributes of the object class to which the object belongs. The RDN is written AVA, AVA, . . . , AVA.

**registration ID** A sequence of numbers used to uniquely identify such things as attributes and object classes.

**regular expression based parser** A parser type for message classes that can transmit messages in more than one format. These messages may or may not contain all the fields defined for the network element object class.

**restore** An operation in an Outage Plan Presenter that renews the status of network elements after an outage expires.

**server** A computer or network that provides service to other computers on the network (clients).

**SNMP (Simple Network Management Protocol)** The ARPA network management protocol used primarily for managing TCP/IP networks.

**status propagation rules** A list of statements that indicate to the system the parameters by which the status of the child class object in a network map hierarchy changes that of the parent class object. These rules are defined in the `sprules.conf` file in the `$FMSETC/share/newconf` directory.

**submap** A term used in the Map Presenter to refer to a view of a network map. For example, one submap may show all the nodes on a particular network, while another submap may show all the software subsystems of a particular node. The application or user that creates a submap determines the content of the submap.

**submit** An operation in an Outage Plan Presenter that enables users to create or modify an outage plan for a network element.

**symbol** A graphical representation of an object in a Map Presenter. An object can be represented by multiple symbols. A symbol has the characteristics symbol type, status, and label.

**table area** The rows and columns of table presenters where problems, outages, and events are displayed. It can be customized by users.

**table presenters** A classification for a type of GUI Client presenters that display problems, outages, and events in tabular form. Displayed attributes and operations differ for the different presenters. Table presenters include the Problem Presenter, Outage Plan Presenter, and the OM Event Presenter.

**TCP (Transmission control protocol)** A method or protocol used along with the internet protocol to send data in the form of message units between computers over the Internet.

**termination point** An object that connects to a link object.

**termination point class** A logical class type of an object model that can be contained under network element classes and other termination point classes. Objects in this class are used to form connections between managed objects via termination point objects.

**topology server** An OpenView software product that enables customers to manage telecom-specific networks. It integrates with OV Operations to provide a complete solution network management system.

**TTS** Trouble ticketing system.

**UDP (User datagram protocol)** A communications method or portal that offers a limited amount of service when messages are exchanged between computers in a network that uses the internet protocol. An alternative to TCP.

**user handler** A process responsible for handling topology server GUI logon requests and starting appropriate GUI and server processes and clients.

**WAV (Web-based alarm viewer)** A type of alarm viewer that displays problem information about a managed network in read-only format in a web browser. The WAV is useful for operators at remote sites.

**X.733** A standard alarm format for OpenView Service Assurance for Convergent Services. X.733 specifies a well-defined set of alarm fields and values.

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